Activism Mergers*

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ABSTRACT

Activist hedge funds play a critical role in the market for corporate control. Activists foster acquisition activity at targeted firms through the intensity of their engagement with management and their prior record in activism mergers. Activism targets experience a six-to-eight times higher likelihood of receiving a takeover bid relative to firms in which the same activist hedge funds have passive ownership stakes. Further, failed takeover attempts of activism targets display significant long-term share price appreciation, reflecting substantial improvements in real operating and financial policies. Returns to both target and third-party bidder shareholders are higher when an activist is involved in the target firm. In contrast, activism mergers are associated with significantly lower target returns and lower completion rates when the bidder is the activist hedge fund. Our findings illustrate specific mechanisms through which hedge fund activism facilitates change of control transactions.

Keywords: Hedge fund activism, Corporate governance, Corporate Control, Mergers and acquisitions, Institutional investors

JEL classification: G14, G23, G34

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1. Introduction

In their survey of shareholder activism, Gillan and Starks (2007) define activists as "investors, who dissatisfied with some aspect of a company's management or operations, try to bring about change within the company *without a change in control*" [emphasis added]. The recent literature has established that hedge fund activism helps improve the performance and governance of targeted firms (see Brav, Jiang, Partnoy, and Thomas, 2008; Becht, Franks, Mayer, and Rossi, 2008; Brav, Jiang, and Kim, 2015). Yet there is limited evidence on the precise mechanisms through which hedge fund activists help enhance shareholder value.

In this paper, we explore the role of hedge fund activism in corporate control transactions – which we call "merger activism" – with a focus on the ability of hedge funds to influence the likelihood that a bidder will target a firm involved in an activist campaign. Merger activism has become an increasingly common strategy employed by activists in recent years. One-fifth of all firms targeted by hedge fund activists over 2000-2012 receive a takeover bid within two years, and since 2007 this proportion has risen by 24%. Thus, in the case of hedge fund activism, rather than being two distinct means of shareholder intervention (as sometimes discussed in the theoretical literature, e.g. Maug, 1998), monitoring by activist investors and takeovers are closely interrelated. We study the nature of this relationship in this paper.

We are not the first to examine the link between hedge fund activism and takeovers. Using data from 1993 to 2006, Greenwood and Schor (2009) find that firms targeted by hedge fund activists are about three times as likely to be acquired over the following eighteen months. Among all firms targeted by hedge funds, only those that are eventually acquired exhibit long-term share price outperformance, suggesting that activism adds value only when targeted firms are ultimately acquired. Greenwood and Schor (2009) conclude that hedge fund activism puts firms "in play" to be acquired but that "the scope for hedge fund activism to have pervasive effects on corporate governance is limited".

Although Greenwood and Schor (2009) document an important link between activism and takeovers, they are silent on the precise channels through which this link arises. For example, it is possible that hedge fund activists select stocks that would have been takeover targets anyway or time their campaigns in advance of merger waves. Alternatively, it may be that a hedge fund campaign simply draws the attention of potential bidders to a particular target. Finally, it could be that the post-intervention actions of hedge fund activists help improve the target, making it a more attractive takeover candidate to prospective bidders.

Our paper studies the specific mechanisms through which hedge fund activism promotes merger activity. We use a comprehensive hand-collected sample of 1,899 activism campaigns over 2000-2012 and a merger sample of 3,357 transactions over 2000-2014. We start by documenting that firms targeted by hedge fund activists face a substantially higher likelihood of receiving takeover bids. In our sample, over 34% of activism targets receive a merger proposal within the next 24 months, relative to other firms that receive merger proposals only 5% of the time. However, in almost 30% of activism mergers, the activist enters after the merger announcement but before its completion. To isolate campaigns where the activist has the potential to influence the probability of a takeover bid, we exclude such cases of activist merger arbitrage[1] and focus on the remaining instances where a merger bid is announced *within 2 years after* a hedge fund initiates an activist campaign.

After eliminating cases of merger arbitrage, we find that the average unconditional probability of receiving a takeover bid when an activist is involved is about 24%, more than four times larger than when no activist is present. Moreover, this probability has increased over time, from 22% over 2000-2006 to 26% after 2007. We show that this increase in the probability of a merger offer arises both because of a higher frequency of third-party offers and because hedge fund activists often make takeover bids themselves. Although prior literature suggests that hedge fund activists rarely seek control of the firms they target (see, for example, Brav, Jiang, Partnoy, and Thomas, 2008; and Greenwood and Schor, 2009), nearly 15% of acquisition attempts following hedge fund activism are made by the hedge funds themselves. Even when we exclude offers by activist hedge funds, the presence of an activist raises the probability of a third-party offer from 5% to 20%. These results are not driven by observable differences in target firm fundamentals or by the hedge funds' timing their campaigns to coincide with industry merger waves.

Although we control for a host of firm attributes, we recognize that a potential omitted variable may underlie the relationship between hedge fund activism and merger activity. Are activists simply good at picking firms that are attractive merger targets, or do they also enhance the M&A process through their post-intervention activities? To test these alternatives, we construct several measures to capture *within-sample variation* in hedge fund activist characteristics. To mitigate the potential endogeneity arising from the likely correlation between an activist's campaign activities and a target's fundamentals, we estimate activist characteristics based on all campaigns by a given activist hedge fund rather than with respect to a particular target firm.

[1] See Jiang, Li, and Mei (2015) for a study of activist merger arbitrage.

The characteristics of activist hedge funds such as the typical intensity of their shareholder campaigns and their prior experience in promoting merger activism have strong positive associations with the likelihood of subsequent M&A activity. Furthermore, we directly control for time-invariant activist hedge fund characteristics (such as investment style, stock picking ability and confrontational attitude, among others), and examine whether targets of hedge fund activism campaigns are more likely to receive takeover bids than firms in which the *same hedge fund activist* owns a passive stake. We find a six-to-eight times higher takeover likelihood in activism targets relative to firms in which the same hedge fund is a passive equity holder.

Our results also shed light on the role of activist hedge funds as bidders in takeovers. Although activist investors are rarely perceived as interested in seeking control of their targets, we find that they frequently launch takeover bids. However, the valuation effects to target firm shareholders differ drastically in these cases. Activism mergers with third-party bidders experience CARs that are 8% higher than those obtained in non-activism mergers[2], suggesting that the market has a more favorable assessment of the value creation from takeover bids involving activism targets than non-targets. In contrast, offers by activist hedge funds result in 18% lower CARs relative to those in non-activism mergers. These lower returns are consistent with our findings that hedge fund bids involve significantly lower acquisition premia and lower likelihoods of completion.

As in Greenwood and Schor (2009), we study long-term returns to activism and find that activism targets that are acquired following an activist intervention display large positive abnormal returns averaging 39% over the 24-month post-activism period whereas firms that do not receive a takeover bid display no evidence of long-term stock price outperformance. Surprisingly, we also document that the subset of activism targets that receive a takeover bid but remain independent – a subset not previously studied – displays average 24-month CARs of 18%, suggesting that even failed acquisition attempts of activism targets are associated with significant share price appreciation.

We investigate two explanations for why activism targets with failed takeover attempts display significantly positive long-term abnormal returns. The first potential explanation, suggested by Malmendier, Opp, and Saidi (2015), is that the market revalues a target's standalone value at the merger announcement and part of this revaluation remains even if the merger collapses. Specifically, merger announcement returns can be decomposed into two distinct effects – a *revaluation effect* that is independent of the expected merger benefits, and a *synergy effect*, which

[2] To take into account a target's revaluation due to activism, we estimate merger announcement returns starting 25 days before the activism campaign initiation.

captures the long-term synergistic value of the deal. Replicating the analysis in Malmendier et al. (2015) in our sample of failed mergers, we confirm their original result that half the merger announcement return for a typical (non-activism) deal is attributed to a revaluation of the merger target. In contrast, we find that *almost all* of the merger announcement return in activism mergers is reversed upon deal failure; that is, returns in failed activism mergers are driven primarily by expected synergies and not by a revaluation of the targets' standalone value. Thus, merger announcement returns do not appear to overestimate the value creation in activism mergers.

The second potential explanation we examine is that the positive price appreciation of activism targets involved in failed mergers is due to favorable operational and/or financial policy changes resulting from the activist intervention. Consistent with this hypothesis, we demonstrate that activism targets that receive a takeover bid but fail to complete a merger implement substantial increases in return on assets, operating margins, leverage and capital expenditures relative to other activism targets that are not involved in M&A activity. These real changes in performance and financial policies could help explain the documented positive long-term returns that persist irrespective of whether or not an acquisition attempt is consummated.

Finally, we examine bidder returns. If an activist campaign informs potential bidders that a firm is an attractive takeover target, either through signaling or through improved target firm policies brought on by activism, then bidders may be less likely to overpay for acquisitions involving these targets. As a result, bidders should do better in activism mergers. Indeed, we find that bidder announcement returns are significantly higher in activism mergers than in non-activism mergers. This result is inconsistent with Greenwood and Schor (2009)'s conjecture that the overall positive returns associated with activism may be due to the activists' simply picking firms "for which potential acquirers might overpay."

Our findings complement the recent literature on hedge fund activism by relating the documented positive returns in activism to value creation in mergers (see Brav, Jiang, Partnoy, and Thomas, 2008; Clifford, 2008; Klein and Zur, 2009; Boyson and Mooradian, 2011). We extend the analysis in Greenwood and Schor (2009) by explicitly comparing mergers with and without activist involvement and examining alternative mechanisms through which activists facilitate and enhance the merger process.

Specifically, we investigate and offer support for several distinct channels through which hedge fund activism promotes mergers at targeted firms. We find that the activists' engagement intensity and prior record in merger activism are strongly associated with the likelihood of

subsequent merger activity. Studying failed activism mergers, we show that activists also contribute to a sizeable market revaluation of a target's stand-alone value through the implementation of real policy changes. As a result, the returns to both target and bidder shareholders are higher in the presence of activists.

More broadly, our paper builds on the theoretical literature studying the role of large shareholders in the merger process. Shleifer and Vishny (1986) argue that large shareholders help overcome the free-rider problem, and hence, facilitate third-party takeovers. Maug (1998) considers monitoring and takeovers as "two different forms by which a large outside investor can intervene" and shows that market liquidity determines the trade-off between the costs and benefits of the two approaches. Burkart and Lee (2015) integrate activism and takeovers in a unified model framework but consider them as "polar approaches" to the dual free-rider problem. Our results suggest however, that instead of being distinct ways of monitoring to overcome informational frictions, shareholder activism and takeovers are closely related mechanisms that help promote the functioning of the market for corporate control. In this respect, our paper provides empirical support to contemporaneous work by Corum and Levit (2015) who study theoretically the interaction between shareholder activism and M&A activity.

2. Role of activists in M&A activity

There is substantial evidence that hedge fund activism is associated with significantly positive returns around the initiation of an activist campaign. For example, Brav, Jiang, and Kim (2010), document an average return of 5% over the (-20, +20) day window around a Schedule 13D filing.[3] Over the next 36 months, they do not find evidence of return reversal, suggesting that the abnormal returns are not due to buying pressure or market over-reaction. Over a (0, +36) month interval, Clifford (2008) documents three- and four-factor alphas of 1.1%-1.3% and Greenwood and Schor (2009) find (-1, +18) month three-factor CARs of 10.26%. Gantchev (2013) shows that these positive abnormal returns remain even after netting out the substantial costs of activist interventions. Bebchuk, Brav, and Jiang (2015) report positive and statistically significant four-factor alphas over the five-year period following an activist intervention.

[3] Other studies document similar short-term returns. Clifford (2008) estimates a [-2, +2] day market-adjusted return of 3.39%; Klein and Zur (2009) find a [-30, +30] day market-adjusted return of 7.2%; Greenwood and Schor (2009) show an average [-10, +5] day abnormal return of 3.61%; Boyson and Mooradian (2011) find a (-25, +25) day cumulative abnormal return of 8.1%.

There is, however, ongoing debate over the sources of value creation from shareholder activism. Brav, Jiang, and Kim (2010) find the highest abnormal returns in campaigns where the activist demands a sale of the company or changes in business strategy but statistically insignificant returns in campaigns targeting capital structure and governance. In contrast, Boyson and Mooradian (2011) show that governance-related activism generates positive short- and long-term performance. Greenwood and Schor (2009) find highest CARs in the sample of campaigns with activist demands related to blocking a merger and asset sales. Further, they argue that value creation in activism comes only from the sample of targets that are acquired post-activism: they document a (-1, +18) month three-factor CARs of 26% in the sample of activism targets that get acquired (*t*-stat 7.9) but an insignificant 3% CAR for the sample of targets that remain independent.

The result that the returns to shareholder activism are only observed in firms that are eventually acquired raises several important questions about whether and how shareholder activism creates value. Perhaps the most salient of these is whether there is any evidence of a causal effect between activism and merger activity. As we discuss below, activist targets may appear to have a higher likelihood of being acquired because hedge funds often launch activism campaigns after a firm has received an acquisition proposal (Jiang, Li, and Mei, 2015). If this behavior drives the relation between activism and M&A activity, the returns following activism will overstate the value creation by hedge fund activists. Similarly, it is possible that hedge fund activists are simply good at picking firms that are already more likely to be acquired or to launch campaigns during merger waves.

Shareholder activism can also have a causal effect on M&A activity by lowering frictions in the market for corporate control. An investment by an activist and his subsequent actions during a campaign may lower informational asymmetries faced by potential buyers or signal to them that the target firm has a high potential for value improvement, thus making them more likely to pursue an acquisition.[4] An activist campaign may also make target managers more receptive to an acquisition proposal if they perceive diminished private control benefits as a result of activism. Prior literature has attributed the underperformance of targeted firms to agency problems that activists attempt to correct (see Brav, Jiang, Partnoy, and Thomas, 2008; and Klein and Zur, 2009). Alternatively, as Greenwood and Schor (2009) note, it is possible that bidders overpay when an activist is present, making the target more open to an acquisition.

[4] For example, Bargeron, Schlingemann, Stulz, and Zutter (2008) and Fidrmuc, Roosenboom, Paap, and Teunissen (2012) argue that information asymmetries about targets are the primary reasons for the lower premiums and completion rates in acquisitions by financial sponsors.

3. Merger and activism sample

Our sample of hedge fund activism and merger activity comes from two primary sources – hand-collected data on hedge fund activism campaigns over 2000-2012 and merger data from Thomson Reuters SDC Platinum (SDC) over 2000-2014.

We construct the initial sample of hedge fund activism campaigns using FactSet's SharkRepellent database. The primary source for these campaigns is Schedule 13D filings required by the SEC of investors who acquire ownership of more than 5% of the voting stock of a public firm with the intention of influencing its operations or management. A secondary source for the activism events in the SharkRepellent database is proxy contests initiated by hedge funds (PREC and DEFC forms) in which the activists' ownership may not reach the 5% reporting threshold. Since SharkRepellent does not capture all 13D filings, we also augment the sample with hand-collected 13D reports from the SEC's website.

We confirm the identity of the activist investors as hedge funds using SEC registration statements (ADV filings), along with web and media searches. To ensure that our sample includes only hedge funds with an activist agenda, we define an *Activist* as a hedge fund that has accumulated an activist block of 5% in more than one target (reported in a 13D filing) or initiated at least one proxy contest (measured by a PREC or DEFC report) over 2000-2012. For each of the 532 activist hedge funds that we identify in our sample, we obtain all Schedule 13D (13D/A) and proxy filings over the sample period. The mean and median number of 13D filings (i.e., unique campaigns) for our sample of activists is 9 and 4, respectively. We use a rolling count of activism/merger events for each activist to classify the hedge funds in our sample into *Experienced activists* (those with at least five campaigns prior to the current campaign) and *Experienced merger activists* (those with at least two prior campaigns that involve a takeover bid by a third party or the hedge fund itself).

SEC regulations require an amended 13D filing (13D/A) within ten days of a material change in the amount or intent of the activist's ownership. We consider such amendments as evidence of increased campaign intensity by an activist against a target firm. Roughly half of the hedge fund activists in our sample file more than two amendments per campaign. We classify 294 activists that have (on average) more than two 13D amendments *per campaign* (or at least one proxy solicitation) as *Aggressive activists*. In our subsequent analyses, we consider whether an activist's aggressiveness and/or experience affect takeover incidence and outcomes.

We match activism targets to the merger data from SDC using CUSIPs and manually verify the quality of each match. We include all merger bids regardless of whether they result in a completed transaction. We adopt the usual filters from prior literature and include all mergers of U.S. public firms with a deal size of at least $10 million. We also require that the bidder owns less than 50% of the target's stock before making the bid and exclude divestitures, spin-offs, and share repurchases. We manually verify the announcement, completion, and withdrawal dates reported in SDC to ensure that our return calculations are over the correct intervals.

We combine the merger and activism datasets with the universe of CRSP-Compustat firms to create an annual firm-year panel. We group multiple hedge fund campaigns within the same firm-year as one activism observation, considering the hedge fund that intervenes first as the primary activist. The full panel consists of 62,066 firm-years, including 3,357 firm-years with a merger bid, and 1,899 firm-years with a hedge fund activism campaign.

Column (1) of Table 1 reports the number of activism events over our sample period. The number of campaigns peaks in 2006-2008 and column (2) shows that the frequency of hedge fund activism has grown from 2.4% over the first half of our sample to 4.5% in the post-2007 period. In contrast to activism, the frequency of takeover bids peaks in 2000 and is generally higher in the early part of the sample period (5.6% in 2000-2006 vs. 5.1% post-2007).

For each activism campaign, we track subsequent merger activity and require that a merger bid be announced *within 2 years* of the initiation of the activism campaign. We also manually verify that the activist is still present at the time of the merger announcement. There are 192 activism events over our sample period where the activist initiates a campaign *after* the merger announcement but before its completion. We consider these campaigns as cases of merger arbitrage and exclude them from our activism merger sample. These activism events are the subject of a contemporaneous paper by Jiang, Li, and Mei (2015) who provide evidence that activist risk arbitrage is an important governance tool for protecting the interests of shareholders during corporate control contests.

As reported in columns (7) and (9), our sample includes 462 activism targets that receive subsequent merger bids, representing a 24% frequency of a merger bid for these firms. Henceforth, we refer to these bids as activism mergers. Of these 462 activism mergers, the hedge fund that initiates the campaign is also the takeover bidder in 71 cases. The hedge fund bidders in our sample include well-known activist investors such as Carl Icahn (9 offers), Elliott Associates (7 offers), Newcastle Partners (5 offers), ValueAct (4 offers), and Steel Partners (4 offers). In 50

of the 71 cases involving hedge fund bidders, the activist hedge fund is the only bidder, whereas the targets in the remaining 21 cases receive multiple bids. In 46 cases involving hedge fund bidders, the offer to acquire the target occurs simultaneously with the initiation of the activist campaign.[5] For ease of exposition, we refer to an activist hedge fund that launches a takeover bid for a firm that it targets in a shareholder campaign as an activist bidder.

Of the 462 activism mergers, 391 involve a third-party bidder. The last column of Table 1 presents the frequency of third-party takeover bids in the sample of firms subject to shareholder activism. The average unconditional probability of receiving a third-party takeover bid is almost four times higher in this sample of activism targets relative to firms that do not experience shareholder activism (19.9% versus 5.4%). The incidence of third-party acquisitions has risen by 24% since 2007, from an average of 17.9% in the early half of our sample (2000-2006) to an average of 22.2% for the 2007-2012 period. These data suggest an increasing role for hedge fund activists in the market for corporate control.

To understand whether hedge fund activists are simply adept in predicting likely merger targets, we compare the characteristics of firms that are targets of hedge fund activism campaigns to those of acquisition targets. All variables except dummies are winsorized at 1% and 99%. Table 2 shows that both activism and merger targets share several common attributes – on average, they are smaller firms and have lower dividend yields than firms in CRSP-Compustat. Activism and merger targets also display similar levels of leverage and R&D expenditures. However, activism targets also differ from typical merger targets on several dimensions – they have higher institutional ownership, lower standard deviation of stock returns, better liquidity, and lower market-to-book ratios.

Interestingly, among activism mergers, there do not appear to be sharp differences between those with an activist bidder and those with a third-party bidder. Firms targeted by activist bidders and third-party bidders have similar market capitalizations, market-to-book ratios, profitability, leverage, and institutional ownership. The characteristics of the activists involved in these two types of targets also appear to be similar – the differences in the level of aggressiveness and activism or merger activism experience between the two samples are generally not statistically significant.

[5] In almost all cases involving multiple bidders, the activist hedge fund is the first acquirer for the firm. However, in a handful of cases, the hedge fund activist bid occurs after the target has received a bid from a third party, suggesting that these observations could potentially be classified alternatively as third-party bids. Our results are essentially invariant with respect to this distinction.

4. Probability of receiving a takeover bid

We begin by exploring whether hedge fund activism is associated with a higher probability that a firm is subsequently involved in an M&A. To avoid activism that potentially arises endogenously as a result of a takeover bid, we exclude all activism events that are initiated after the announcement of an M&A offer. Our sample for these tests includes 3,357 takeover bids and 1,707 activism campaigns over 62,066 firm-years from 2000 to 2014.

Table 3 presents estimates from logistic models of the probability that a firm receives a takeover bid in a given firm-year. The key independent variable, *Activist*, is an indicator set to one if the firm is involved in an activism campaign in the two calendar years prior to the merger, and zero otherwise. All regressions include year and industry fixed effects. Standard errors are clustered by year and firm.

We include a number of variables to control for firm characteristics that may affect the probability that a firm becomes a takeover target. As reported in Table 2, activism targets have lower market capitalization and market-to-book ratio in comparison to both the average firm in CRSP-Compustat and to merger targets. In addition, activism targets have better stock liquidity (i.e., lower illiquidity as measured by the Amihud ratio) and lower monthly deviation of stock returns. According to prior literature, these characteristics are correlated with the probability of receiving a takeover offer (e.g., see Moeller, Schlingemann, and Stulz 2005; Bargeron, Schlingemann, Stulz, and Zutter, 2008; and Bauguess, Moeller, Schlingemann, and Zutter, 2009). As additional control variables, we include institutional ownership, return on assets, leverage, dividend yield, and R&D expenditures.

To assess whether activists time their interventions to coincide with periods of heightened merger activity in the target firm's industry, we also control for whether an industry experiences a merger wave in a given year. Following the approach in Harford (2005), we create an indicator, *Merger Wave*, set to 1 if the number of mergers in an industry during any consecutive two-year period is greater than the 95th percentile of a uniform distribution over the entire sample period. Each industry is restricted to two waves over the full period. We include both *Merger Wave* and its interaction with *Activist* to examine whether hedge fund activism has a differential effect on the likelihood of an M&A offer during industry merger waves.

Column (1) of Table 3 shows that *Activist* has a positive and statistically significant effect on the probability of receiving a takeover offer. In economic terms, *Activist* increases the probability of a takeover bid to 22.9%, almost five times higher than the unconditional probability of 4.6%.

Greenwood and Schor (2009), whose sample ends in 2006, report that activism targets experience a 2.5 times higher probability of being acquired, compared to firms matched on industry, size, and past stock returns. Despite our exclusion of merger arbitrage campaigns, we find a substantially stronger association between activism and M&A activity than they document, due in part to the growing frequency of post-activism M&A events after 2007.

As discussed earlier, activist hedge funds have frequently been involved as bidders for the firms that they target in activist interventions. To explore whether the positive association between activism and takeover contests is driven by the bidding actions of activist hedge funds, column (2) excludes observations where the activist hedge fund is also the bidder. The coefficient on *Activist* remains positive and statistically significant in this specification. In terms of economic magnitude, *Activist* increases the probability of a third-party takeover offer to 20.2%, relative to the unconditional probability of 4.6%.

To explore whether our results are driven by leveraged buyout (LBO) transactions, columns (3) and (4) of Table 3 separate the sample of third-party offers into strategic and financial bids. We find that offers by both strategic and financial buyers are significantly more likely following an activism campaign. In economic terms, the documented effect is stronger for financial bids – the indicator *Activist* is associated with six-times higher probability of a financial offer (an increase from 0.43% to 2.6% as seen in column (4)) and four-times higher probability of a strategic offer (an increase from 3.8% to 14.8% in column (3)). Since we estimate these models on the sample of third-party acquirers only, these results for financial acquirers do not reflect bids by the hedge fund activists.

Note that the interaction between *Activist* and *Merger Wave* is not statistically significant in any of the specifications, suggesting that hedge funds do not time their activism campaigns to coincide with industry merger waves. The other firm controls have the expected signs. Institutional ownership and liquidity have positive correlation with the probability of receiving a takeover bid whereas standard deviation of monthly stock returns, Tobin's *Q*, market capitalization, and dividend yield exhibit a negative correlation.

What explains the positive relationship between hedge fund activism and the incidence of subsequent takeover activity? Are activist hedge funds simply good at picking firms that are attractive merger targets – a selection effect that arises due to potentially unobserved variables – or do they also add value through their post-intervention activities? To disentangle these alternative interpretations, we explore whether the hedge fund's actions following its investment

in a target firm affect the firm's takeover likelihood. The activist's post-intervention activities at a given target are likely to be correlated with the target's fundamentals. To mitigate such endogeneity issues, we construct several proxies of post-selection campaign activity measuring cross-sectional activist attributes estimated over our entire sample period; that is, these measures are estimated as *averages* across all campaigns by a given activist hedge fund and are *not specific* to a particular target firm.

Our first measure is *Aggressive Activist*, which is set to one if an activist hedge fund files more than the median number (two) of Schedule 13D amendments or at least one proxy statement in *an average campaign*. Since the SEC requires the filing of an amendment when the activist changes the amount or intent of his ownership (e.g., making additional demands), we construct this measure to capture the *intensity* of the activist's engagement with a target firm's management.[6] Column (5) of Table 3 presents results on the probability of a takeover bid including the indicator variable for *Aggressive activist.* The results show that the association between hedge fund activism and the likelihood of a takeover bid is driven entirely by the intensity of the activist's campaign. Further, the economic magnitude of this indicator variable is substantial – an activism campaign by aggressive hedge funds increases the unconditional probability of a subsequent bid from 4.5% to 29.0%, more than a six-fold increase.

We construct two additional variables to capture the nature of post-selection activities by an activist hedge fund. We create an indicator, *Experienced activist*, which is set to one if at the time of the current campaign, the activist has been engaged in at least five previous activism campaigns. To measure the proclivity of the activist to push for a company sale, we also create an indicator, *Experienced merger activist*, which equals one for activists with at least two prior campaigns that were followed by merger proposals within a 24-month period. The threshold values of five prior campaigns and two prior merger-related campaigns are selected because they represent the median values for such activities in our sample.

Columns (6) and (7) of Table 3 show that both *Experienced activist* and *Experienced merger activist* have a positive and statistically significant relationship to the probability of receiving a takeover bid. Further, the economic magnitude of these coefficients is large – *Experienced merger activist* is associated with a rise in the probability of a takeover bid from 4.6% to 36.4%, an almost eight-fold increase. Importantly, the finding that the increased likelihood of a takeover

[6] The SEC requires an amended 13D filing if the beneficial owner increases or decreases ownership by more than 1% or changes his intent by demanding M&A, reorganizations, asset sales, recapitalizations, changes in dividend policy, board structure, charter or bylaws, and exchange listing, among others.

offer is driven by the activist's engagement intensity and his record in merger activism suggests that hedge fund activism contributes positively to the M&A process.

To control more directly for time-invariant activist hedge fund characteristics such as investment style, stock picking ability, confrontational attitude, etc., we manually match our sample of activists to holdings data from the Thomson Reuters 13F database. About two-thirds of the 532 activist hedge funds over 2000-2012 have available 13F data. Our goal is to examine whether activist ownership has a differential effect on the probability of a takeover bid relative to passive ownership by the *same hedge funds*. For example, Carl Icahn reports ownership in 90 different companies over 2000-2012, of which 38 have been accompanied by an announcement of activist intentions (in Schedule 13D or a contested proxy solicitation). Our analysis studies whether Carl Icahn's activist agenda in these 38 companies is more likely to lead to a takeover bid relative to the likelihood of a bid in the remaining 52 passively-owned companies.

Table 4 reports estimates of OLS regressions of the probability of receiving a takeover bid in the sample of stocks owned by activist hedge funds.[7] The unit of observation is an activist-firm-year. We include the same controls as in Table 3 but also add hedge fund fixed effects to control for time-invariant characteristics of the activist hedge funds. We define a variable *HF active ownership*, which equals one if the activist hedge fund has declared activist intentions in a given firm, and zero otherwise. The coefficient on *HF active ownership* is positive and statistically significant in column (1). In terms of economic magnitude, *HF active ownership* is associated with 18.7% higher probability of a takeover bid relative to the probability of a bid in firms in which the same hedge fund has a passive stake. This represents more than a six-fold increase, given the unconditional probability of 2.9% in this sample.

Column (2) includes the continuous variable *Percent held* and its interaction with *HF active ownership*. A 1% increase in hedge fund ownership is associated with a 19.1% decrease in the probability of receiving a takeover bid. More importantly, the interaction of *Percent held* with *HF active ownership* is positive and significant, suggesting that higher ownership in firms in which the activist hedge fund has declared activist intentions is associated with a substantial increase in the probability of a takeover bid. In columns (3) and (4), we include indicator variables for *Percent held > 1* and *Percent held > 5* instead of the continuous measure of hedge fund ownership. Both interactions with *HF active ownership* are positive and significant. In addition, the economic magnitudes are large; for example, the results in column (4) imply that having a 5% or higher stake in firms in which the activist hedge fund has declared activist

[7] Our results are consistent if we instead use a logit model.

intentions is associated with an almost eight-fold increase in the probability of receiving a takeover bid compared to the probability of a bid in firms in which the same hedge fund has a passive 5% block.

Overall, the results in Tables 3 and 4 are consistent with the idea that activist hedge funds have a more significant impact on a firm's probability of a takeover bid when hedge funds have an activist agenda at that firm. First, the activist's engagement intensity in a campaign and prior experience in merger activism positively affect a firm's probability of receiving a takeover bid. Second, controlling for time-invariant activist characteristics such as investment style, selection ability, confrontational attitude, etc., activist ownership has a substantially higher effect on the probability of a takeover bid relative to firms in which the same hedge fund has a passive stake.

5. Acquisition Premium and Offer Completion

Table 5 presents summary statistics on the acquisition premia and the merger announcement returns for activism and non-activism merger targets. To calculate the acquisition premia and merger announcement returns, we use the target's stock price 25 days prior to the merger announcement. We use a 25-day interval to determine the unaffected stock price of the target because Schwert (1996) shows that run-ups do not occur prior to 21 days before a merger bid and for comparability of our returns to Malmendier et al. (2015) who also use a 25-day interval.

Relative to the target's stock price 25 days prior to the merger announcement date, the average (median) final acquisition premium offered in activism mergers is 50.5% (35.5%), considerably lower than the average (median) of 68.9% (46.9%) for non-activism mergers. However, this difference may be due to the anticipation of a subsequent takeover bid at the time an activist campaign is initiated, as shown by Greenwood and Schor (2009). Therefore, measuring acquisition premia relative to the announcement of a merger bid may bias the results downwards for activism mergers. To address this concern, we also compute the acquisition premia relative to 25 days prior to campaign initiation for firms targeted by activists. For firms that are not activism targets, we set a placebo activism date, using the median number of days between the activism and merger announcements (266 days). With this approach, the mean premium is 81.1% for mergers not preceded by activism and 71.4% for activism mergers, with the difference not being statistically significant. The median difference in premia is only marginally significant.

We also calculate cumulative abnormal returns (CARs) in excess of the value-weighted CRSP index return over days (-1, +1) around the merger announcement. These CARs average 15.6%

for non-activism mergers and 14.2% for activism mergers. When we cumulate the CARs to include the announcement of the activism campaign (from 25 days before the campaign to 5 days after the merger announcement), the average combined CAR is 40.3% for non-activism mergers and 39.7% for activism mergers, and the difference between these is not statistically significant.

As seen in Table 5, acquisition premia and announcement CARs for activism mergers are substantially lower for activist bidders than for third-party bidders. Activist bidders offer an average (median) acquisition premium of 40.9% (28.7%) relative to 77.0% (50.3%) for third-party bidders. Similarly, combined CARs over the activism and merger announcement dates average 17.1% (14.3%) for activist bidders, significantly lower than the average (median) of 43.3% (36.1%) for third-party bidders.

Table 6 presents regression estimates of the acquisition premium relative to the pre-activism price, controlling for the various firm characteristics described earlier. We focus on the sub-sample of firms that receive takeover bids, 14% of which are firms with activist presence at the time of the merger announcement. The first three columns include activism mergers with third-party offers and non-activism mergers, while the last three columns compare activism mergers with activist bidders to non-activism mergers. We estimate the models for third party and activist bidders separately to account for the possibility that the determinants of acquisition premia differ across these two groups but our results are similar if we pool the two subsamples.

Column (1) shows that for the subsample of firms with third-party bidders, acquisition premia are not related to the indicators *Activist* or *Aggressive activist*. However, columns (2) and (3) suggest that acquisition premia are lower when firms are targeted by an *Experienced activist* or *Experienced merger activist*. Since we calculate premia relative to the target's stock price prior to the initiation of the activism campaign, these results cannot be explained by higher pre-merger run-ups for firms targeted by experienced activists. A potential explanation may be that third-party acquirers tend to offer lower premia when firms are targeted by more experienced activists because target managers may face pressure to sell the firm.

In contrast to third-party offers, models (4)-(6) of Table 6 show that acquisition premia are significantly lower for activist bidders. Again, measures of the activist's engagement intensity or experience are not significantly related to the acquisition premia offered. There are several potential explanations for the lower premia offered by hedge fund bidders. Activist hedge funds may attempt to put a firm "in play" by making a low offer that may be easily topped by other bidders. Alternatively, the lower premia may reflect the lack of synergies available to strategic

buyers. Hedge fund buyers may also be more disciplined and less prone to overpayment than strategic buyers.

In Table 7, we present estimates from logistic models of the probability of offer completion conditional on receiving a takeover bid. We classify mergers for which SDC does not record completion within two years of the merger announcement as failed transactions. The dependent variable is an indicator set to one if a firm is acquired, and zero otherwise. All regressions include firm controls, year and industry fixed effects. Standard errors are clustered by year and firm.

Columns (1)-(3) present results for the activism mergers with third-party bidders and all non-activism mergers. The coefficient on *Activist non-bidder* is positive and significant, indicating that offers involving third-party bidders are more likely to be completed. These results are also economically significant. Setting all other variables to their means, a change in *Activist non-bidder* from 0 to 1 increases the probability of completion from 91.8% to 97.4%. Column (1) also shows that third-party offers for firms involving an *Aggressive activist* are less likely to be completed. A similar pattern emerges in columns (2) and (3) that show that third-party offers for firms targeted by an *Experienced activist* and *Experienced merger activist* are also less likely to be completed.

In contrast to the results for third-party bidders, columns (4)-(6) show that offers involving activist bidders are significantly less likely to be completed. These results are also economically significant. When all other variables are at their means, a change in the coefficient on *Activist bidder* variable from 0 to 1 decreases the probability of completion from 92.0% to 68.4%. This result may be driven by the lower acquisition premia that are offered by hedge fund bidders, as shown in Table 6. As with the third-party bidders, offers involving an *Aggressive activist*, *Experienced activist*, and *Experienced merger activist* are all less likely to be completed.

6. Returns to activism mergers

In Table 8, we study how activism affects the returns that accrue to target shareholders as a result of M&A activity. As discussed earlier, focusing on the merger announcement date misses relevant information that is conveyed to the market when an activist launches a campaign at an earlier date. Therefore, for activism mergers the dependent variable is the abnormal return calculated in excess of the value-weighted CRSP index return and cumulated over the period from 25 days before the announcement of activism to 5 days after merger announcement. For firms without activism, we calculate a placebo activism CAR, using the median number of days

between the activism and M&A announcements (266 days) as the start date. The regressions include firm-level control variables, and year and industry fixed effects. Standard errors are clustered by year and firm.

Columns (1)-(4) report results estimating returns for activism mergers with third-party bidders and for non-activism mergers. Model (1) shows that activism mergers with third-party bidders experience CARs that are 8.3% higher than those obtained in non-activism mergers. Models (2)-(4) indicate that target CARs do not vary with the activist's aggressiveness and prior experience in activism or merger activism. Thus, it appears that the market has a more favorable assessment of the value creation from takeover bids involving activism targets than non-targets. These results suggest that overall shareholder gains are higher in M&A transactions where the target firm faces a hedge fund activism campaign.

In contrast to offers involving third-party bidders, offers by activist hedge funds result in significantly lower CARs for target firm shareholders. Models (5)-(8) present regression estimates of the CARs for activism mergers with activist bidders and non-activism mergers. The coefficient on *Activist bidder* is negative and statistically significant in all specifications. The coefficient estimate in model (5) indicates that relative to non-activism mergers, CARs for target shareholders in mergers involving activist bidders are lower by 18.0%. Models (6)-(8) indicate that target CARs are not related to measures of the activist's aggressiveness and prior experience in activism or merger activism. This is likely due to the fact that such activist bids are typically made by the most experienced activist hedge funds.

Overall, these results suggest that while the presence of an activist increases the probability that a firm receives a bid, the valuation effects of a bid for target firm shareholders are sharply different depending on whether the bidder is the activist hedge fund or a third-party. While bids by third-party acquirers result in significantly higher CARs for targets, bids by hedge fund activists result in significantly lower CARs. The lower returns for hedge fund bidders are consistent with our earlier results that hedge fund bids involve significantly lower acquisition premia and lower likelihoods of completion.

7. Failed mergers of activism targets

Our evidence suggests that hedge fund activism is associated with a substantially higher probability of an acquisition and that acquisition returns are higher for activism targets that receive third-party bids. To understand better the sources of value creation in activism mergers,

we continue with an investigation of the returns to merger transactions that fail for exogenous reasons.

7.1. Returns to unsuccessful activism mergers

Greenwood and Schor (2009) show that the significantly positive long-term returns to activism are primarily driven by firms that eventually get acquired but do not investigate the returns to failed activism mergers. Our calculation of long-term returns after the initiation of hedge fund activism closely follows that of Greenwood and Schor (2009). Abnormal returns are calculated using the Fama-French three-factor model, which includes the market, SMB, and HML factors. Factor loadings are estimated over the (-24, -2) month interval prior to the activism announcement.

Table 9 reports and Figure 1 plots monthly CARs around the announcement of activism. In column (1), we present CARs for all activism targets in our sample. On average, activism targets display CARs of 9.8% over the 24 months following activism, comparable to the 10.3% CARs reported by Greenwood and Schor (2009) for the 18 months following activism. Activism targets that receive a subsequent merger offer display strong positive long-term abnormal returns, averaging 36.7% over the 24-month period. These CARs are higher for activism targets that receive offers from third-party bidders (38.9%) than for offers from hedge fund bidders (18.4%). Firms that are successfully acquired display CARs of 39.3%.

Importantly, the subset of activism targets that receive a bid but remain independent also display evidence of long-term abnormal returns. For this subsample, the 24-month CARs average 17.7%, suggesting that even failed acquisition attempts of activism targets are associated with significant share price appreciation. In contrast, targets of shareholder activism that do not receive a merger bid display no evidence of abnormal long-term returns. The 24-month CARs for this subsample average 0.6% and lack statistical significance, consistent with Greenwood and Schor (2009).

We investigate two potential explanations for why activism targets with failed takeover attempts display significantly positive long-term abnormal returns. One explanation, suggested by recent findings in Malmendier, Opp, and Saidi (2015), is that the market revalues a target's standalone value at the merger announcement and that part of this revaluation remains even if the merger collapses. An alternative explanation is that the positive price appreciation in failed activism mergers is due to favorable operational and/or financial policy changes resulting from the activist

intervention, and that this price appreciation persists irrespective of whether the acquisition attempt is consummated. We turn to evaluating these alternative explanations next.

7.2. Do merger returns reflect target revaluation in failed activism mergers?

In recent work, Malmendier et al. (2015) argue that a large fraction of merger announcement returns are due to the market's revaluation of the target firm rather than the expected benefits from the merger. They find that in a typical merger, the announcement return reflects two distinct components – a *revaluation effect* which is independent of the expected synergies from the merger, and a *synergy effect*, which captures the synergistic gains from the combination of the target and the bidder. According to their estimates, the revaluation effect accounts for more than half the total merger return. If this pattern holds for activism mergers, it would imply that the positive long-term returns of activism targets involved in unsuccessful takeovers might reflect the market's revaluation of the targets' standalone value.

We replicate the analysis in Malmendier et al. (2015) and decompose the announcement returns of failed mergers in our sample. We follow their methodology closely and require that the date of merger failure be no later than one year after the merger announcement. We include only cash deals since Malmendier et al. (2015) show that the revaluation effect is not present in equity-financed deals. With these criteria, our sample of failed mergers includes 127 non-activism mergers and 43 activism mergers, of which 29 involve an activist bidder.

Our results are reported in Table 10. We calculate announcement returns over the period from 25 days before to 5 days after the merger announcement and failure returns from 25 days before the merger announcement to 25 days after merger failure.[8] As in Malmendier et al. (2015), we estimate the *revaluation ratio* as the failure return divided by the merger announcement return. In column (1), we focus on mergers with no activist presence and find that half of the merger announcement return is due to a revaluation effect and half to a synergy effect. This result closely mirrors the findings of Malmendier et al. (2015) who show that about half the merger announcement return is due to revaluation. In contrast to mergers not involving an activist, columns (2)-(4), show that the majority (87-103%) of the merger announcement returns in activism mergers is attributed by the market to expected merger synergies.

[8] As a robustness check, we also calculate CARs using a three-factor model as in Greenwood and Schor (2009). These results are qualitatively similar to those reported and are not tabulated for brevity.

These results imply that returns in failed activism mergers are driven primarily by expected synergies and not by a revaluation of the targets' standalone value. In this regard, merger announcement returns do not appear to overestimate the value creation from mergers of activism targets, a result in stark contrast to the original findings in Malmendier et al. (2015). Next, we investigate whether the positive long-term price appreciation of activism targets is due to favorable operational and/or financial policy changes resulting from the activist intervention.

7.3. Changes in firm performance and financial policies

In Table 11 and Figure 2, we compare policy changes at activism targets that receive a takeover bid but fail to complete a merger and targets that do not receive a takeover bid within two years of the start of the activism campaign. We consider changes in three operational variables – return on assets, return on sales, and asset turnover – and three financial and investment policies that represent common activist demands – leverage, payout, and capital expenditures. We estimate policy changes over two horizons centered around the beginning of the activism campaign (*t*) – from *t-2* to *t+2* and from *t-1* to *t+1*. The key variable of interest in Table 10 is an indicator, *Bid but no merger*, which takes the value of one for failed activism mergers, and is zero otherwise. The regression models control for the starting (lagged) level of the respective policy.

Columns (1) and (2) of Table 11 show that activism targets involved in failed takeovers experience an increase in ROA of 3.0-3.2% relative to activism targets that receive no takeover bids. Columns (3) and (4) show a similar effect using return on sales (ROS). The change in asset turnover in columns (5) and (6) is negative but statistically insignificant. This result may be due to the fact that activists are more successful "on the extensive margin by facilitating asset reallocation" rather than on the intensive margin by improving the efficiency of existing assets, as documented by Brav, Jiang, and Kim (2015).

In terms of financial and investment policies, columns (7) and (8) show that activism targets involved in failed takeover bids increase their leverage ratio by 6.3-6.7% compared to activism targets that do not receive takeover bids. In addition, such targets increase their capital expenditures by 4.4-4.5% relative to activism targets with no takeover bids. We do not find a statistically significant change in payout between the two subsamples of firms.

Overall, the results in Table 11 illustrate that activism targets that receive takeover bids but remain independent experience significant changes in operational and financial policies. These include substantial increases in return on assets, operating margins, leverage and capital

expenditures relative to other activism targets that are not involved in subsequent M&A activity. These results indicate that failed acquisition attempts of activism targets are associated with real changes in performance and financial policies, which could provide an explanation for the documented positive long-term returns that persist irrespective of whether or not an acquisition attempt is consummated. Perhaps most strikingly, the evidence shows that the real effects of shareholder activism are more pronounced when activism is accompanied by a takeover attempt, suggesting an intricate link between activism and corporate control transactions.

7.4. Bidder returns

Our results so far suggest that activists increase the likelihood that a firm receives an acquisition proposal from a third-party bidder, and that merger announcement returns are higher in such transactions than in non-activism mergers. A potential explanation for these results is that an activist intervention signals to potential bidders that a firm is an attractive takeover target, thereby lowering the probability that they overpay for the acquisition. Under this interpretation, announcement returns for bidders should be higher when merger targets are also targets of shareholder activism.

Table 12 displays regression estimates where the dependent variable is the 3-day (-1, +1) bidder CAR around the merger announcement date. Since bidder returns are potentially affected by a number of bidder specific attributes, we estimate these regressions with bidder fixed effects. We also include year fixed effects and control for industry merger waves. Since we calculate bidder returns, these regressions exclude private bidders, and hence the LBO transactions in the sample. Finally, the regressions control for the size of the transaction, the method of payment, and the characteristics of the activists involved in each transaction.

The baseline specification in column (1) of Table 12 shows that the coefficient on *Activist* is positive and significant at the 10% level. Models (2)-(4) include measures of activist aggressiveness and experience. Although these measures lack significance, the *Activist* indicator is positive and significant (at the 5% level) in all specifications. These results suggest that third-party bidders experience higher announcement returns when the target firms are subject to a shareholder activist campaign. This is consistent with a lower probability of overpayment in activism mergers and provides evidence against Greenwood and Schor (2009)'s conjecture that the overall positive returns associated with activism may be due to the activists' simply picking firms "for which potential acquirers might overpay".

8. Conclusion

In this paper, we study the mechanisms through which hedge fund activism affects merger activity for targeted firms. We document that activism is associated with a substantially higher probability of subsequent merger activity and that this effect is driven by the intensity of the activists' engagement with management and their prior experience in activism mergers. Activism targets experience a substantially higher likelihood of receiving a takeover bid relative to firms in which the same activist hedge funds own passive stakes. Further, failed takeover attempts of activism targets display significant long-term abnormal returns, which reflect substantial improvements in real operating and financial policies.

Relative to non-activism mergers, activist interventions followed by third-party acquisition proposals lead to substantially higher shareholder returns for both target and bidder shareholders. In contrast, when activists themselves bid for target firms, both the probability of merger completion and the returns to target shareholders are significantly worse than for mergers without activist involvement. Overall, our results demonstrate that activists create value in takeovers by lowering frictions in the market for corporate control.

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Figure 1: Long Term Stock Performance of Activism Targets

This figure plots monthly cumulative abnormal returns (CARs) around the announcement of activism. Table 9 tabulates these returns. The full sample consists of 1,707 activism targets between 2000-2012, and is subdivided into targets that receive a takeover offer within two years of the start of activism, targets that receive an offer and are acquired, targets that receive an offer but remain independent, and targets that receive no offer. Further, activism targets that receive takeover offers are subdivided into those that receive a bid from the activist hedge fund or a third-party bidder. Abnormal returns are calculated using the Fama-French three-factor model, with the market, SMB, and HML factor loadings estimated over the (-24, -2) month interval prior to the activism announcement.

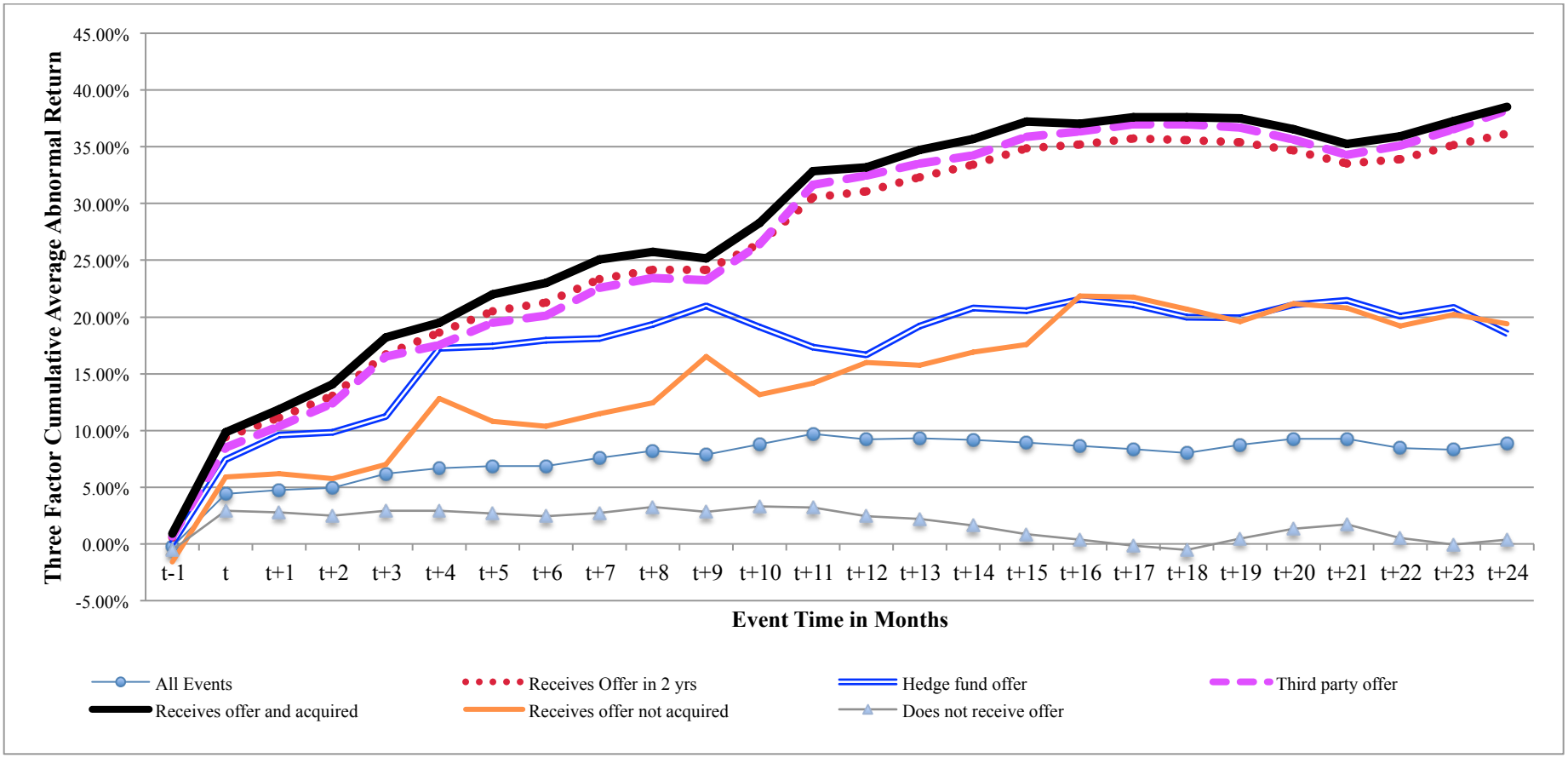


Figure 2: Operating Performance and Certain Policies from Two Years Before to Two Years After Activism

This figure reports graphs of average operating performance and policy variables for the period two years before activism is announced to two years after activism. The first three panels graph operating performance levels, while the second three panels graph policy levels. The solid line represents activism campaigns in which the target firm does not receive a takeover bid and the dashed line represents campaigns in which the target firm does receive a takeover bid but is not acquired within two years.

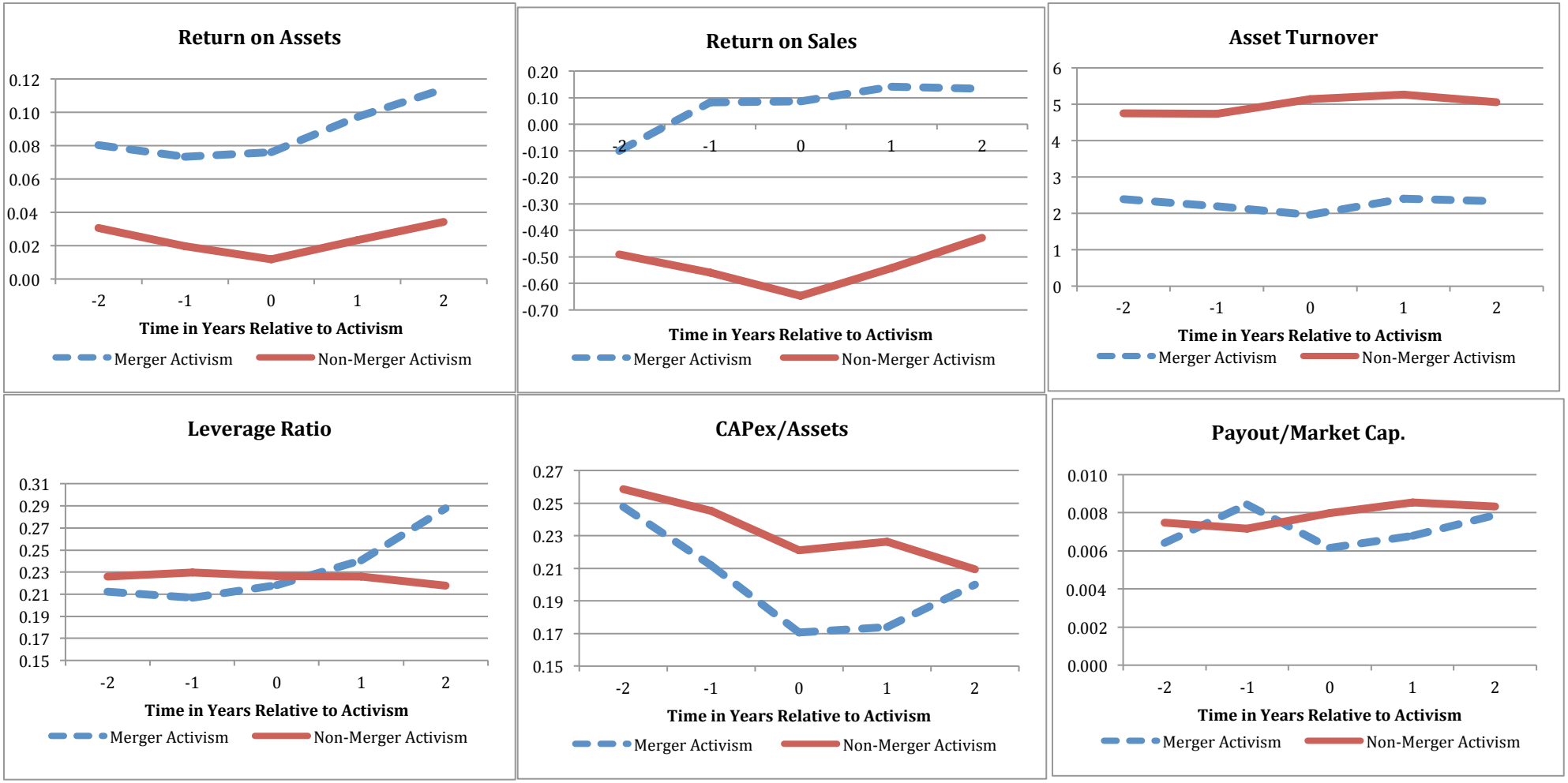


Table 1: Hedge Fund Activism and Merger Activity

This table reports annual statistics for targets of hedge fund activism and takeovers. The sample period is between 2000 and 2012. Columns (1)-(2) report the number and frequency of shareholder campaigns by activists. An activist is a hedge fund that has accumulated an activist block of 5% in at least two targets or initiated at least one proxy contest over the sample period. The activism dataset is collected from FactSet's SharkRepellent, SEC Schedule 13Ds, and proxy statements. Columns (3)-(4) present the number and frequency of takeover bids as reported by Thomson Reuters SDC Platinum. Columns (5)-(6) report the number and frequency of activism events where the activist initiates a campaign *after* a merger announcement but before its completion (merger arbitrage). Columns (7)-(8) and (9)-(10) present the number and frequency of activism targets receiving takeover bids by activist bidders and third-party bidders, respectively. The takeover bid must be within 2 years of the start of the activist campaign and the activist must be present at the time of the merger announcement.

Year	Number of activism campaigns	Proportion of Compustat firms with activism campaigns	Number of takeover bids	Proportion of Compustat firms with takeover bids	Number of activism events that *follow* a takeover bid	Proportion of activism events that *follow* a takeover bid (5/1)	Number of activism events with activist takeover bid	Proportion of activism events with activist takeover bid (7/1)	Number of activism events with third-party takeover bid	Proportion of activism events with third-party takeover bid (9/1)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2000	80	0.014	469	0.080	5	0.063	3	0.038	13	0.163
2001	93	0.016	334	0.059	11	0.118	1	0.011	15	0.161
2002	93	0.018	204	0.039	8	0.086	2	0.022	17	0.183
2003	106	0.022	236	0.049	17	0.160	2	0.019	24	0.226
2004	108	0.024	220	0.048	17	0.157	3	0.028	19	0.176
2005	153	0.034	244	0.054	27	0.176	11	0.072	22	0.144
2006	189	0.042	281	0.063	30	0.159	13	0.069	38	0.201
2007	243	0.056	301	0.069	30	0.123	8	0.033	56	0.230
2008	225	0.053	212	0.050	12	0.053	11	0.049	57	0.253
2009	139	0.034	154	0.038	4	0.029	2	0.014	25	0.180
2010	145	0.038	194	0.050	12	0.083	1	0.007	32	0.221
2011	160	0.044	189	0.052	15	0.094	8	0.050	32	0.200
2012	165	0.047	173	0.049	4	0.024	6	0.036	41	0.248
Total	1,899	0.034	3,211	0.054	192	0.102	71	0.034	391	0.199
2000-2006	*822*	*0.024*	*1,988*	*0.056*	*115*	*0.131*	*35*	*0.037*	*148*	*0.179*
2007-2012	*1,077*	*0.045*	*1,223*	*0.051*	*77*	*0.067*	*36*	*0.032*	*243*	*0.222*

Table 2: Characteristics of Target and Non-Target Firms

This table presents the characteristics of activism targets, takeover targets, and other firms in CRSP-Compustat. The sample period is between 2000 and 2012. *Institutional ownership* is the fraction of a firm's equity owned by institutions reporting to the SEC in Form 13F. *Standard deviation* is the standard deviation of daily returns. *Illiquidity* is measured by the Amihud (2002) ratio defined as the average ratio of the daily absolute return to the daily dollar trading volume. *Tobin's Q* is the ratio of market value of assets (market value of equity plus book value of debt) to book value of assets (the sum of book values of debt and common equity). *Market cap* is the stock market capitalization in $ million. *ROA* is operating income before depreciation divided by lagged book value of assets. *Book leverage* is debt (long-term debt and debt in current liabilities) divided by the sum of debt and common equity. *Dividend yield* is common dividends divided by the market value of common stock. R&D is research and development expense divided by assets. *Herfindahl* index is an index of market concentration for each Fama-French 12 industry. *Aggressive activist* is an activist who files more than the median number (two) of Schedule 13D amendments or at least one proxy statement per campaign during the sample period. *Experienced activist* is an activist who has been engaged in at least five previous activism campaigns by the current campaign. *Experienced merger activist* is an activist with at least two prior campaigns that were followed by takeover offers. Columns (1)-(2) present mean/median characteristics for the full CRSP-Compustat panel. Columns (3)-(4) and (5)-(6) report characteristics of merger and activism targets, respectively. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels with respect to the full panel. Columns (9)-(10) and (11)-(12) present mean/median characteristics of activism targets receiving activist and third-party bids, respectively. The takeover bid must be within 2 years of the start of the activist campaign and the activist must be present at the time of the merger announcement.

	Full panel (N=62,066)		Merger targets (N=2,869)		Activism targets (N=463)		Test for differences between merger and activism targets (p-value)		Activist bid (N=71)		Third-party bid (N=392)		Test for differences between activist and third-party bids (p-value)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Firm characteristics	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Inst. ownership	0.480	0.474	0.469*	0.433***	0.585***	0.630***	0.000***	0.000***	0.596***	0.603***	0.584***	0.630***	0.726	0.901
Standard deviation	0.039	0.032	0.039	0.032	0.032***	0.028***	0.000***	0.000***	0.031***	0.027***	0.032***	0.028***	0.758	0.962
Illiquidity	2.947	0.034	2.626*	0.055***	1.403***	0.046**	0.000***	0.381	2.035	0.036	1.287***	0.048*	0.474	0.901
Tobin Q	2.447	1.550	2.139***	1.440***	1.580***	1.380***	0.000***	0.037**	1.414***	1.290*	1.611***	1.390***	0.311	0.296
Market cap ($ MM)	2,138	264	1,140***	182***	728***	174***	0.982	0.781	707	172	732***	174***	0.868	0.901
ROA	0.031	0.080	0.038	0.080*	0.064***	0.090	0.009***	0.121	0.081***	0.105**	0.061***	0.080	0.400	0.365
Book leverage	0.203	0.114	0.210*	0.114	0.201	0.094	0.448	0.436	0.212	0.096	0.199	0.094	0.679	0.886
Dividend yield	0.012	0.000	0.010***	0.000***	0.009***	0.000***	0.218	0.561	0.009	0.000	0.009***	0.000***	0.982	0.901
R&D	0.063	0.000	0.063	0.000	0.058	0.000	0.287	0.436	0.036***	0.000	0.062	0.000	0.006***	0.752
Herfindahl index	0.137	0.098	0.126***	0.088***	0.137	0.101	0.048**	0.098*	0.169*	0.112	0.131	0.101	0.049**	0.633
Activist characteristics														
Aggressive activist	-	-	-	-	-	-	-	-	0.892	1	0.812	1	0.056*	0.990
Experienced activist	-	-	-	-	-	-	-	-	0.500	1	0.456	0	0.488	0.564
Experienced merger activist	-	-	-	-	-	-	-	-	0.474	0	0.475	0	0.974	0.927

Table 3: Unconditional Probability of Receiving Takeover Bid

This table reports estimates of logistic regressions of the probability of receiving a takeover bid. The sample period is 2000-2012, and includes all CRSP-Compustat firms. Controls and activist characteristics are described in Table 2. Regressions also include an indicator *Merger wave*, defined in Section 4. Columns (2)-(4) separate takeover offers into those by third parties, strategic, and financial bidders. Columns (5)-(7) include interactions with activist characteristics. The last two rows report the unconditional probability of receiving an offer and the corresponding probability in the presence of an activist. Standard errors are clustered by year and firm, and *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Any takeover offer	Third-party takeover offer	Strategic buyer	Non-activist financial buyer	Any takeover offer		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Activist	1.874***	1.712***	1.522***	1.851***	-0.241	1.242***	1.133***
	(15.23)	*(13.54)*	*(13.61)*	*(9.79)*	*(-0.56)*	*(6.10)*	*(6.12)*
Activist * Merger wave	-0.201	-0.227	-0.218	-0.220	-0.081	0.019	-0.021
	(-0.86)	*(-1.03)*	*(-1.09)*	*(-0.79)*	*(-0.35)*	*(0.08)*	*(-0.10)*
Activist characteristics							
Aggressive activist					2.448***		
					(6.40)		
Experienced activist						1.157***	
						(5.07)	
Experienced merger activist							1.401***
							(6.93)
Control Variables							
Inst. ownership	0.789***	0.791***	0.788***	0.727***	0.748***	0.776***	0.773***
	(5.24)	*(5.14)*	*(4.83)*	*(3.58)*	*(5.03)*	*(5.18)*	*(5.13)*
Standard deviation	-4.641***	-4.659***	-3.826***	-9.252*	-4.481***	-4.422***	-4.312***
	(-5.44)	*(-5.71)*	*(-3.33)*	*(-1.86)*	*(-5.01)*	*(-5.28)*	*(-5.34)*
Illiquidity	-0.008***	-0.008***	-0.007***	-0.015**	-0.009***	-0.009***	-0.009***
	(-3.39)	*(-3.41)*	*(-2.66)*	*(-2.22)*	*(-3.59)*	*(-3.65)*	*(-3.69)*
Tobin Q	-0.049***	-0.047***	-0.039***	-0.156***	-0.048***	-0.048***	-0.047***
	(-4.29)	*(-4.26)*	*(-3.76)*	*(-4.82)*	*(-4.05)*	*(-4.12)*	*(-4.15)*
Log of market cap	-0.183***	-0.184***	-0.163***	-0.301***	-0.183***	-0.188***	-0.189***
	(-4.73)	*(-4.71)*	*(-4.35)*	*(-5.20)*	*(-4.63)*	*(-4.74)*	*(-4.78)*
ROA	0.260	0.257	0.134	2.109***	0.262	0.262	0.266
	(1.41)	*(1.43)*	*(0.92)*	*(5.30)*	*(1.40)*	*(1.42)*	*(1.43)*
Book leverage/assets	0.010	0.016	-0.063	0.418	0.030	0.016	0.013
	(0.08)	*(0.14)*	*(-0.47)*	*(1.45)*	*(0.25)*	*(0.13)*	*(0.11)*
Dividend yield	-2.042**	-2.097**	-2.992***	1.160	-1.860*	-2.000**	-1.940**
	(-2.04)	*(-2.12)*	*(-3.20)*	*(0.51)*	*(-1.80)*	*(-1.99)*	*(-1.95)*
R & D/assets	0.442	0.462	0.490	-0.609	0.446	0.418	0.437
	(1.41)	*(1.47)*	*(1.58)*	*(-0.98)*	*(1.41)*	*(1.35)*	*(1.39)*
Herfindahl index	-0.238	-0.283	-0.568***	0.510	-0.252	-0.258	-0.272
	(-1.12)	*(-1.30)*	*(-2.73)*	*(1.00)*	*(-1.27)*	*(-1.26)*	*(-1.32)*
Merger wave	0.375***	0.368***	0.332***	0.424***	0.361***	0.347***	0.339***
	(8.14)	*(8.14)*	*(5.28)*	*(3.55)*	*(7.73)*	*(6.74)*	*(6.56)*
Constant	-1.829***	-1.802***	-2.048***	-3.474***	-1.823***	-1.751***	-1.748***
	(-14.57)	*(-14.36)*	*(-15.90)*	*(-10.37)*	*(-14.85)*	*(-14.19)*	*(-14.80)*
N	62,066	61,989	62,066	61,989	62,066	62,066	62,066
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.057	0.049	0.043	0.107	0.068	0.061	0.064
Unconditional probability	4.6%	4.6%	3.8%	0.43%	4.5%	4.6%	4.6%
Prob. when Activism=1 and Activist characteristic=1	22.9%	20.2%	14.8%	2.6%	29.0%	33.4%	36.4%

Table 4: Unconditional Probability of Receiving Takeover Bid
(Activist-Firm-Year Regressions)

This table reports estimates of OLS regressions of the probability of receiving a takeover bid. All takeover offers are included. The sample period is 2000-2012 and includes all CRSP-Compustat firms that are held by at least one activist hedge fund that also files a 13F ownership report. The unit of observation is an activist-firm-year. The indicator variable *HF active ownership* is set to one if the activist hedge fund has activist intentions (reported in a Schedule 13D or a contested proxy solicitation) in a given firm, and zero otherwise. *Percent held* is the total percentage of the stock's market capitalization that is held by the activist hedge fund. Standard errors are clustered by year and firm, and *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
HF active ownership	0.187***	0.180***	0.178***	0.183***
	(8.29)	*(7.69)*	*(7.81)*	*(7.80)*
Percent held		-0.191***		
		(-3.84)		
HF active ownership * Percent held		0.694***		
		(2.54)		
Percent held > 1% dummy			-0.008***	
			(-5.16)	
HF active ownership * Percent held > 1% dummy			0.045***	
			(2.54)	
Percent held > 5% dummy				-0.012***
				(-2.69)
HF active ownership * Percent held > 5% dummy				0.044**
				(2.23)
HF active ownership * Merger wave	0.013	0.013	0.013	0.014
	(0.38)	*(0.39)*	*(0.39)*	*(0.40)*
Institutional ownership	0.044***	0.045***	0.045***	0.045***
	(3.89)	*(3.97)*	*(3.96)*	*(3.94)*
Standard deviation	-0.203	-0.213	-0.212	-0.208
	(-1.24)	*(-1.30)*	*(-1.29)*	*(-1.26)*
Illiquidity	0.000	0.000	0.000	0.000
	(-0.27)	*(-0.18)*	*(-0.22)*	*(-0.21)*
Tobin Q	-0.002***	-0.002***	-0.002***	-0.002***
	(-6.26)	*(-6.22)*	*(-6.21)*	*(-6.25)*
Log of mkt. cap	-0.016***	-0.016***	-0.016***	-0.016***
	(-9.75)	*(-9.73)*	*(-9.86)*	*(-9.73)*
ROA	0.005	0.005	0.005	0.005
	(0.46)	*(0.45)*	*(0.46)*	*(0.46)*
Book leverage/assets	-0.027***	-0.027***	-0.027***	-0.027***
	(-3.98)	*(-3.97)*	*(-3.97)*	*(-3.98)*
Dividend yield	-0.188***	-0.191***	-0.191***	-0.189***
	(-2.53)	*(-2.56)*	*(-2.57)*	*(-2.54)*
R & D/assets	0.041*	0.041*	0.041*	0.041*
	(1.85)	*(1.86)*	*(1.87)*	*(1.86)*
Herfindahl index	-0.031**	-0.031**	-0.031**	-0.031**
	(-2.20)	*(-2.19)*	*(-2.20)*	*(-2.19)*
Merger wave	0.007	0.007	0.007	0.007
	(0.79)	*(0.80)*	*(0.80)*	*(0.80)*
Constant	0.517***	0.520***	0.520***	0.519***
	(12.41)	*(12.44)*	*(12.48)*	*(12.40)*
N	256,649	256,649	256,649	256,649
Includes year FE?	Yes	Yes	Yes	Yes
Includes HF Activist FE?	Yes	Yes	Yes	Yes
Pseudo R^2	0.157	0.157	0.157	0.157

Table 5: Summary of Returns to Activism and Non-Activism Mergers

This table presents summary statistics on the acquisition premia and merger announcement returns for activism and non-activism merger targets. Premia and announcement returns are calculated with respect to the target's stock price 25 days prior to the activism or merger announcement. Cumulative abnormal returns (CARs) are calculated in excess of the value-weighted CRSP index return over days (-1, +1) around the merger announcement. Long-term CARs include the announcement of the activism campaign (from 25 days before the campaign to 5 days after the merger announcement). Columns (1)-(2) and (3)-(4) report performance measures for merger and activism targets, respectively. Columns (7)-(8) and (9)-(10) present mean/median characteristics of activism targets receiving activist and third-party bids, respectively. The takeover bid must be within 2 years of the start of the activist campaign and the activist must be present at the time of the merger announcement. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively.

	Merger targets (N=2,869)		Activism targets (N=463)		Test for differences between merger and activism targets (p-value)		Activist bid		Third-party		Test for differences between activist and third-party bids (p-value)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Performance measures	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Premia												
Target 5 wk. prem. (%)												
- Relative to merger date	68.9	46.9	50.5	35.5	0.000***	0.000***	32.8	25.4	53.9	38.4	0.001***	0.003***
- Relative to activism date	81.1	52.2	71.4	45.2	0.106	0.064*	40.9	28.7	77.0	50.3	0.000***	0.002***
CARs												
CAR (-1, +1 $_{(merger)}$)(%)	15.6	18.3	14.2	15.6	0.003***	0.000***	11.6	10.9	14.7	17.0	0.005***	0.001***
Long-Term CAR [-25$_{(activism)}$,+5$_{(merger)}$] (%)	40.3	34.6	39.7	30.7	0.829	0.193	17.1	14.3	43.3	36.1	0.000***	0.000***

Table 6: Merger Premia of Activism and Non-Activism Mergers

This table reports estimates for OLS regressions of merger premia measured 25 days before the start of activism. The sample period is 2000-2012. For non-activism mergers, a placebo activism date is set to 266 days before the merger (the median number of days between an activism initiation and a merger announcement). The first three columns report premia by third-party bidders for activism targets and firms not involved in activism. The last three columns compare premia between activism targets with bids by activist hedge funds and other merger targets. All firm and activist characteristics are described in Table 2. Standard errors are clustered by year and firm, and *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively.

	Third-party bidders			Activist bidders		
Activism						
Activist non-bidder	0.062	0.160***	0.165***			
	(0.72)	*(2.56)*	*(2.89)*			
Activist bidder				-0.307**	-0.227*	-0.243**
				(-2.23)	*(-1.89)*	*(-2.07)*
Activist Characteristics						
Aggressive activist	0.056			0.095		
	(0.62)			*(0.86)*		
Experienced activist		-0.135***			-0.013	
		(-2.51)			*(-0.34)*	
Experienced merger activist			-0.143***			0.030
			(-2.59)			*(0.66)*
Control Variables						
Inst. ownership	0.080	0.087	0.090	0.167	0.170	0.168
	(0.66)	*(0.72)*	*(0.75)*	*(1.25)*	*(1.28)*	*(1.25)*
Standard deviation	2.967	3.000	3.030	3.049	3.040	3.030
	(0.90)	*(0.90)*	*(0.91)*	*(0.87)*	*(0.86)*	*(0.87)*
Illiquidity	0.018***	0.018***	0.018***	0.018***	0.018***	0.018***
	(3.26)	*(3.24)*	*(3.26)*	*(3.49)*	*(3.47)*	*(3.49)*
Tobin Q	0.045**	0.044**	0.044**	0.043*	0.043*	0.043*
	(2.14)	*(2.10)*	*(2.10)*	*(1.93)*	*(1.93)*	*(1.93)*
Log market cap	-0.052**	-0.052**	-0.052**	-0.063**	-0.063**	-0.063**
	(-2.01)	*(-1.99)*	*(-1.98)*	*(-2.31)*	*(-2.32)*	*(-2.32)*
ROA	0.603***	0.598***	0.597***	0.600***	0.598***	0.598***
	(3.55)	*(3.48)*	*(3.47)*	*(3.49)*	*(3.45)*	*(3.47)*
Book leverage/assets	0.958***	0.953***	0.951***	0.889***	0.889***	0.890***
	(6.11)	*(6.07)*	*(6.06)*	*(5.17)*	*(5.17)*	*(5.18)*
Dividend yield	0.755	0.740	0.752	1.058	1.026	1.035
	(0.58)	*(0.57)*	*(0.58)*	*(0.85)*	*(0.82)*	*(0.83)*
R & D/assets	0.458**	0.454**	0.447*	0.372	0.371	0.372
	(1.99)	*(1.96)*	*(1.92)*	*(1.44)*	*(1.43)*	*(1.44)*
Herfindahl index	-0.032	-0.032	-0.027	-0.088	-0.084	-0.087
	(-0.15)	*(-0.15)*	*(-0.13)*	*(-0.43)*	*(-0.42)*	*(-0.43)*
Cash offer	0.001	0.001	0.001	-0.015	-0.014	-0.014
	(0.01)	*(0.01)*	*(0.01)*	*(-0.16)*	*(-0.15)*	*(-0.16)*
Merger wave	0.012	0.010	0.012	-0.023	-0.024	-0.024
	(0.13)	*(0.11)*	*(0.13)*	*(-0.26)*	*(-0.27)*	*(-0.27)*
LBO indicator	-0.156***	-0.148***	-0.145***	-0.112*	-0.110*	-0.110*
	(-2.79)	*(-2.71)*	*(-2.68)*	*(-1.80)*	*(-1.77)*	*(-1.77)*
Constant	0.849***	0.839***	0.835***	0.950***	0.951***	0.953***
	(3.40)	*(3.34)*	*(3.34)*	*(3.73)*	*(3.74)*	*(3.77)*
N	3,190	3,190	3,190	2,870	2,870	2,870
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.128	0.128	0.128	0.133	0.133	0.133

Table 7: Probability of Takeover Completion of Activism and Non-Activism Mergers

This table reports estimates of logistic regressions of the probability of completing a takeover bid. The sample period is 2000-2012. The first three columns report completion probabilities for third-party bids for activism targets and firms not involved in activism. The last three columns compare completion probabilities between activism targets with bids by activist hedge funds and other merger targets. All firm and activist characteristics are described in Table 2. Standard errors are clustered by year and firm, and *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively.

	Third-party bidders			Activist bidders		
Activism						
Activist non-bidder	1.212***	0.911***	0.878***			
	(5.46)	*(4.69)*	*(4.79)*			
Activist bidder				-1.675***	-2.021***	-2.139***
				(-4.04)	*(-5.20)*	*(-5.66)*
Activist Characteristics						
Aggressive activist	-0.690***			-0.898***		
	(-3.28)			*(-3.55)*		
Experienced activist		-0.487**			-0.881***	
		(-2.04)			*(-2.84)*	
Experienced merger activist			-0.400**			-0.614**
			(-2.35)			*(-2.36)*
Control Variables						
Inst. ownership	0.214	0.194	0.196	0.341**	0.356**	0.337**
	(1.29)	*(1.16)*	*(1.15)*	*(2.05)*	*(2.10)*	*(1.95)*
Standard deviation	-0.977	-0.998	-0.863	-0.986	-1.019	-0.629
	(-0.24)	*(-0.24)*	*(-0.20)*	*(-0.28)*	*(-0.28)*	*(-0.17)*
Illiquidity	0.000	0.000	0.000	-0.001	0.000	-0.001
	(-0.07)	*(-0.05)*	*(-0.05)*	*(-0.15)*	*(-0.07)*	*(-0.12)*
Tobin Q	0.028	0.027	0.027	0.022	0.021	0.021
	(0.82)	*(0.80)*	*(0.80)*	*(0.63)*	*(0.59)*	*(0.60)*
Log market cap	0.013	0.017	0.018	-0.012	-0.011	-0.007
	(0.31)	*(0.38)*	*(0.41)*	*(-0.27)*	*(-0.24)*	*(-0.17)*
ROA	0.377	0.376	0.380	0.377	0.367	0.387
	(1.36)	*(1.31)*	*(1.32)*	*(1.35)*	*(1.29)*	*(1.33)*
Book leverage/assets	-0.758***	-0.770***	-0.771***	-0.703***	-0.739***	-0.736***
	(-3.34)	*(-3.25)*	*(-3.25)*	*(-3.90)*	*(-3.98)*	*(-3.90)*
Dividend yield	4.018	4.131	4.202	5.432	5.393	5.589
	(0.96)	*(0.96)*	*(0.98)*	*(1.17)*	*(1.17)*	*(1.21)*
R & D/assets	1.553**	1.536**	1.530**	1.773**	1.747**	1.742**
	(2.16)	*(2.13)*	*(2.14)*	*(2.19)*	*(2.08)*	*(2.11)*
Herfindahl index	-1.684***	-1.665***	-1.654***	-1.575***	-1.569***	-1.548***
	(-3.47)	*(-3.38)*	*(-3.33)*	*(-3.16)*	*(-3.07)*	*(-3.01)*
Cash offer	0.353*	0.347*	0.346*	0.308	0.298	0.290
	(1.77)	*(1.72)*	*(1.73)*	*(1.40)*	*(1.32)*	*(1.33)*
Merger wave	0.599***	0.595***	0.601***	0.593***	0.591***	0.597***
	(2.93)	*(2.93)*	*(2.98)*	*(3.74)*	*(3.53)*	*(3.69)*
LBO indicator	-0.540*	-0.533**	-0.538**	-0.435	-0.426	-0.429
	(-1.99)	*(-2.00)*	*(-1.96)*	*(-1.44)*	*(-1.45)*	*(-1.44)*
Constant	1.971***	1.955***	1.941***	2.021***	1.996***	1.970***
	(4.47)	*(4.44)*	*(4.41)*	*(4.83)*	*(4.89)*	*(4.77)*
N	3,281	3,281	3,281	2,945	2,945	2,945
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.075	0.073	0.072	0.108	0.108	0.105

Table 8: Cumulative Abnormal Returns (CARs) including Initial Activism Revaluation

This table reports estimates for OLS regressions of long-term CARs calculated in excess of the value-weighted CRSP index return and cumulated over the period from 25 days before the announcement of activism to 5 days after merger announcement. The sample period is 2000-2012. For non-activism mergers, a placebo activism date is set to 266 days before the merger (the median number of days between an activism initiation and a merger announcement). The first three columns report CARs for third-party bidders for activism targets and firms not involved in activism. The last three columns compare CARs between activism targets with bids by activist hedge funds and other merger targets. All firm and activist characteristics are described in Table 2. Standard errors are clustered by year and firm, and *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively.

	Third-party bidders				Activist bidders			
Activism								
Activist non-bidder	0.083***	0.068*	0.081***	0.094***				
	(3.15)	*(1.66)*	*(2.64)*	*(3.39)*				
Activist bidder					-0.180***	-0.161**	-0.186***	-0.192***
					(-3.45)	*(-2.34)*	*(-2.83)*	*(-3.26)*
Activist Characteristics								
Aggressive activist		0.020				-0.022		
		(0.70)				*(-0.74)*		
Experienced activist			0.005				0.013	
			(0.17)				*(0.38)*	
Experienced merger activist				-0.025				0.029
				(-1.05)				*(1.31)*
Control Variables								
Inst. ownership	-0.015	-0.016	-0.015	-0.013	0.001	0.002	0.000	0.000
	(-0.26)	*(-0.28)*	*(-0.27)*	*(-0.24)*	*(0.02)*	*(0.03)*	*(0.01)*	*(0.00)*
Standard deviation	2.167	2.165	2.166	2.176	2.222	2.218	2.223	2.213
	(1.26)	*(1.26)*	*(1.26)*	*(1.27)*	*(1.14)*	*(1.14)*	*(1.14)*	*(1.13)*
Illiquidity	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***
	(4.06)	*(4.06)*	*(4.06)*	*(4.07)*	*(3.70)*	*(3.70)*	*(3.70)*	*(3.70)*
Tobin Q	0.015	0.015	0.015	0.014	0.012	0.012	0.012	0.012
	(1.22)	*(1.22)*	*(1.22)*	*(1.21)*	*(0.91)*	*(0.91)*	*(0.91)*	*(0.91)*
Log market cap	-0.035**	-0.035**	-0.035**	-0.035**	-0.041**	-0.041**	-0.041**	-0.041**
	(-2.10)	*(-2.10)*	*(-2.10)*	*(-2.09)*	*(-2.38)*	*(-2.40)*	*(-2.38)*	*(-2.38)*
ROA	0.417***	0.417***	0.417***	0.416***	0.417***	0.417***	0.417***	0.417***
	(9.14)	*(9.16)*	*(9.11)*	*(9.04)*	*(10.30)*	*(10.20)*	*(10.24)*	*(10.29)*
Book leverage/assets	0.066	0.066	0.066	0.065	0.068	0.068	0.068	0.068
	(1.19)	*(1.20)*	*(1.19)*	*(1.18)*	*(1.06)*	*(1.06)*	*(1.06)*	*(1.07)*
Dividend yield	-1.207***	-1.203***	-1.207***	-1.208***	-1.300***	-1.307***	-1.297***	-1.293***
	(-2.48)	*(-2.46)*	*(-2.48)*	*(-2.48)*	*(-2.60)*	*(-2.60)*	*(-2.57)*	*(-2.57)*
R & D/assets	0.422***	0.422***	0.422***	0.421***	0.418***	0.418***	0.418***	0.419***
	(3.24)	*(3.25)*	*(3.24)*	*(3.24)*	*(3.04)*	*(3.03)*	*(3.05)*	*(3.05)*
Herfindahl index	-0.066	-0.066	-0.066	-0.064	-0.106	-0.105	-0.107	-0.109
	(-0.70)	*(-0.70)*	*(-0.71)*	*(-0.68)*	*(-1.08)*	*(-1.07)*	*(-1.08)*	*(-1.11)*
Cash offer	0.121***	0.121***	0.121***	0.121***	0.126***	0.126***	0.126***	0.126***
	(3.89)	*(3.90)*	*(3.89)*	*(3.87)*	*(3.72)*	*(3.71)*	*(3.72)*	*(3.72)*
Merger wave	0.037	0.037	0.037	0.038	0.018	0.018	0.018	0.018
	(1.51)	*(1.52)*	*(1.52)*	*(1.52)*	*(0.63)*	*(0.62)*	*(0.63)*	*(0.64)*
LBO indicator	-0.143***	-0.143***	-0.143***	-0.141***	-0.151***	-0.151***	-0.152***	-0.152***
	(-4.28)	*(-4.28)*	*(-4.23)*	*(-4.16)*	*(-4.37)*	*(-4.34)*	*(-4.38)*	*(-4.40)*
Constant	0.381***	0.381***	0.381***	0.378***	0.435***	0.436***	0.435***	0.436***
	(2.75)	*(2.75)*	*(2.75)*	*(2.73)*	*(2.95)*	*(2.97)*	*(2.95)*	*(2.96)*
N	3,006	3,006	3,006	3,006	2,663	2,663	2,663	2,663
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.163	0.163	0.163	0.163	0.176	0.176	0.176	0.176

Table 9: Long Term Stock Performance of Activism Targets

This table presents monthly cumulative abnormal returns (CARs) around the announcement of activism. The full sample consists of 1,707 activism targets between 2000-2012, and is subdivided into targets that receive a takeover offer within two years of the start of activism (column 2), targets that receive an offer and are acquired (column 5), targets that receive an offer but remain independent (column 6), and targets that receive no offer. Further, activism targets that receive takeover offers are subdivided into those that receive a bid from the activist hedge fund (column 3) or a third-party bidder (column 4). Abnormal returns are calculated as in Greenwood and Schor (2009), using the Fama-French three-factor model, with the market, SMB, and HML factor loadings estimated over the (-24, -2) month interval prior to the activism announcement. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	All activism events		Takeover offer within 2 years		Takeover offer by activist bidder		Takeover offer by third-party bidder		Completed transaction		Failed transaction		No takeover offer	
	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	CAR	t	CAR	t	CAR	t	CAR	t	CAR	t	CAR	t	CAR	t
-1 month	-0.52%	-1.00	0.44%**	0.34	-0.19%	-0.08	0.55%	0.38	0.90%***	0.62	-2.80%	-1.57	-0.84%	-1.56
Filing month	4.09%***	3.79	9.79%***	2.75	7.30%*	1.90	8.93%***	2.39	10.43%***	2.52	5.02%	1.49	2.20%***	2.61
+1 month	4.44%***	3.48	11.66%***	2.82	9.40%**	2.26	10.96%***	2.41	12.55%***	2.63	5.27%	1.43	2.04%**	2.09
+3 months	6.32%***	3.46	17.65%***	3.54	11.07%***	2.68	17.59%***	3.14	19.40%***	3.38	5.95%	1.26	2.51%	1.59
+6 months	6.98%***	3.07	22.46%***	3.59	18.10%***	3.00	21.27%***	3.09	24.37%***	3.39	9.98%	1.40	1.78%	0.94
+9 months	8.11%***	3.13	25.91%***	3.79	21.19%***	2.95	25.21%***	3.25	27.32%***	3.51	15.38%*	1.68	2.09%	0.92
+12 months	9.38%***	3.07	31.59%***	3.70	16.96%**	2.29	33.05%***	3.35	33.64%***	3.43	16.70%*	1.76	1.88%	0.79
+18 months	8.49%***	2.40	36.07%***	4.11	19.60%***	2.52	37.58%***	3.72	38.22%***	3.80	19.79%**	1.98	-0.88%	-0.31
+24 months	9.75%***	2.64	36.68%***	4.04	18.42%***	2.38	38.91%***	3.69	39.31%***	3.77	17.73%*	1.87	0.63%	0.22

Table 10: Revaluation and Synergy Effects in Failed Activism and Non-Activism Mergers

This table reports a decomposition of merger announcement returns into a target revaluation effect and a merger synergy effect, following the approach in Malmendier et al. (2015). The sample consists of cash-only activism and non-activism mergers, which have failed within one year of the merger announcement date due to exogenous reasons. Columns (3) and (4) split the sample of activism mergers into those with third-party bids and activist bids, respectively. Columns (5)-(7) test the statistical significance of the differences in means between non-activism mergers and the corresponding subgroups of activism mergers, and *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. The merger announcement returns (A) are calculated over the period from 25 days before to 5 days after the merger announcement and the failure returns (B) are estimated from 25 days before the merger announcement to 25 days after merger failure. The revaluation proportion is calculated as the average failure return over the average merger announcement return (B/A) and the synergy proportion is the remainder.

	Means				**Differences**		
	Non-activism mergers (N=127)	**Activism mergers (N=43)**	**Activism w/ third-party bids (N=14)**	**Activism w/ activist bids (N=29)**	**Non-activism – Activism**	**Non-activism – Third-party bids**	**Non-activism – Activist bids**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pre-merger to failure returns							
(A) Mgr. annc. return $_{[-25,+5]}$	0.258	0.170	0.231	0.140	0.088**	0.027	0.118***
(B) Failure return $_{[-25(merger),+25(fail)]}$	0.128	0.010	-0.007	0.018	0.118	0.110	-0.012
Revaluation Ratios							
Revaluation proportion (B/A)	50%	6%	-3%	13%	44%**	53%*	37%
Loss in synergy (1-B/A)	50%	94%	103%	87%	-44%**	-53%*	-37%

Table 11: Policy Changes at Activism Targets

This table reports policy changes at activism targets over 2000-2012. All variables are defined in Table 2. The indicator *Bid but no merger* is set to one for targets that receive a takeover bid but remained independent (failed mergers), and set to zero for targets that do not receive a takeover bid within 2 years of the start of the activist campaign. Standard errors are clustered by year and firm, and *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively.

	Δ ROA		Δ ROS		Δ Asset turnover		Δ Book leverage		Δ CAPex/assets		Δ Payout/market cap.	
	t-2 to t+2	t-1 to t+1	t-2 to t+2	t-1 to t+1	t-2 to t+2	t-1 to t+1	t-2 to t+2	t-1 to t+1	t-2 to t+2	t-1 to t+1	t-2 to t+2	t-1 to t+1
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Bid but no merger	0.030***	0.032***	0.289**	0.191**	-0.908	-0.641	0.063**	0.067***	0.044**	0.035**	-0.001	-0.001
	(2.71)	*(3.11)*	*(2.29)*	*(2.35)*	*(-1.38)*	*(-1.40)*	*(2.14)*	*(3.02)*	*(2.28)*	*(1.95)*	*(-0.38)*	*(-0.61)*
Inst. ownership	0.034	0.039*	0.954*	0.549	-2.967***	-1.606*	0.037**	0.010	0.044	0.082***	-0.005	-0.004
	(1.53)	*(1.85)*	*(1.71)*	*(1.10)*	*(-2.45)*	*(-1.68)*	*(1.96)*	*(0.48)*	*(1.19)*	*(2.62)*	*(-1.55)*	*(-1.25)*
Standard deviation	-0.377	-0.202	0.224	-4.398	-40.397***	-11.972	0.070	-0.269	2.075**	2.168**	-0.165***	-0.125***
	(-0.97)	*(-0.54)*	*(0.03)*	*(-0.73)*	*(-4.11)*	*(-1.12)*	*(0.17)*	*(-0.80)*	*(2.03)*	*(2.41)*	*(-6.12)*	*(-5.16)*
Illiquidity	0.001	0.000	0.010	0.010*	-0.016	-0.025*	-0.001	0.000	-0.001**	-0.001**	0.000***	0.000***
	(1.03)	*(0.59)*	*(1.41)*	*(1.89)*	*(-1.11)*	*(-1.80)*	*(-0.70)*	*(-0.20)*	*(-1.94)*	*(-1.94)*	*(2.81)*	*(4.54)*
Tobin Q	0.000	-0.002	0.073	-0.013	-0.171	0.002	-0.003	0.001	0.008**	0.003	0.000	0.000
	(-0.08)	*(-0.54)*	*(0.63)*	*(-0.24)*	*(-0.66)*	*(0.01)*	*(-0.40)*	*(0.15)*	*(2.01)*	*(0.75)*	*(-0.83)*	*(0.20)*
Log market cap.	0.012***	0.010***	0.002	0.029	-0.153	-0.293**	0.006*	0.008**	-0.010	-0.015*	0.001*	0.001
	(2.99)	*(2.95)*	*(0.03)*	*(0.48)*	*(-1.11)*	*(-2.04)*	*(1.89)*	*(2.36)*	*(-1.12)*	*(-1.91)*	*(1.69)*	*(1.40)*
Dividend yield	0.071	-0.161	1.676	-0.461	-9.659	-3.938	0.470*	0.347	0.137	0.124	0.061	-0.083**
	(0.22)	*(-0.87)*	*(0.78)*	*(-0.28)*	*(-1.42)*	*(-0.95)*	*(1.70)*	*(1.24)*	*(0.65)*	*(0.50)*	*(1.42)*	*(-2.40)*
Book leverage/assets	0.044***	0.031	0.319	0.459*	-0.131	-0.609	-0.405***	-0.326***	-0.137***	-0.138***	-0.008***	-0.005**
	(2.43)	*(1.27)*	*(1.01)*	*(1.67)*	*(-0.25)*	*(-0.99)*	*(-6.58)*	*(-4.03)*	*(-3.22)*	*(-3.62)*	*(-3.05)*	*(-2.08)*
R & D/assets	-0.433***	-0.395***	-6.735**	-3.080***	9.807	1.421	-0.064	-0.059	0.000	-0.082	-0.001	-0.002
	(-2.74)	*(-3.41)*	*(-2.13)*	*(-2.64)*	*(1.24)*	*(0.35)*	*(-0.85)*	*(-0.95)*	*(0.01)*	*(-0.85)*	*(-0.43)*	*(-0.60)*
Herfindahl index	-0.005	-0.052	-0.531	-0.417	-1.230	-2.004	0.036	0.063*	-0.032	-0.045	-0.003	-0.001
	(-0.18)	*(-1.50)*	*(-0.84)*	*(-0.73)*	*(-0.66)*	*(-1.20)*	*(0.69)*	*(1.71)*	*(-0.48)*	*(-0.63)*	*(-0.58)*	*(-0.26)*
ROA	-0.638***	-0.649***			-2.209	0.737	0.020	0.005	0.046	0.005	0.004**	0.003
	(-7.10)	*(-8.88)*			*(-0.89)*	*(0.41)*	*(0.39)*	*(0.14)*	*(0.87)*	*(0.12)*	*(2.27)*	*(1.50)*
ROS			-0.778***	-0.766***								
			(-11.61)	*(-9.96)*								
Asset turnover					-0.628***	-0.562***						
					(-25.07)	*(-6.14)*						
CAPX									-0.938***	-0.860***		
									(-15.90)	*(-10.39)*		
Payout/market cap.											-0.795***	-0.595***
											(-11.63)	*(-9.48)*
Constant	0.030	0.045	-0.355*	-0.218	4.452***	3.981***	-0.066	-0.010	0.086	0.139**	0.017**	0.018***
	(0.75)	*(1.23)*	*(-1.79)*	*(-0.72)*	*(3.25)*	*(3.73)*	*(-1.62)*	*(-0.29)*	*(1.19)*	*(2.01)*	*(2.24)*	*(2.94)*
N	1,008	1,097	990	1,074	990	1,074	1,048	1,096	989	1,076	976	1,060
Industry & year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.307	0.370	0.401	0.435	0.385	0.347	0.223	0.176	0.396	0.334	0.291	0.303

Table 12: Cumulative Abnormal Returns of Non-Financial Bidders

This table reports estimates for OLS regressions of 3-day (-1, +1) bidder CARs around the merger announcement date. The sample includes all activism and non-activism takeover bids by third-party non-financial bidders. Activist characteristics are defined in Table 2. All regressions included bidder fixed effects. Standard errors are clustered by firm and year. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
Activism				
Activist non-bidder	0.013*	0.020**	0.016**	0.015**
	(1.91)	*(1.97)*	*(2.17)*	*(2.19)*
Activist Characteristics				
Aggressive activist		-0.009		
		(-1.05)		
Experienced activist			-0.006	
			(-0.64)	
Experienced merger activist				-0.006
				(-0.65)
Control Variables				
Merger wave dummy	-0.005	-0.005	-0.005	-0.005
	(-0.81)	*(-0.77)*	*(-0.79)*	*(-0.79)*
Log transaction value	-0.008***	-0.008***	-0.008***	-0.008***
	(-4.37)	*(-4.39)*	*(-4.40)*	*(-4.38)*
Stock offer dummy	-0.006	-0.006	-0.006	-0.006
	(-0.77)	*(-0.73)*	*(-0.77)*	*(-0.76)*
Cash offer dummy	0.009	0.009	0.009	0.009
	(1.55)	*(1.56)*	*(1.52)*	*(1.56)*
Constant	0.027	0.026	0.028	0.026
	(1.12)	*(1.11)*	*(1.14)*	*(1.10)*
N	1,989	1,989	1,989	1,989
Year FE	Yes	Yes	Yes	Yes
Bidder FE	Yes	Yes	Yes	Yes
Adjusted R^2	0.085	0.086	0.086	0.086