Activism and Empire Building

Nickolay Gantchev, Merih Sevilir and Anil Shivdasani[§]

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Abstract

This paper studies the relationship between hedge fund activism and empire building. We find that acquirers with poorly performing acquisitions and serial acquirers are substantially more likely to become targets of activism. Once targeted, these firms conduct fewer acquisitions but these acquisitions obtain higher short-run and long-run returns. The primary channel through which activists affect the acquisition strategy of their targets is the more disciplined capital policies resulting from their campaigns. Taken together, our results suggest that activists perform an important governance role in the market for corporate control by disciplining inefficient acquirers. Hence, one of the sources of value creation in hedge fund activism is lower value destruction associated with empire building.

Keywords: Shareholder activism, mergers and acquisitions, corporate governance, empire building, hedge funds

JEL classification: G14, G23, G34

[§]Gantchev (ngantchev@smu.edu) is at the Cox School of Business at Southern Methodist University, Sevilir (msevilir@indiana.edu) is at the Kelley School of Business at Indiana University and Shivdasani (anil.shivdasani@unc.edu) is the Kenan-Flagler Business School at the University of North Carolina at Chapel Hill.

1. Introduction

Shareholder activism has become an integral part of the corporate landscape. From the end of 2009 to the beginning of 2015, 15% of the members of the S&P 500 index of the largest U.S. firms encountered an activist campaign, and around 50% of S&P 500 firms had an activist on their share register over the same period.[1] In fact, the activist trend has been so pervasive that corporate governance experts have suggested that "no recent development has influenced firms' strategic and financial decision-making as profoundly as the surge in the shareholder activism following the global financial crisis".[2] The growing influence of activists in global capital markets has prompted financial economists to research the drivers of shareholder activism as well as the role of activists in shaping corporate financial strategy and outcomes. Although several recent studies show that shareholder activism improves the performance of targeted firms, our understanding of the mechanisms through which activists enhance shareholder value remains limited.

We focus on the role of activists in the market for corporate control and provide evidence that activists curb incentives to engage in empire building acquisitions, limiting the scope of one of the most destructive forces in public companies. Greenwood and Schor (2009) and Boyson, Gantchev, and Shivdasani (2017) study the role of activists in the market for corporate control in terms of their influence in facilitating the acquisition of targeted firms. These papers document that shareholder activism and takeovers are closely related mechanisms that help promote the functioning of the market for corporate control. We complement their work by studying whether activists also perform an important governance role in the M&A market by reining in empire building and imposing discipline on the acquisition strategy of targeted firms.

We find that activist investors target firms overinvesting in unproductive acquisitions. Acquirers with announcement returns in the bottom tercile of bidder returns and acquirers with a high number of recent acquisitions are substantially more likely to be targeted by activists. For example, poor deal returns increase the probability of being targeted by about one third of the unconditional probability in the sample. The importance of a firm's acquisition strategy as a determinant of activist

[1] See "An Investor Calls", *The Economist*, Feb 5, 2015.
[2] See "The Activist Revolution", *Corporate Finance Advisory and Mergers and Acquisitions* at JP Morgan.

targeting suggests that mitigating empire building incentives may be a potential source of value creation in activism. Even though the literature has studied other corporate control mechanisms for constraining a firm's willingness to overinvest in acquisitions and punishing empire builders (e.g., corporate raiders and private equity), activists perform this governance role more efficiently as they purchase minority stakes and rarely acquire their targets.

After establishing that firms with a poor acquisition strategy are more likely to become targeted in activist campaigns, we study how activism influences the future takeover behavior of target firms. Prior literature has associated hedge fund activism with substantial changes in the targets' management and operations (see Brav, Jiang, and Kim, 2010; Clifford, 2008, Klein and Zur, 2009; Boyson and Mooradian, 2011). In response to the activist's demands, a target firm's management is more likely to focus on improving the firm's organic growth rather than pursuing acquisitions. In addition, activists frequently push for higher shareholder payouts financed through excess cash and new debt, reducing the extent of free cash flow problems at the firm, and hence, constraining its ability to conduct cash and debt financed acquisitions. Hence, we expect that activism would have a disciplining effect on the future acquisition behavior of targeted firms, both in terms of deal intensity as well as deal performance.

When we examine the likelihood of making an acquisition after the arrival of an activist, we indeed find that firms with activist involvement exhibit a substantially lower probability of making acquisitions. Relative to firms with no activist involvement, a recent activism target is about 15% less likely (based on the unconditional probability in our sample) to engage in a takeover in the three-to-four years after activism. This lower takeover intensity is driven by cash bids rather than stock bids, consistent with prior findings that activists frequently demand a reduction in excess cash and an increase in leverage at their targets, thus limiting capital availability to pursue acquisitions. Surprisingly, firms with recent activism interventions do not pursue more stock acquisitions than non-targets, despite the well-documented increase in the their stock prices after activism. This may suggest that target firms focus on deals with sound business potential rather than deals driven by a well-performing stock as an acquisition currency.

Although we control for a host of firm attributes, we recognize that the negative relation between recent activism and takeover probability could be due to a selection effect arising from potentially unobserved variables. Alternatively, it is possible that activist hedge funds are simply good at predicting which firms would make fewer and better acquisitions in the future. To test this alternative, we control for the selection decisions of activist hedge funds. Specifically, we examine whether targets of hedge fund activism are less likely to make acquisitions than firms in which the same hedge fund activist owns a purely passive stake. We find a substantially lower takeover probability in activism targets relative to firms in which the same hedge fund is a passive equity holder. To further differentiate between an activist hedge fund's skill to pick stocks with better ex-ante acquisition strategy from its ability to discipline M&A activity through its intervention, we exploit the hedge fund's decision to change its legal filing status from SEC Schedule 13G to Schedule 13D, indicating a switch from passive to activist investing in the same firm.[3] We find a similarly strong result that firms with 13G to 13D switchers are less likely to engage in takeovers, relative to firms in which no switch is observed. Thus, our results are unlikely to be driven by the activists' selection decisions.

Activists influence not only the intensity of M&A activity but also the quality of the deals undertaken subsequent to their intervention at a target firm. Compared to acquirers without activist involvement, recent targets of activism obtain higher announcement returns from the fewer acquisition bids they make after activism. Specifically, acquirers with activist involvement obtain 1.3-1.4% higher three-day announcement CARs than non-targets. Acquisitions by activism targets also outperform acquisitions by non-targets by 7-9% over the first year following merger announcement and by 9-11% over the two years after the announcement. We also show that acquirers with activist involvement do not pay lower premiums than those without activism; thus, activists appear to facilitate higher quality acquisitions rather than simply limit the extent of overpayment. Our findings suggest that recent activism targets not only undertake fewer acquisitions but are also more careful in picking their potential targets.

[3] Both types of filings are triggered when an investor crosses the 5% ownership threshold, but the 13G filing is intended for purely passive investment and imposes less stringent filing requirements.

Finally, we test for the mechanism through which activists may influence the acquisition behavior of their targets. We conjecture that firms with constrained capital due to the activist campaigns are more likely to rein in their acquisition strategy. We estimate the combined effects of activism-induced policy changes on capital availability by calculating an average measure of the changes in three individual policies with the most direct impact on capital – cash holdings, leverage, and dividend payments. We confirm that recent activism targets implement larger reductions in cash holdings, and increases in dividends and leverage, relative to other firms without activism campaigns. These recent activism targets are substantially less likely to make acquisition bids in the three-to-four years following the campaigns. This result suggests that a primary channel through which activists affect the acquisition propensity of their targets is the more disciplined capital policies resulting from their campaigns.

Our findings contribute to the growing literature on hedge fund activism (see Brav, Jiang, Partnoy, and Thomas, 2008; Clifford, 2008; Klein and Zur, 2009; Gantchev, Gredil, and Jotikasthira, 2017) by relating the previously shown positive returns in activism to the governance role performed by activists in the market for corporate control. Activists rein in empire building and impose discipline on the acquisition strategy of targeted firms, suggesting that an important source of value creation in activism is the lower value destruction due to inefficient acquisitions. Thus, in addition to facilitating the market for corporate control (as shown by Greenwood and Schor, 2009, and Boyson, Gantchev and Shivdasani, 2017), activists improve shareholder value by impacting the acquisition behavior of their targets.

More broadly, our paper builds on the theoretical literature studying the role of blockholders in the merger process. Shleifer and Vishny (1986) argue that large shareholders help overcome the free-rider problem among diffuse shareholders and thereby facilitate takeovers. Maug (1998, p. 83) 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. Corum and Levit (2015) also suggest that activist hedge funds help overcome informational frictions faced by target shareholders when evaluating a takeover bid from a third party. Our results highlight that shareholder

activism and takeovers are closely inter-related mechanisms that help promote the functioning of the market for corporate control.

We also add to the M&A literature studying the negative consequences of empire building. Similar to our finding that firms undertaking too many unproductive acquisitions have a greater likelihood of being targeted by activists, Mitchell and Lehn (1990) show that the likelihood of a serial acquirer being taken over is related to the announcement returns on its past deals. However, although firms with inefficient deal making behavior are more likely to be acquired, recent work by Phalippou, Xu, and Zhao (2016) documents that acquiring a serial acquirer leads to very poor performance in terms of the announcement returns experienced by the acquiring firm. Our results demonstrate a specific mechanism through which activists limit the scope for value destruction from unproductive acquisitions.

2. Sample construction and descriptive statistics

To construct our activism merger sample, we use hand-collected data on hedge fund activism campaigns over 1994–2011 and merger data from Thomson Reuters Securities Data Company (SDC) Platinum over 1990–2015.

Our activism sample combines data from regulatory filings and SharkRepellent.net, following the procedure described in Gantchev (2013). The primary data source is Schedule 13D, which must be filed with the U.S. Securities and Exchange Commission (SEC) by any investor who acquires more than 5% of the voting stock of a public firm with the intention of influencing its operations or management. A supplementary data source is the SharkRepellent.net database, which uses media reports to collect information on activism events, in which the activists' ownership does not reach the 5% reporting threshold.

We match activism targets to merger data from SDC. 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 and at least 5 percent of the acquirer's market capitalization. We also require that the bidder owns less than 50% of the

target's stock before the bid and exclude divestitures, spin-offs, and share repurchases. We manually verify the announcement, completion, and withdrawal dates reported in SDC.

To create an annual firm-year panel, we combine the activism merger dataset with the universe of Center for Research in Security Prices (CRSP) and Compustat firms. We group multiple hedge fund campaigns within the same firm-year as a single activism observation, considering the hedge fund that intervenes first as the primary activist. The full panel consists of 8,690 firm-years with a merger bid and 2,085 firm-years with a hedge fund activism campaign.

As seen in the first two columns of Table 1, the number of activism campaigns peaks in 2005-2008. The frequency of hedge fund activism has grown steadily over the sample period from 0.82% of Compustat firms in 1994-2002 to 3.15% in 2003-2011. In contrast to activism, takeover activity has remained relatively steady over the sample period, peaking around the Internet boom, and again in the pre- and post-Great Recession period, as seen in columns (3) and (4).

Columns (5)-(8) of Table 1 present some preliminary evidence on the acquisition activity of activism targets. Column (6) reveals that less than 3 percent of activism targets make takeover bids within a year of being targeted. This represents about one-third of the acquisition propensity of an average Compustat firm (see column (4)) but may not be surprising, given the heavy demands that an activist campaign puts on a target's management. Column (8) reveals that even over a three-year horizon from activism, the acquisition activity of activist targets still trails that of the average Compustat firm (5.51% vs. 7.60%). Taking into account that the average campaign lasts about 18 months (see Brav, Jiang, Partnoy, and Thomas, 2008), this preliminary evidence suggests that activists may have a long-lasting effect on the target's takeover behavior.

In Panel A of Table 2, we compare firm characteristics between acquirers that have been involved in an activist campaign (in the past two years) and acquirers without activist involvement.[4] Two findings deserve mention. First, acquirers previously targeted by activists are smaller, with higher institutional ownership, lower Tobin's Q, and lower sales growth, which is consistent with prior

[4] We choose a two-year horizon to present this comparison (rather than the 4-year horizon in later tests) to avoid averaging firm characteristics over multiple years, which may obscure differences between acquirers that have been involved in activist campaigns and those without activist involvement.

findings on the characteristics of activist targets. Second, acquirers with activist involvement also have lower dividend yield, lower non-cash working capital and higher free cash flow, suggesting that these acquirers may suffer from the agency issues associated with abundant free cash flow.

Panel B of Table 2 compares returns and premia of takeover bids made by acquirers with and without activist involvement. We find that acquirers that have been recently targeted by activists have higher merger announcement cumulative abnormal returns (CARs), and higher 24-month buy-and-hold abnormal returns (BHARs) but do not appear to overpay for their acquisitions. Consistent with the lower premia paid, the target firms in these acquisitions experience lower CARs at announcement. The univariate evidence here points to significant differences in the acquisition outcomes and characteristics of acquirers with and without activist involvement, implying that activist investors may play a role in improving the acquisition strategies of their target firms.

3. Activist influence on M&A strategy

3.1 Do activists target bad acquirers?

Before we study the acquisition behavior of activism targets subsequent to the activist interventions, we examine whether the M&A strategy of a firm is a determinant of whether the firm becomes an activist target in the first place. Anecdotal accounts strongly suggest that activists target acquirers with poorly performing acquisitions as well as serial acquirers. For example, on May 26, 2015, *The Wall Street Journal* reported that "activists like Carl Icahn and Jana Partners have rattled tech giants including Apple, MSFT and Qualcomm in recent years, urging strategy shifts or financial moves to boost share prices. Their biggest complaints: excessive spending on pet technology projects and *unproductive acquisitions* [emphasis added]."

We begin by asking whether the amount and performance of a firm's past M&A deals is related to becoming a target of an activist campaign. There is robust evidence established by decades of M&A research showing that acquirers often lose out in deals, as evidenced by their negative short- and long-term returns. This effect is stronger for serial acquirers, and hence, may prompt the arrival of an activist or make it easier for the activist to enter the firm, given the well-documented negative returns of serial acquirers. It may also be relatively easier for the activist to develop a strategy of unlocking value at

serial acquirers than at firms that grow organically, as it is cheaper to observe public information about the efficiency of merger deals than to become informed about the nature of internal capital expenditures and R&D spending.

In Panel A of Table 3, we examine whether acquirer announcement CARs are associated with the arrival of an activist over the following six to 24 months. The observations are acquisition bids for public targets. We present OLS models where the dependent variable is an indicator equal to one if a bidder becomes an activist target in the 24 months following a poorly performing acquisition. The key independent variable – *Low CAR* – is defined as an indicator that equals one if the three-day CAR around the acquisition announcement is in the bottom tercile of abnormal returns, and zero otherwise. In addition to year and industry fixed effects, we control for firm characteristics that have been shown to affect the probability of becoming an activist target (see Brav, Jiang, and Kim, 2010; Edmans, Fang, and Zur, 2013). To account for the possibility that activists time their interventions to coincide with periods of heightened merger activity, we also control for whether an industry experiences a merger wave in a given year.[5] All control variables are defined in the Appendix.

The results in Panel A of Table 3 show that *Low CAR* has a positive and statistically significant association with the probability of being targeted by an activist as quickly as six months after a poorly performing deal. In economic terms, a low deal return increases the probability of being targeted by 0.53-0.56%, or about one-third of the unconditional probability of 1.47% in this sample. As expected, firm size and illiquidity have a statistically significant negative association with the probability of becoming a target as they increase the cost of activist entry.

In Panel B of Table 3, we present similar analysis but at the firm-year level rather than the individual bid level. Even though aggregating multiple bids by acquirer may obscure the importance of one poorly performing acquisition, this analysis may help us understand whether serial acquirers are more likely to be targeted by activists. We measure the amount of acquisition activity by both the

[5] Following the approach in Harford (2005), we create an indicator, *Merger Wave*, defined as one 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.

number and volume (scaled by the market value of the bidder) of deals over the prior four years. We include the same controls as in Panel A.

The results in columns (1) and (2) confirm that low deal returns (measured as the average or sum of deal CARs) have a negative association with activist targeting, even though the coefficients on these aggregate return variables are not statistically significant. The coefficient on transaction volume (column (3)) is marginally significant but has a low economic significance (1.5% of the unconditional probability of 2% in this sample). The coefficient on number of transactions (column (4)) is significant at 5%, confirming that acquirers with a higher number of deals are more likely to be targeted by activists. The control variables have the expected signs; for example, firm size and Tobin's Q are negatively related to the probability of being targeted whereas institutional ownership is positively related to targeting.

Overall, our findings so far reveal that activists are more likely to target acquirers with poorly performing acquisitions as well as serial acquirers, suggesting that mitigating empire building incentives may be a potential source of value creation in activism.

3.2 How does activism affect the acquisition behavior of targeted firms?

Prior work has documented that activists facilitate the acquisition of targeted firms (Greenwood and Schor, 2009; Boyson, Gantchev and Shivdasani, 2017). However, little is known about the impact of activism on the takeover activity of activism targets that remain independent.

Hedge fund activism has been associated with substantial changes in the management and operations of targeted firms. Brav et al. (2010) show that targets increase payout, CEO turnover, and pay-performance sensitivity. Clifford (2008) and Klein and Zur (2009) find increases in leverage and dividend yield, which they interpret as evidence of lower agency costs. Brav et al. (2015) show that activist targets raise output, asset utilization, and productivity. Clifford (2008) also finds a significant improvement in industry-adjusted return on assets, which he attributes to better asset utilization. As a result of these management and policy changes, a target firm's management is more likely to focus on improving the firm's organic growth and have fewer resources available to pursue acquisitions.

Therefore, we expect that activism would have a disciplining effect on the future acquisition behavior of targeted firms.

We start our analysis of the role of activism in the acquisition strategy of a target with Table 4, which presents OLS models of the probability of making a takeover bid. The dependent variables – *Bid* (*t, t+i*)/ *Cash Bid* (*t, t+i*)/ *Stock Bid* (*t, t+i*) – are indicators equal to one if a firm makes a bid/cash bid/stock bid in the next *i* years, and zero otherwise. The key independent variable, *Activist*, is an indicator set to one if a hedge fund activist initiated a campaign against the bidding firm in year *t*, and zero otherwise. In addition to the controls from Table 3, we include several additional firm characteristics – *Sales growth, Noncash working capital, Price-to-earnings,* and *Cash deviation* - that have been shown to affect bidding behavior (see Harford, 1999). All regressions include year and industry fixed effects. Standard errors are clustered by year and firm.

The results in columns (1) and (2) show that firms with prior activist involvement are 3.13% (4.17%) less likely to make an acquisition bid over the next three (four) years, relative to non-targets. The economic magnitudes of these effects are substantial, equal to about 15% of the unconditional (three/four-year) probability of making a bid. As seen in columns (3)-(6), the lower takeover intensity of targeted firms is driven by cash bids rather than stock bids. Given that activism results in a substantial increase in the target's stock price, it is somewhat surprising that activism targets would not pursue more stock acquisitions than non-targets. However, the lower probability of making cash bids is consistent with prior findings that activists push for a reduction in excess cash and an increase in leverage at their targets, suggesting a lower ability of these firms to engage in cash and debt-financed acquisitions.

In terms of the control variables, we find that larger firms, firms with better performing stock price, lower growth opportunities (measured by *Tobin's Q*), lower non-cash working capital and lower cash deviation are more likely to engage in acquisitions. On the other hand, firms with greater stock return volatility are less likely to make acquisitions. The industry's product market competition (measured by *Herfindahl index*) and merger activity (*Merger wave*) turn out to be insignificant in predicting a firm's acquisition propensity.

What explains the negative relation between being a recent activism target and the probability of making a takeover bid? Given that most acquisitions result in negative returns for the acquirers, it is possible that activist hedge funds are simply good at picking firms that make fewer (and better, as we show later) acquisitions. Put differently, the results in Table 4 could be due to either a treatment effect of activism on M&A strategy or a selection effect arising from potentially unobserved variables. To address this identification issue, we investigate whether activist ownership has a differential effect on the probability of making a takeover bid relative to passive ownership by the same activist hedge fund. To do so, we match our sample of activists to holdings data from the Thomson Reuters 13F database.[6] About two-thirds of the activist hedge funds over 1994-2011 have available 13F data.

Table 5 reports estimates of OLS regressions of the probability of making a takeover bid for the sample of bidding firms in which activist hedge funds disclose either a passive or an active stake. The unit of observation is an activist-firm-year. We include the same controls as in Table 4 but add hedge fund fixed effects to control for time-invariant characteristics of activist hedge funds. We define a variable *HF active stake*, which equals one if the activist hedge fund has declared activist intentions in a given firm and zero otherwise. The coefficient on *HF active stake* is negative and statistically significant in columns (1)-(2). In terms of economic magnitude, *HF active stake* is associated with an 5.5% (6.7%) lower probability of making a takeover bid in the next three (four) years, relative to other firms in which the same hedge fund has a passive stake. As seen in columns (3)-(6), the lower takeover intensity of targeted firms is driven by cash bids rather than stock bids.

Even though we control for observable firm characteristics and hedge fund fixed effects in Table 5, unobserved differences could exist between the firms that hedge funds pick for their active and passive investments. Therefore, in Table 6, we fix the hedge fund-firm pair and exploit the decision of an activist fund to change the legal filing status of an ownership position from Schedule 13G to Schedule 13D, indicating a switch from passive ownership to activist investing in the *same* firm. As argued by Brav, Jiang, and Kim, (2015, p. 2763), this test provides a "clean identification of intervention beyond stock picking." Thus, this test allows us to differentiate an activist hedge fund's

[6] The SEC requires that institutional investors with over $100 million in assets under management file quarterly holdings reports, known as 13F filings.

ability to pick stocks with low ex-ante probability of making acquisitions from its ability to foster a disciplined M&A strategy through its intervention.

We match our sample of activist hedge funds to data on 13G filings, generously provided to us by Brav, Jiang, Ma, and Tian (2015). The main explanatory variable in Table 7 is an indicator – *13G-to-13D switch* – set to one for firms in which the activist's filing status switches from passive ownership to activist investment in year *t*. All regressions include industry and year fixed effects as well as hedge fund fixed effects. The results confirm that firms in which the activist switches from 13G to 13D have a 5.4% (5.7%) lower probability of making a cash takeover bid in the next three (four) years, compared with firms in which no switch is observed.

Our results so far suggest that activism is associated with a reduction in the probability that a targeted firm will engage in an acquisition. A different way of examining the post-activism takeover intensity of activism targets is to ask whether activists have an influence on the number and volume of acquisitions that targets undertake. In Panel A of Table 7, we estimate the number of acquisitions, as well as the number of cash and stock financed acquisitions, that a targeted firm conducts within the three- and four-year period after the arrival of the activist. To control for the hedge funds' selection decisions, we present this analysis in the sample of hedge fund 13F holdings (both active and passive, as in Table 5).

Columns (1)-(2) in Panel A of Table 7 show that *HF active stake* is associated with a lower number of takeover bids in the three (four) years after activism, relative to other firms in which the same hedge fund has a passive stake. As seen in columns (3)-(4), this effect is driven by the number of cash bids. Panel B of Table 7 confirms these findings in terms of the volume of acquisitions.

To the extent that acquisitions often fail to create significant shareholder value for the acquirers, the reduced acquisition activity of activism targets is a potential source of value creation in activism. This is consistent with our earlier result that activists are more likely to target acquirers with poorly performing acquisitions and serial acquirers, and suggests that activists may serve an important role in curbing incentives to conduct value-destroying acquisitions. A related question is whether activism targets reduce their takeover activity by becoming more selective in conducting acquisitions,

which would imply that the few acquisitions they undertake would perform better. We investigate this hypothesis next.

3.3 Do activism targets make better acquisitions?

Next, we examine the performance of M&A transactions conducted after the arrival of an activist. We conjecture that in addition to undertaking fewer acquisitions, activism targets may be more careful in picking potential merger targets. To investigate this conjecture, we compare the premia paid and abnormal returns of M&A bids by acquirers with recent activist involvement and acquirers with no activist involvement.

Table 8 compares one-week and four-week premia offered by acquirers targeted in activist campaigns in the past three (four) years and other acquirers. In addition to the controls from Table 4, we include several additional bidder (and deal) controls – *Free cash flow, Competitive industry, Unique industry, High tech industry, Industry M&A, Bidder BHAR [-12m, -1m],* and *LBO indicator* - that have been shown to affect bidder returns (see Masulis, Wang, and Xie, 2007). All variables are described in the Appendix. Consistent with our univariate findings in Table 2, we see no statistical difference between the premia paid by the two groups of acquirers, suggesting that activism targets do not overpay for acquisitions.

Table 9 compares short- and long-term CARs and BHARs between acquirers that are recent activism targets and non-targets. We include the same controls as in Table 8. Panel A shows that firms with activist involvement obtain 1.3-1.4% higher three-day announcement CARs than non-targets. These results are confirmed in Panel B, which presents regressions of monthly CARs from one month before to 12 months after the acquisition announcement (columns (1) and (2)) and from one month before to 24 months after the acquisition announcement (columns (3) and (4)). Acquisitions by activism targets appear to outperform acquisitions by non-targets by 7-9% over the first year following announcement and by 9-11% over the two years after the announcement. We confirm these findings in Panel C, which presents BHARs from one month before to 12 months after announcement (columns (1) and (2)) and from one month before to 24 months after announcement (columns (3) and (4)). Acquisitions by activism targets obtain superior BHARs than acquisitions by non-targets.

These results collectively suggest that the presence of an activist investor helps a target firm avoid value destroying acquisitions and select better acquisition targets.

4. Discussion of potential mechanisms

In their survey of the literature on hedge fund activism, Brav, Jiang, and Kim (2010) discuss that some of the most common activist demands focus on increasing the target's leverage, raising payout to shareholders, and reducing cash holdings. As shown by Gantchev, Gredil, and Jotikasthira (2017), who use the same sample of activism as this paper, targets tend to implement such financial demands relatively quickly, with the most dramatic changes observed within one year of the start of the campaigns. Thus, targets experience a substantial reduction in the availability of cash and debt to finance acquisitions. In Table 10, we test the conjecture that firms with constrained capital due to the activist campaigns would be more likely to rein in their acquisition strategy.

We estimate the combined effects of activism-induced policy changes on capital availability by calculating an average *Z-score* as the average of the z-score measures for three individual policies with the most direct impact on capital – cash holdings, leverage, and dividend payments. Each policy's z-score is the difference between the change in the policy at the target firm (e.g., increase in leverage or dividends, or decrease in cash holdings) from years t-1 to t+1 and the average policy change over the same period across all firms in the industry, divided by the cross-sectional standard deviation. The use of a standardized measure – *Z-score* – allows us to compare policy changes on the same scale.

In Panel A of Table 10, we replicate the analysis in Table 4 and estimate OLS regression models where the dependent variables – *Bid* (t, t+i)/ *Cash Bid* (t, t+i)/ *Stock Bid* (t, t+i) – are indicators equal to one if a firm makes a bid/cash bid/stock bid in the next i years, and zero otherwise. To capture the combined impact of an activist campaign on the availability of capital to pursue acquisitions, we add the *Z-score* measure and its interaction with *Activist*. We include the same controls and fixed effects as in Table 4 but do not report them to preserve space.

The coefficients on *Activist* are negative and statistically significant in columns (1)-(4), and of similar magnitude as in Table 4, confirming our earlier findings that acquirers with prior activist

involvement are significantly less likely to make an acquisition bid, relative to other acquirers without activist involvement. As before, this lower acquisition intensity is driven by cash bids. The coefficient of interest in Panel A is the interaction between *Z-score* and *Activist*, which is negative and statistically significant in all models. Thus, prior activism targets that have implemented reductions in cash holdings, increases in dividends, and increases in leverage during the activist campaigns are substantially less likely to make acquisition bids in the three-to-four years following activism. Even though this effect is larger in magnitude for cash bids, it is also present for stock bids, as seen in columns (5)-(6).

The results in Panels B and C present complementary analysis in terms of the number and volume of transactions. We confirm that firms, which are recent targets of hedge fund activism, see a lower number and volume of acquisition bids, relative to other firms without activism, due to their more pronounced decreases in capital availability. Overall, the results in Table 10 suggest that a primary channel through which activists affect the acquisition propensity of their targets is the more disciplined capital policies resulting from their campaigns.

5. Conclusions

We uncover a novel channel through which activists enhance shareholder value. Empire building firms with too many inefficient acquisitions exhibit a greater probability of being targeted by activist hedge funds. Activists not only target firms which overinvest in M&A, but also improve the M&A strategy of targeted firms. As a result of activist intervention in the market for corporate control, firms become more selective in their acquisition strategy, leading to an increase in the quality of merger deals. We find evidence that one way in which activists affect acquisition outcomes at their targets is by limiting the amount of cash and debt available for acquisitions. Overall, our results highlight an important governance role for activists in terms of mitigating value destruction from empire building.

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Appendix: Variable definitions

Variable	Definition
Activist	An indicator for an activist campaign in year *t*. Source: SEC Schedule 13D.
HF active stake	An indicator equal to one if the activist hedge fund has activist intentions (reported in Schedule 13D in year *t*), and zero otherwise. Source: Thomson Reuters 13F, SEC Schedule 13D.
13G-to-13D switch	An indicator equal to one if the activist hedge fund initially files a Schedule 13G but switches to a Schedule 13D in year *t*, indicating a change from passive to activist engagement in the same firm. Source: SEC Schedules 13G and 13D.
Institutional ownership	Fraction of a firm's equity owned by institutions reporting to the SEC in Form 13F. Source: Thomson Reuters 13F.
Stock return volatility	Standard deviation of daily stock returns. Source: CRSP.
Illiquidity	Amihud (2002) ratio defined as the average ratio of the daily absolute return to the daily dollar trading volume. Source: CRSP.
Tobin's *Q*	Ratio of market value of assets (market value of equity plus book value of debt) to book value of assets (sum of book values of debt and common equity). Source: Compustat, CRSP.
Firm size	Natural logarithm of stock market capitalization in millions of dollars. Source: CRSP.
ROA	Operating income before depreciation divided by lagged book value of assets. Source: Compustat.
Book leverage	Debt (long-term debt and debt in current liabilities) divided by the sum of debt and common equity. Source: Compustat.
Dividend yield	Common dividends divided by the market value of common stock. Source: Compustat.
Herfindahl index	Index of market concentration for each Fama-French 48 industry, calculated as the sum of squared market shares of all Compustat firms (with available sales data) in the industry. Source: Compustat.
Merger wave	Indicator equal to one if the number of mergers in the industry during any consecutive two-year period is greater than the 95th percentile of a uniform distribution over the entire sample period (Harford, 2005). Source: SDC Platinum.
Abnormal return	Stock returns minus contemporaneous value-weighted CRSP returns. Source: CRSP.
Sales growth	Average sales growth from *t*-4 to *t*-1. Source: Compustat.
Noncash working capital	Net working capital (current assets less current liabilities) minus cash and cash equivalents, divided by total assets and averaged over years *t*-4 to *t*-1. Source: Compustat.
Price-to-earnings	Stock price divided by earnings per share, averaged over years *t*-4 to *t*-1. Source: CRSP, Compustat.
Cash deviation	Deviation of cash and cash equivalents from the average value predicted for the firm's industry, measured at the beginning of year *t* and normalized by total assets. Source: Compustat.

Variable	Definition
Free cash flow	Operating income before depreciation less interest expenses less income taxes less capital expenditures, divided by book value of total assets. Source: Compustat.
Competitive industry	Indicator equal to one if the bidder's industry is in the bottom quartile of all Fama-French 48 industries annually sorted by the Herfindahl index, and zero otherwise. Source: Compustat.
Unique industry	Indicator equal to one if the bidder's industry is in the top quartile of all Fama-French 48 industries annually sorted by industry-median product uniqueness, and zero otherwise. Product uniqueness is defined as selling expense divided by sales. Source: Compustat.
LBO indicator	Indicator equal to one for acquisitions by financial acquirers. Source: SDC Platinum.
Industry M&A	Value of all corporate control transactions in excess of $10 million for each prior year and each Fama-French 48 industry, divided by the total book value of assets of all firms in the same industry and year. Source: SDC Platinum, Compustat.
High tech industry	Indicator equal to one if bidder and target are both from high tech industry, as defined by Loughran and Ritter (2004). Source: Compustat.
Z-score	Standardized policy change equal to (change - mean(industry, year))/ stddev(industry, year) or (mean(industry, year) - change)/ stddev(industry, year) depending on whether an increase or a decrease in the policy is considered an improvement from the activist's perspective (i.e., decrease in cash holdings, increase in dividend yield and increase in leverage). Change is measured from years *t*-1 to *t*+1. Source: Compustat.

Table 1. Hedge fund activism and acquisition activity

This table reports annual statistics for activism events and takeover bids over 1994-2011. Columns (1) and (2) report the number and frequency of activism campaigns by hedge funds. The activism dataset is collected from Securities and Exchange Commission (SEC) Schedule 13Ds, and FactSet's SharkRepellent.net. Columns (3) and (4) present the number and frequency of takeover bids as reported by Thomson Reuters Securities Data Company (SDC) Platinum. Columns (5) and (6) and columns (7) and (8) report the number and frequency of activist targets that make takeover bids within one and three year(s) of being targeted, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year	# activism campaigns	% Compustat firms with activism campaigns	# takeover bids	% Compustat firms with takeover bids	# activist targets making takeover bids in 1 year	% activist targets making bids in 1 year (5/1)	# activist targets making takeover bids in 3 years	% activist targets making bids in 3 year (7/1)
1994	2	0.03%	331	4.49%	0	0.00%	0	0.00%
1995	7	0.09%	402	5.32%	0	0.00%	0	0.00%
1996	30	0.37%	495	6.12%	0	0.00%	1	3.33%
1997	89	1.08%	651	7.93%	0	0.00%	3	3.37%
1998	55	0.70%	716	9.07%	1	1.82%	2	3.64%
1999	46	0.60%	730	9.59%	0	0.00%	1	2.17%
2000	78	1.05%	595	8.03%	1	1.28%	4	5.13%
2001	92	1.36%	387	5.74%	2	2.17%	3	3.26%
2002	131	2.09%	248	3.95%	1	0.76%	2	1.53%
2003	113	1.90%	285	4.80%	4	3.54%	8	7.08%
2004	140	2.37%	398	6.75%	4	2.86%	12	8.57%
2005	220	3.79%	498	8.58%	13	5.91%	21	9.55%
2006	262	4.59%	539	9.45%	7	2.67%	13	4.96%
2007	296	5.31%	687	12.33%	17	5.74%	23	7.77%
2008	202	3.83%	488	9.25%	7	3.47%	17	8.42%
2009	90	1.80%	235	4.69%	3	3.33%	5	5.56%
2010	122	2.49%	448	9.14%	11	9.02%	16	13.11%
2011	110	2.29%	557	11.61%	8	7.27%	13	11.82%
Total	2085	1.99%	8690	7.60%	79	2.77%	144	5.51%
1994-2002	530	0.82%	4555	6.69%	5	0.67%	16	2.49%
2003-2011	1555	3.15%	4135	8.51%	74	4.87%	128	8.54%

Table 2. Firm characteristics and deal returns/premia of acquirers with and without activist involvement

This table presents characteristics (Panel A) and deal premia/returns (Panel B) of acquirers with and without recent activist involvement. The activism sample period is between 1994 and 2011. Columns (1) and (2) of Panel A present mean characteristics for the full CRSP-Compustat panel. All variables are defined in the Appendix. Columns (3) and (4) and columns (5) and (6) report characteristics of acquirers without and with recent activist involvement. Columns (1) and (2) and columns (3) and (4) of Panel B report the cumulative abnormal returns (CARs), buy-and-hold returns (BHARs) and premia of takeover bids made by acquirers without and with recent activist involvement. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level of differences in means between the two types of acquirers.

Panel A. Firm characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Full panel		Acquirers without activist involvement [in the past 2 years]		Acquirers with activist involvement [in the past 2 years]		Differences between acquirers without and with activist involvement [in the past 2years]	
Firm characteristics	# obs.	Mean	# obs.	Mean	# obs.	Mean	Differences	t-sat
% Institutional ownership	97254	0.42	9307	0.6425	225	0.7973	0.15	12.00***
Stock return volatility	133666	0.59	12169	0.3819	304	0.3806	0.00	-0.11
Illiquidity	130189	0.09	12214	0.0103	304	0.0082	0.00	-1.32
Tobin's *Q*	134046	0.45	12190	0.5654	301	0.4814	-0.08	-3.66***
Firm size	134308	5.66	12213	8.0547	304	7.6183	-0.44	-5.50***
ROA	120860	0.06	10729	0.1564	289	0.1543	0.00	-0.31
Book leverage	134227	0.22	12172	0.2552	300	0.2603	0.01	0.42
Dividend yield	133534	0.03	12119	0.0177	302	0.0108	-0.01	-2.36**
R&D expenditure	134634	0.05	12203	0.0233	303	0.0267	0.00	1.25
Herfindahl index	134627	0.07	12203	0.067	303	0.065	0.00	-0.77
Merger wave	129611	0.06	12088	0.0711	299	0.1304	0.06	3.02***
Average abnormal return	112989	0.00	11131	0.0003	281	0.0002	0.00	-1.51
Sales growth	102802	0.16	10306	0.1767	269	0.1428	-0.03	-1.92*
Noncash working capital	90385	0.05	8306	0.0382	260	0.0157	-0.02	-2.95***
Price-to-earnings	112260	13.89	10778	20.735	277	12.818	-7.92	-2.09**
Cash deviation	134796	0.00	12217	-0.0351	304	-0.0517	-0.02	-1.63
Free cash flow	115521	0.02	10743	0.0963	287	0.1103	0.01	2.51**
Competitive industry	134627	0.28	12203	0.271	303	0.2409	-0.03	-1.21
Unique industry	134862	0.16	12219	0.1864	304	0.1612	-0.03	-1.18

Panel B. Returns and premia of takeover bids

	(1)	(2)	(3)	(4)	(5)	(6)
	Takeover bids made by acquirers without activist involvement [in the past 2 years]		Takeover bids made by acquirers with activist involvement [in the past 2 years]		Differences between takeover bids made by acquirers without and with activism [in the past 2 years]	
	# obs.	Mean	# obs.	Mean	Differences	t-sat
Cumulative abnormal returns						
CAR [-1d,+1d]	16532	0.0097	305	0.0171	0.01	1.68*
CAR [-5d,+5d]	16532	0.0124	305	0.0132	0.00	0.16
CAR_{target} [-1d,+1d]	9263	0.0830	195	0.0510	-0.03	-3.32***
CAR_{target} [-5d,+5d]	9263	0.0916	195	0.0512	-0.04	-4.11***
CAR [-1m,+12m]	15009	0.0156	287	0.0040	-0.01	-0.47
CAR [-1m,+24m]	13422	0.0343	269	0.0869	0.05	1.30
Buy-and-hold abnormal returns						
BHAR [-1m,+12m]	10846	-0.0135	243	0.0148	0.03	0.88
BHAR [-1m,+24m]	9021	-0.0254	217	0.1190	0.14	2.48**
Acquisition premia						
Premium [-1 week]	5350	0.2061	72	0.1663	-0.04	-1.61
Premium [-4 week]	5340	0.2363	71	0.1440	-0.09	-1.96*

Table 3. Determinants of activist targeting

Panel A of this table reports estimates from OLS regressions of an indicator that equals one if the firm is targeted in an activist campaign within *x* months of making a takeover bid, and zero otherwise. The observations are acquisition bids. "Low CAR" is an indicator that equals one if the three-day cumulative abnormal return (CAR) of a bid announcement lies in the bottom tercile of returns, and zero otherwise. CARs are estimated in excess of the value-weighted CRSP index. Panel B reports estimates from OLS regressions of an indicator that equals one if the firm is targeted by an activist in year *t*. The observations are firm-year. "Avg. of CARs" and "Sum of CARs" are the average and sum, respectively, of three-day announcement CARs of all bids made by the firm in the 4 years before activism. "Volume/Number of transactions" are the number and volume (scaled by the bidder's market value) of all bids made by the firm in the 4 years before activism. All other variables are defined in the Appendix and are as of year *t-1*. The activism sample period is between 1994 and 2011. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

Panel A. Bid-level regressions of activist arrival

	(1)	(2)	(3)	(4)
	Activist target within *x* months of bid			
	x = 6	*x* =12	*x* =18	*x* =24
Low CAR	0.0055**	0.0056**	0.0056**	0.0053**
	(2.28)	(2.11)	(2.11)	(1.99)
% Institutional ownership	0.0073	0.0102*	0.0102*	0.0112*
	(1.37)	(1.82)	(1.82)	(1.96)
Stock return volatility	-0.0077	-0.0108	-0.0108	-0.0116
	(-1.13)	(-1.45)	(-1.45)	(-1.55)
Illiquidity	-0.0274**	-0.0349***	-0.0349***	-0.0353***
	(-2.38)	(-2.75)	(-2.75)	(-2.77)
Tobin's *Q*	-0.0029	-0.0009	-0.0009	-0.0010
	(-0.97)	(-0.29)	(-0.29)	(-0.32)
Firm size	-0.0013**	-0.0019***	-0.0019***	-0.0020***
	(-1.97)	(-2.70)	(-2.70)	(-2.80)
ROA	-0.0136	-0.0153	-0.0153	-0.0159
	(-0.89)	(-0.99)	(-0.99)	(-1.03)
Book leverage	0.0028	0.0053	0.0053	0.0040
	(0.54)	(0.95)	(0.95)	(0.70)
Dividend yield	-0.0235	-0.0286	-0.0286	-0.0285
	(-1.20)	(-1.32)	(-1.32)	(-1.31)
R&D expenditure	-0.0182	-0.0399	-0.0399	-0.0465*
	(-0.86)	(-1.50)	(-1.50)	(-1.69)
Herfindahl index	0.0023	-0.0138	-0.0138	-0.0159
	(0.06)	(-0.33)	(-0.33)	(-0.38)
Merger wave	0.0012	-0.0006	-0.0006	0.0016
	(0.25)	(-0.11)	(-0.11)	(0.29)
Constant	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	5,048	5,048	5,048	5,048
Adjusted R^2	0.002	0.005	0.005	0.006

Panel B. Firm-year regressions of activist arrival

	(1)	(2)	(3)	(4)
	Activist target in year *t*			
Avg. of CARs	-0.0376			
	(-1.53)			
Sum of CARs		-0.0049		
		(-0.49)		
Volume of transactions			0.0003*	
			(1.81)	
Number of transactions				0.0018**
				(2.11)
% Institutional ownership	0.0237***	0.0238***	0.0236***	0.0235***
	(12.17)	(12.19)	(12.00)	(11.97)
Stock return volatility	-0.0067***	-0.0068***	-0.0068***	-0.0068***
	(-3.44)	(-3.46)	(-3.49)	(-3.48)
Illiquidity	0.0019	0.0020	0.0013	0.0012
	(0.23)	(0.25)	(0.16)	(0.14)
Tobin's Q	-0.0056***	-0.0056***	-0.0056***	-0.0056***
	(-6.82)	(-6.80)	(-6.75)	(-6.74)
Firm size	-0.0040***	-0.0040***	-0.0041***	-0.0041***
	(-13.01)	(-13.00)	(-12.96)	(-13.07)
ROA	-0.0009	-0.0009	-0.0009	-0.0009
	(-0.29)	(-0.29)	(-0.30)	(-0.30)
Book leverage	0.0050*	0.0051*	0.0050*	0.0050*
	(1.81)	(1.82)	(1.81)	(1.80)
Dividend yield	-0.0021	-0.0021	-0.0021	-0.0021
	(-0.49)	(-0.49)	(-0.50)	(-0.50)
R&D expenditure	0.0180***	0.0180***	0.0178***	0.0178***
	(2.76)	(2.76)	(2.74)	(2.73)
Herfindahl index	-0.0144	-0.0143	-0.0145	-0.0145
	(-0.75)	(-0.75)	(-0.76)	(-0.76)
Merger wave	0.0013	0.0013	0.0013	0.0013
	(0.61)	(0.61)	(0.59)	(0.59)
Constant	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	78,902	78,902	78,902	78,902
Adjusted R^2	0.0187	0.0187	0.0187	0.0187

Table 4. Probability of making a takeover bid

This table reports OLS regressions of the probability of making a bid by acquirers with and without recent activism. The activism sample period is between 1994 and 2011. "Bid $_{(t, t+i)}$/ Cash Bid $_{(t, t+i)}$/ Stock Bid $_{(t, t+i)}$" is an indicator that equals one if a firm makes an acquisition bid within *i* years of year *t*, and zero otherwise. "Activist" is an indicator for an activist campaign in year *t*. All other variables are defined in the Appendix and are as of year *t-1*. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Bid $_{(t, t+3)}$	Bid $_{(t, t+4)}$	Cash bid $_{(t, t+3)}$	Cash bid $_{(t, t+4)}$	Stock bid $_{(t, t+3)}$	Stock bid $_{(t, t+4)}$
Activist	-0.0313***	-0.0417***	-0.0259***	-0.0353***	-0.0070	-0.0108
	(-2.87)	(-3.68)	(-2.77)	(-3.82)	(-1.08)	(-1.59)
% Institutional ownership	0.3453***	0.3645***	0.3059***	0.3275***	0.0672***	0.0745***
	(17.23)	(17.36)	(18.09)	(18.06)	(5.27)	(4.89)
Stock return volatility	-0.0423**	-0.0357**	-0.0171	-0.0122	-0.0115	-0.0098
	(-2.68)	(-2.31)	(-1.37)	(-0.99)	(-1.45)	(-1.19)
Illiquidity	0.1752*	0.0828	0.4038***	0.3377***	-0.0534	-0.0701*
	(1.81)	(0.80)	(5.40)	(4.19)	(-1.60)	(-1.85)
Tobin's *Q*	-0.0215***	-0.0187**	-0.0256***	-0.0237***	0.0001	-0.0010
	(-3.12)	(-2.57)	(-3.58)	(-3.20)	(0.02)	(-0.29)
Firm size	0.0641***	0.0662***	0.0632***	0.0660***	0.0119***	0.0132***
	(8.01)	(7.86)	(9.06)	(8.90)	(5.89)	(5.71)
ROA	0.0265	0.0302	0.0463*	0.0531**	-0.0123	-0.0110
	(1.15)	(1.30)	(1.95)	(2.13)	(-1.10)	(-0.98)
Book leverage	0.0745***	0.0774***	0.0211	0.0228	0.0455***	0.0492***
	(3.10)	(3.02)	(1.12)	(1.16)	(3.04)	(2.95)
Dividend yield	-0.0246	-0.0109	-0.0679	-0.0546	0.0381	0.0401
	(-0.44)	(-0.18)	(-1.66)	(-1.17)	(1.09)	(1.10)
R&D expenditure	-0.0133	-0.0155	0.0119	0.0107	-0.0008	-0.0032
	(-0.21)	(-0.23)	(0.30)	(0.24)	(-0.02)	(-0.08)
Herfindahl index	0.0078	-0.0104	0.0303	0.0363	-0.0150	-0.0185
	(0.04)	(-0.05)	(0.17)	(0.21)	(-0.25)	(-0.28)
Merger wave	0.0058	0.0021	0.0055*	0.0002	-0.0007	-0.0009
	(1.22)	(0.40)	(1.68)	(0.08)	(-0.12)	(-0.13)
Average abnormal return	21.4315***	20.9248***	16.0495***	15.6195***	8.3060***	8.8779***
	(17.30)	(17.13)	(12.49)	(12.19)	(11.64)	(11.78)
Sales growth	0.0136	0.0123	-0.0125	-0.0141	0.0329***	0.0366***
	(0.93)	(0.85)	(-1.03)	(-1.15)	(3.80)	(3.98)
Noncash working capital	-0.0776***	-0.0773***	-0.0862***	-0.0885***	0.0083	0.0077
	(-4.15)	(-3.89)	(-4.67)	(-4.40)	(0.78)	(0.64)
Price-to-earnings	-0.0000	-0.0001*	-0.0000	-0.0000	0.0000	-0.0000
	(-1.34)	(-1.98)	(-0.56)	(-0.83)	(0.29)	(-0.31)
Cash deviation	-0.0634***	-0.0760***	-0.0639***	-0.0754***	0.0118	0.0133
	(-4.72)	(-4.93)	(-3.91)	(-4.06)	(1.44)	(1.41)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	51,595	51,595	51,595	51,595	51,595	51,595
Adjusted R^2	0.232	0.251	0.214	0.232	0.0473	0.0524

Table 5. Active ownership status and probability of making a takeover bid

This table reports OLS regressions of the probability of making a bid by acquirers with and without recent activism. "Bid $_{(t, t+i)}$/ Cash Bid $_{(t, t+i)}$/ Stock Bid $_{(t, t+i)}$" is an indicator that equals one if a firm makes an acquisition bid within *i* years of year *t*, and zero otherwise. The sample includes CRSP-Compustat firms held between 1994 and 2011 by at least one activist hedge fund that files a 13F ownership report. The indicator variable "HF active stake" is set to one if the activist hedge fund has activist intentions (reported in a Schedule 13D in year *t*), and zero otherwise. All other variables are defined in the Appendix and are as of year *t-1*. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Bid $_{(t, t+3)}$	Bid $_{(t, t+4)}$	Cash bid $_{(t, t+3)}$	Cash bid $_{(t, t+4)}$	Stock bid $_{(t, t+3)}$	Stock bid $_{(t, t+4)}$
HF active stake	-0.0547**	-0.0668***	-0.0569**	-0.0668***	-0.0107	-0.0175*
	(-2.27)	(-2.89)	(-2.58)	(-3.39)	(-1.00)	(-1.66)
% Institutional ownership	0.4257***	0.4421***	0.4027***	0.4233***	0.0933***	0.1013***
	(48.63)	(47.82)	(52.58)	(53.70)	(18.55)	(17.97)
Stock return volatility	-0.1576***	-0.1375***	-0.1428***	-0.1267***	-0.0013	0.0031
	(-20.74)	(-19.92)	(-21.19)	(-21.59)	(-0.27)	(0.56)
Illiquidity	0.2401***	0.1222**	0.4769***	0.3717***	0.1054***	0.1096***
	(5.69)	(2.52)	(15.26)	(9.85)	(6.40)	(6.01)
Tobin's *Q*	-0.0518***	-0.0461***	-0.0590***	-0.0548***	-0.0119***	-0.0142***
	(-15.03)	(-13.38)	(-16.45)	(-15.64)	(-7.39)	(-7.93)
Firm size	0.0692***	0.0713***	0.0716***	0.0740***	0.0193***	0.0218***
	(53.59)	(53.89)	(59.52)	(58.49)	(27.01)	(25.72)
ROA	0.1294***	0.1346***	0.1619***	0.1755***	0.0132***	0.0160***
	(11.86)	(11.43)	(14.20)	(14.29)	(2.68)	(2.87)
Book leverage	0.0424***	0.0503***	-0.0068	-0.0033	0.0393***	0.0410***
	(6.21)	(6.97)	(-1.10)	(-0.50)	(8.47)	(7.80)
Dividend yield	-0.1392***	-0.0939***	-0.1697***	-0.1268***	0.0009	0.0009
	(-7.77)	(-4.77)	(-12.69)	(-9.01)	(0.08)	(0.07)
R&D expenditure	0.0870***	0.0826***	0.1468***	0.1431***	0.0081	0.0068
	(4.60)	(4.15)	(7.39)	(6.84)	(0.85)	(0.66)
Herfindahl index	-0.0492	-0.1038	-0.0042	0.0110	-0.0954*	-0.1297**
	(-0.76)	(-1.45)	(-0.07)	(0.18)	(-1.86)	(-2.26)
Merger wave	0.0030	-0.0025	-0.0046**	-0.0112***	0.0065***	0.0072***
	(1.49)	(-1.42)	(-2.28)	(-6.06)	(4.14)	(4.42)
Average abnormal return	28.8444***	26.5216***	24.7097***	21.9550***	12.8753***	13.7088***
	(40.70)	(34.99)	(36.26)	(31.01)	(30.72)	(32.13)
Sales growth	0.0234***	0.0237***	-0.0048	-0.0066*	0.0396***	0.0436***
	(5.48)	(5.35)	(-1.43)	(-1.93)	(15.96)	(15.65)
Noncash working capital	-0.0717***	-0.0639***	-0.1091***	-0.1065***	0.0273***	0.0311***
	(-8.15)	(-6.74)	(-13.93)	(-13.16)	(5.32)	(5.33)
Price-to-earnings	-0.0001***	-0.0001***	-0.0000***	-0.0001***	0.0000*	-0.0000
	(-7.21)	(-9.17)	(-5.89)	(-6.10)	(1.79)	(-0.05)
Cash deviation	-0.0603***	-0.0778***	-0.0447***	-0.0553***	-0.0061	-0.0101**
	(-8.86)	(-11.44)	(-6.86)	(-8.38)	(-1.42)	(-2.08)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Hedge fund FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	475,282	475,282	468,453	468,978	417,234	418,150
Adjusted R^2	0.188	0.206	0.192	0.208	0.0505	0.0568

Table 6. 13G-to-13D filing switchers and probability of making a takeover bid

This table reports OLS regressions of the probability of making a bid by acquirers with and without recent activism. "Bid (*t, t+i*)/ Cash Bid *(t, t+i*)/ Stock Bid (*t, t+i*)" is an indicator that equals one if a firm makes an acquisition bid within *i* years of year *t*, and zero otherwise. The sample includes all firms with Schedule 13G hedge fund filers between 1994 and 2011. A fund is required to file a 13G form when it purchases 5% or more of a company's stock but intends to remain passive. The indicator variable "13G-to-13D switch" is set to one when the activist hedge fund initially files a Schedule 13G but switches to a Schedule 13D in year *t*, indicating a change from passive to activist engagement in the same firm. All other variables are defined in the Appendix and are as of year *t-1*. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Bid $_{(t, t+3)}$	Bid $_{(t, t+4)}$	Cash bid $_{(t, t+3)}$	Cash bid $_{(t, t+4)}$	Stock bid $_{(t, t+3)}$	Stock bid $_{(t, t+4)}$
13G-to-13D switch	-0.0272	-0.0324	-0.0539**	-0.0573**	-0.0192	-0.0241
	(-0.76)	(-0.91)	(-2.03)	(-2.04)	(-1.13)	(-1.39)
% Institutional ownership	0.1841***	0.2023***	0.1418***	0.1567***	0.0676***	0.0713***
	(5.94)	(6.65)	(3.62)	(3.98)	(2.87)	(2.69)
Stock return volatility	-0.0995***	-0.0829**	-0.1062***	-0.0991***	-0.0000	0.0055
	(-2.99)	(-2.43)	(-3.03)	(-2.62)	(-0.00)	(0.38)
Illiquidity	0.2436**	0.1808	0.5400***	0.5072***	-0.0773	-0.1002
	(2.21)	(1.51)	(9.22)	(8.45)	(-1.25)	(-1.46)
Tobin's *Q*	-0.0658***	-0.0588***	-0.0752***	-0.0777***	-0.0026	-0.0028
	(-5.16)	(-4.44)	(-5.67)	(-5.65)	(-0.34)	(-0.31)
Firm size	0.0888***	0.0908***	0.0925***	0.0971***	0.0148***	0.0164***
	(9.22)	(8.46)	(10.60)	(9.85)	(3.04)	(2.78)
ROA	0.0412	0.0386	0.0948***	0.0892***	-0.0173	-0.0099
	(1.13)	(0.94)	(3.82)	(3.30)	(-0.69)	(-0.37)
Book leverage	-0.0042	0.0008	-0.0397	-0.0388	0.0507*	0.0572*
	(-0.13)	(0.02)	(-1.42)	(-1.36)	(1.67)	(1.72)
Dividend yield	-0.2057***	-0.1781***	-0.1577***	-0.1195**	-0.0909***	-0.1108***
	(-3.89)	(-3.11)	(-3.44)	(-2.24)	(-3.51)	(-3.99)
R&D expenditure	-0.1100	-0.1253	-0.0040	-0.0190	-0.0969*	-0.1121*
	(-1.48)	(-1.50)	(-0.08)	(-0.31)	(-1.96)	(-1.97)
Herfindahl index	-0.0379	-0.0847	-0.1436	-0.2299	-0.0673	0.0008
	(-0.12)	(-0.27)	(-0.42)	(-0.65)	(-0.37)	(0.00)
Merger wave	0.0078	0.0063	0.0071	0.0034	-0.0070	-0.0074
	(0.87)	(0.54)	(0.79)	(0.26)	(-0.77)	(-0.99)
Average abnormal return	25.0127***	23.3196***	19.9173***	21.0337***	7.4345***	6.9428***
	(11.47)	(12.14)	(9.57)	(9.45)	(4.48)	(4.34)
Sales growth	-0.0070	-0.0045	-0.0074	0.0024	0.0252	0.0294*
	(-0.46)	(-0.27)	(-0.68)	(0.17)	(1.54)	(1.72)
Noncash working capital	-0.0172	-0.0033	-0.0624*	-0.0507	0.0515**	0.0534*
	(-0.59)	(-0.10)	(-1.91)	(-1.43)	(2.19)	(1.88)
Price-to-earnings	-0.0002***	-0.0002***	-0.0001***	-0.0002***	-0.0001	-0.0001*
	(-2.91)	(-3.23)	(-2.97)	(-2.90)	(-1.57)	(-1.98)
Cash deviation	-0.0532	-0.0708*	-0.0601*	-0.0660*	0.0416***	0.0480***
	(-1.50)	(-1.93)	(-1.74)	(-1.73)	(2.86)	(2.72)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Hedge fund FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	71,916	71,916	70,872	70,971	68,016	68,053
Adjusted R^2	0.157	0.166	0.161	0.168	0.0567	0.0646

Table 7. Active ownership status and number and volume of acquisitions

This table reports OLS regressions of the number (Panel A) and volume (Panel B) of bids made by acquirers with and without recent activism. "Number/Volume of bids $_{(t, t+i)}$, Number/Volume of cash bids $_{(t, t+i)}$, Number/Volume of stock bids $_{(t, t+i)}$" is the number/volume of bids a firm makes within *i* years of year *t*. Volume is scaled by the market value of the bidding firm in year *t*. The sample includes CRSP-Compustat firms held between 1994 and 2011 by at least one activist hedge fund that files a 13F report. The indicator "HF active stake" is set to one if the activist hedge fund has activist intentions (reported in a Schedule 13D in year *t*), and zero otherwise. All other variables are defined in the Appendix and are as of year *t-1*. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

Panel A. Number of acquisitions

	(1)	(2)	(3)	(4)	(5)	(6)
	Number of bids $_{(t, t+3)}$	Number of bids $_{(t, t+4)}$	Number of cash bids $_{(t, t+3)}$	Number of cash bids $_{(t, t+4)}$	Number of stock bids $_{(t, t+3)}$	Number of stock bids $_{(t, t+4)}$
HF active stake	-0.1196**	-0.1640***	-0.0931**	-0.1276***	-0.0099	-0.0154
	(-2.57)	(-3.08)	(-2.31)	(-2.95)	(-0.84)	(-1.24)
% Institutional ownership	0.7970***	0.9137***	0.6751***	0.7788***	0.0800***	0.0890***
	(42.29)	(41.58)	(47.65)	(48.35)	(12.96)	(12.43)
Stock return volatility	-0.3587***	-0.3624***	-0.2910***	-0.2913***	0.0117**	0.0152**
	(-19.84)	(-19.68)	(-19.31)	(-20.02)	(2.04)	(2.25)
Illiquidity	0.7206***	0.6899***	0.9717***	0.9750***	-0.0131	-0.0136
	(8.01)	(6.31)	(18.70)	(14.44)	(-0.56)	(-0.52)
Tobin's *Q*	-0.1534***	-0.1655***	-0.1415***	-0.1507***	-0.0055***	-0.0082***
	(-18.91)	(-18.63)	(-19.22)	(-18.85)	(-3.61)	(-4.80)
Firm size	0.1301***	0.1547***	0.1208***	0.1430***	0.0149***	0.0174***
	(44.22)	(44.90)	(49.42)	(49.37)	(19.92)	(19.36)
ROA	0.2161***	0.2245***	0.2215***	0.2319***	-0.0006	0.0012
	(10.67)	(9.73)	(12.10)	(11.49)	(-0.13)	(0.21)
Book leverage	0.1035***	0.1100***	-0.0583***	-0.0723***	0.0559***	0.0599***
	(6.02)	(5.33)	(-4.35)	(-4.53)	(11.23)	(10.30)
Dividend yield	-0.3174***	-0.2904***	-0.4029***	-0.3956***	0.0126	0.0151
	(-7.07)	(-5.61)	(-14.72)	(-13.53)	(0.83)	(0.83)
R&D expenditure	0.2791***	0.3369***	0.3413***	0.4048***	-0.0386***	-0.0462***
	(7.13)	(7.24)	(9.27)	(9.37)	(-3.61)	(-3.89)
Herfindahl index	0.2560*	0.2993*	0.4743***	0.5719***	-0.1046*	-0.1297**
	(1.87)	(1.88)	(5.06)	(5.18)	(-1.85)	(-2.04)
Merger wave	0.0159***	0.0079	0.0232***	0.0120***	0.0015	0.0014
	(3.48)	(1.63)	(5.39)	(2.70)	(0.78)	(0.69)
Average abnormal return	58.8669***	58.7085***	36.3837***	34.4748***	13.0638***	14.3831***
	(42.35)	(35.33)	(31.84)	(24.77)	(26.02)	(28.56)
Sales growth	0.0638***	0.0729***	-0.0003	-0.0037	0.0454***	0.0516***
	(6.58)	(6.58)	(-0.06)	(-0.54)	(15.93)	(15.62)
Noncash working capital	-0.3372***	-0.3802***	-0.3677***	-0.4226***	0.0400***	0.0478***
	(-19.20)	(-19.37)	(-20.22)	(-20.61)	(6.99)	(7.20)
Price-to-earnings	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0000	-0.0000
	(-4.99)	(-5.79)	(-4.75)	(-4.87)	(-0.04)	(-1.04)
Cash deviation	-0.1021***	-0.1552***	-0.0602***	-0.0986***	-0.0069	-0.0127**
	(-6.81)	(-9.07)	(-4.77)	(-6.82)	(-1.50)	(-2.40)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Hedge fund FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	475,282	475,282	475,282	475,282	475,282	475,282
Adjusted R^2	0.163	0.179	0.171	0.188	0.0426	0.0480

Panel B. Volume of acquisitions

	(1) Volume of bids $_{(t, t+3)}$	(2) Volume of bids $_{(t, t+4)}$	(3) Volume of cash bids $_{(t, t+3)}$	(4) Volume of cash bids $_{(t, t+4)}$	(5) Volume of stock bids $_{(t, t+3)}$	(6) Volume of stock bids $_{(t, t+4)}$
HF active stake	-0.0323	-0.0661**	-0.0314**	-0.0495***	0.0012	-0.0089
	(-1.16)	(-2.28)	(-2.05)	(-3.08)	(0.06)	(-0.42)
% Institutional ownership	0.1281***	0.1418***	0.0932***	0.1032***	0.0396***	0.0420***
	(15.03)	(13.05)	(21.39)	(18.29)	(8.78)	(7.49)
Stock return volatility	-0.0090	0.0115	-0.0352***	-0.0183*	0.0418***	0.0440***
	(-0.81)	(0.77)	(-5.08)	(-1.66)	(4.39)	(4.30)
Illiquidity	-0.5867***	-0.7693***	-0.3143***	-0.4789***	-0.2425***	-0.2697***
	(-6.21)	(-7.42)	(-8.98)	(-10.03)	(-7.87)	(-7.26)
Tobin's *Q*	-0.1076***	-0.1306***	-0.0634***	-0.0771***	-0.0361***	-0.0460***
	(-26.79)	(-25.46)	(-25.24)	(-23.23)	(-19.66)	(-20.03)
Firm size	-0.0039***	-0.0064***	0.0028***	0.0014	-0.0017***	-0.0019**
	(-3.29)	(-4.43)	(3.89)	(1.49)	(-2.71)	(-2.54)
ROA	0.0888***	0.0750***	0.0693***	0.0627***	0.0176**	0.0196*
	(8.07)	(5.37)	(12.35)	(8.73)	(2.12)	(1.97)
Book leverage	0.2362***	0.3057***	0.0730***	0.0991***	0.0988***	0.1197***
	(19.55)	(17.77)	(10.65)	(10.54)	(16.59)	(15.47)
Dividend yield	-0.1131***	-0.0763**	-0.1313***	-0.1172***	-0.0253**	-0.0385***
	(-4.79)	(-2.15)	(-12.91)	(-7.59)	(-2.34)	(-2.78)
R&D expenditure	-0.0228	-0.0519	-0.0233*	-0.0386**	0.0115	0.0072
	(-0.87)	(-1.59)	(-1.86)	(-2.48)	(0.62)	(0.33)
Herfindahl index	0.2333	0.2160	0.0222	0.1023	-0.1480***	-0.2067***
	(0.65)	(0.58)	(0.36)	(1.19)	(-2.82)	(-3.52)
Merger wave	-0.0103***	-0.0104***	0.0029*	0.0048**	-0.0096***	-0.0151***
	(-3.10)	(-3.01)	(1.73)	(2.08)	(-3.30)	(-5.86)
Average abnormal return	47.6769***	64.9240***	29.5643***	41.8303***	13.2554***	17.2057***
	(29.44)	(27.14)	(27.33)	(20.92)	(13.21)	(15.75)
Sales growth	0.0932***	0.1054***	0.0308***	0.0287***	0.0503***	0.0616***
	(12.84)	(10.82)	(7.06)	(4.72)	(12.65)	(11.24)
Noncash working capital	-0.0079	0.0132	-0.0472***	-0.0418***	0.0309***	0.0430***
	(-0.64)	(0.81)	(-5.57)	(-3.49)	(5.30)	(6.09)
Price-to-earnings	0.0000	0.0000	-0.0000***	-0.0000***	0.0000**	0.0000**
	(0.34)	(1.46)	(-5.67)	(-4.26)	(2.35)	(2.55)
Cash deviation	-0.0347***	-0.0458***	-0.0160**	-0.0288***	-0.0049	0.0031
	(-2.99)	(-3.66)	(-2.30)	(-3.55)	(-0.80)	(0.44)
Constant	Yes	Yes	Yes	Yes	Yes	Yes
Hedge fund FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	475,282	475,282	475,282	475,282	475,282	475,282
Within R^2	0.0346	0.0384	0.0334	0.0326	0.0180	0.0205

Table 8. Acquisition premia

This table reports estimates from OLS regressions of premia offered by acquirers with and without recent activism. Premia are estimated with respect to the target's price one or four weeks prior to deal announcement. The activism sample period is between 1994 and 2011. "Activist" is an indicator for an activist campaign in year *t*. All other variables are defined in the Appendix. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

	(1)	(2)	(3)	(4)
	Premium [-1 week]		Premium [-4 week]	
	t+3	*t*+4	*t*+3	*t*+4
Activist	-0.0278	-0.0385	-0.0242	-0.0380
	(-0.73)	(-1.08)	(-0.51)	(-0.88)
Cash offer	-0.0910***	-0.0908***	-0.1162***	-0.1161***
	(-3.75)	(-3.74)	(-4.99)	(-4.98)
% Institutional ownership	-0.1010**	-0.1008**	-0.1284**	-0.1281**
	(-2.32)	(-2.31)	(-2.30)	(-2.30)
Stock return volatility	0.0896	0.0898	0.1157	0.1159
	(0.87)	(0.88)	(1.09)	(1.09)
Illiquidity	-0.8549*	-0.8598*	-1.0117*	-1.0170*
	(-1.71)	(-1.72)	(-1.73)	(-1.74)
Tobin's *Q*	-0.0102	-0.0103	0.0103	0.0102
	(-0.38)	(-0.39)	(0.32)	(0.31)
Firm size (log of market cap)	-0.0246**	-0.0248**	-0.0242**	-0.0245**
	(-2.27)	(-2.29)	(-2.17)	(-2.19)
ROA	-0.1256	-0.1261	-0.1068	-0.1074
	(-0.86)	(-0.86)	(-0.66)	(-0.67)
Book leverage	-0.0939*	-0.0940*	-0.1073*	-0.1073*
	(-1.65)	(-1.65)	(-1.78)	(-1.79)
Dividend yield	-0.3808	-0.3848	-0.9186*	-0.9227*
	(-0.70)	(-0.71)	(-1.78)	(-1.79)
R&D expenditure	0.2598	0.2597	0.1071	0.1067
	(1.05)	(1.04)	(0.37)	(0.37)
Herfindahl index	-0.7173	-0.7181	-0.5911	-0.5930
	(-1.60)	(-1.61)	(-1.03)	(-1.04)
Merger wave	0.0769	0.0776	0.0593	0.0601
	(0.96)	(0.97)	(0.72)	(0.73)
Free cash flow	-0.0156	-0.0149	-0.0393	-0.0383
	(-0.11)	(-0.11)	(-0.23)	(-0.22)
Competitive industry	-0.0243	-0.0244	-0.0018	-0.0019
	(-0.88)	(-0.88)	(-0.06)	(-0.06)
Unique industry	-0.0063	-0.0067	-0.0177	-0.0180
	(-0.19)	(-0.20)	(-0.49)	(-0.50)
LBO indicator	0.1142	0.1145	0.0026	0.0029
	(1.19)	(1.19)	(0.03)	(0.03)
Bidder's BHAR [-12m, -1m]	0.0114	0.0115	0.0336**	0.0336**
	(0.92)	(0.92)	(2.10)	(2.10)
Industry M&A	0.4982	0.4981	0.3099	0.3097
	(1.42)	(1.42)	(0.96)	(0.95)
High tech industry	0.0230	0.0224	0.0768**	0.0761**
	(0.68)	(0.66)	(2.04)	(2.02)
Constant	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	1,917	1,917	1,913	1,913
Adjusted R^2	0.0645	0.0646	0.0907	0.0908

Table 9. Short- and long-term abnormal and buy-and-hold acquisition returns

This table reports OLS estimates of daily CARs in Panel A, monthly CARs in Panel B, and monthly buy-and-hold returns (BHARs) in Panel C. CARs are calculated in excess of the value-weighted CRSP index returns. The activism sample period is between 1994 and 2011. "Activist" is an indicator for an activist campaign in year *t*. All other variables are defined in the Appendix. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

Panel A. Daily cumulative abnormal returns (CARs)

	(1)	(2)	(3)	(4)
	CAR [-1d,+1d]		CAR [-5d,+5d]	
	t+3	*t*+4	*t*+3	*t*+4
Activist	0.0141**	0.0131**	0.0085	0.0076
	(2.02)	(2.09)	(1.13)	(1.08)
Cash offer	0.0328***	0.0328***	0.0251***	0.0250***
	(9.80)	(9.79)	(5.66)	(5.65)
% Institutional ownership	0.0027	0.0027	0.0112	0.0112
	(0.39)	(0.39)	(1.20)	(1.21)
Stock return volatility	-0.0166	-0.0171	-0.0018	-0.0021
	(-1.39)	(-1.44)	(-0.11)	(-0.13)
Illiquidity	-0.0080	-0.0070	-0.1240	-0.1234
	(-0.10)	(-0.08)	(-1.50)	(-1.49)
Tobin's Q	-0.0052	-0.0051	-0.0058	-0.0058
	(-1.20)	(-1.19)	(-1.11)	(-1.11)
Firm size	-0.0011	-0.0011	-0.0001	-0.0001
	(-1.11)	(-1.11)	(-0.10)	(-0.10)
ROA	0.0043	0.0043	-0.0280	-0.0281
	(0.24)	(0.24)	(-1.25)	(-1.25)
Book leverage	0.0032	0.0031	0.0175*	0.0174*
	(0.43)	(0.42)	(1.73)	(1.72)
Dividend yield	0.1085*	0.1092*	0.1869**	0.1872**
	(1.88)	(1.89)	(2.45)	(2.45)
R&D expenditure	-0.0476	-0.0474	-0.0108	-0.0106
	(-1.33)	(-1.32)	(-0.25)	(-0.25)
Herfindahl index	0.0713	0.0705	0.1032	0.1026
	(1.21)	(1.20)	(1.21)	(1.20)
Merger wave	-0.0073	-0.0073	-0.0193**	-0.0193**
	(-1.13)	(-1.12)	(-2.20)	(-2.20)
Free cash flow	0.0311*	0.0311*	0.0669**	0.0669**
	(1.76)	(1.75)	(2.56)	(2.56)
Competitive industry	-0.0012	-0.0014	-0.0016	-0.0017
	(-0.32)	(-0.35)	(-0.30)	(-0.32)
Unique industry	0.0082	0.0082	0.0054	0.0054
	(1.38)	(1.37)	(0.72)	(0.72)
LBO indicator	-0.0269**	-0.0268**	-0.0289	-0.0289
	(-2.06)	(-2.06)	(-1.32)	(-1.32)
BHAR [-12m, -1m]	0.0016	0.0015	-0.0026	-0.0026
	(0.63)	(0.63)	(-0.70)	(-0.70)
Industry M&A	-0.0481**	-0.0482**	-0.0514*	-0.0514*
	(-2.43)	(-2.43)	(-1.93)	(-1.93)
High tech industry	-0.0078	-0.0077	-0.0085	-0.0084
	(-1.57)	(-1.54)	(-1.42)	(-1.41)
Constant	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes
Observations	3,723	3,723	3,723	3,723
Adjusted R^2	0.0671	0.0671	0.0355	0.0354

Panel B. Monthly CARs

	(1)	(2)	(3)	(4)
	CAR[-1m,+12m]		CAR[-1m,+24m]	
	t+3	*t*+4	*t*+3	*t*+4
Activist	0.0876***	0.0745**	0.1112**	0.0904**
	(2.71)	(2.48)	(2.32)	(2.15)
Cash offer	0.0414**	0.0410**	0.0675***	0.0672***
	(2.46)	(2.45)	(2.97)	(2.95)
% Institutional ownership	-0.0723*	-0.0717*	0.0251	0.0261
	(-1.83)	(-1.81)	(0.48)	(0.50)
Stock return volatility	0.0247	0.0217	0.0166	0.0128
	(0.40)	(0.35)	(0.21)	(0.17)
Illiquidity	-0.0798	-0.0747	0.4951	0.5014
	(-0.26)	(-0.24)	(1.01)	(1.01)
Tobin's *Q*	-0.0628***	-0.0627***	-0.1523***	-0.1525***
	(-2.62)	(-2.62)	(-4.97)	(-4.98)
Firm size	-0.0001	-0.0002	-0.0135**	-0.0137**
	(-0.01)	(-0.03)	(-1.96)	(-1.99)
ROA	0.1684	0.1683	0.2137	0.2135
	(1.58)	(1.58)	(1.53)	(1.53)
Book leverage	0.0124	0.0127	0.0347	0.0350
	(0.29)	(0.30)	(0.59)	(0.59)
Dividend yield	0.2151	0.2179	0.3940	0.3961
	(1.17)	(1.19)	(1.60)	(1.61)
R&D expenditure	0.3619	0.3636	0.6263**	0.6289**
	(1.42)	(1.43)	(2.01)	(2.02)
Herfindahl index	0.2283	0.2215	0.4442	0.4351
	(0.68)	(0.66)	(0.95)	(0.93)
Merger wave	-0.0665**	-0.0660**	-0.0846**	-0.0833*
	(-2.07)	(-2.06)	(-1.98)	(-1.96)
Free cash flow	0.1838	0.1837	0.3590**	0.3585**
	(1.59)	(1.59)	(2.55)	(2.55)
Competitive industry	-0.0032	-0.0041	-0.0390	-0.0403
	(-0.16)	(-0.21)	(-1.39)	(-1.43)
Unique industry	-0.0311	-0.0314	-0.0981**	-0.0985**
	(-0.93)	(-0.94)	(-2.14)	(-2.15)
LBO indicator	-0.1371**	-0.1366**	-0.1849*	-0.1846*
	(-2.21)	(-2.20)	(-1.87)	(-1.87)
BHAR [-12m, -1m]	0.0288**	0.0288**	0.0037	0.0037
	(1.98)	(1.98)	(0.25)	(0.25)
Industry M&A	-0.0318	-0.0320	0.0936	0.0933
	(-0.35)	(-0.35)	(0.83)	(0.83)
High tech industry	-0.0033	-0.0025	0.0444	0.0451
	(-0.13)	(-0.10)	(1.35)	(1.37)
Constant	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes
Observations	3,648	3,648	3,393	3,393
Adjusted R^2	0.101	0.100	0.147	0.147

Panel C. Monthly buy-and-hold abnormal returns (BHARs)

	(1)	(2)	(3)	(4)
	BHAR[-1m,+12m]		BHAR [-1m,+24m]	
	t+3	*t*+4	*t*+3	*t*+4
Activist	0.1490***	0.1291**	0.2151***	0.1749**
	(2.69)	(2.50)	(2.59)	(2.32)
Cash offer	0.0375	0.0367	0.0856*	0.0850*
	(1.24)	(1.22)	(1.79)	(1.78)
% Institutional ownership	-0.0129	-0.0114	0.0416	0.0442
	(-0.19)	(-0.17)	(0.42)	(0.44)
Stock return volatility	-0.1442	-0.1498	-0.0843	-0.0876
	(-1.45)	(-1.50)	(-0.49)	(-0.50)
Illiquidity	0.3112	0.3203	0.8162	0.8258
	(0.80)	(0.83)	(0.87)	(0.88)
Tobin's *Q*	-0.0592	-0.0594	-0.1491***	-0.1497***
	(-1.63)	(-1.63)	(-2.82)	(-2.83)
Firm size	0.0123	0.0121	0.0028	0.0026
	(1.35)	(1.34)	(0.18)	(0.17)
ROA	0.1843	0.1839	0.3059	0.3052
	(1.04)	(1.04)	(1.01)	(1.01)
Book leverage	-0.1088	-0.1085	-0.2462**	-0.2447**
	(-1.24)	(-1.23)	(-2.01)	(-2.00)
Dividend yield	0.5432*	0.5461*	0.8142**	0.8205**
	(1.66)	(1.66)	(1.99)	(2.00)
R&D expenditure	0.3960	0.3979	0.6899	0.6917
	(1.16)	(1.16)	(1.38)	(1.38)
Herfindahl index	0.0733	0.0570	0.9979	0.9736
	(0.11)	(0.09)	(0.94)	(0.92)
Merger wave	0.0147	0.0151	-0.0282	-0.0267
	(0.26)	(0.27)	(-0.34)	(-0.32)
Free cash flow	0.1341	0.1341	0.1647	0.1645
	(0.73)	(0.73)	(0.54)	(0.54)
Competitive industry	0.0076	0.0059	0.0916*	0.0891*
	(0.21)	(0.16)	(1.70)	(1.65)
Unique industry	0.0347	0.0331	0.0060	0.0036
	(0.80)	(0.76)	(0.09)	(0.05)
LBO indicator	0.0138	0.0147	-0.0492	-0.0492
	(0.09)	(0.09)	(-0.20)	(-0.20)
BHAR [-12m, -1m]	0.0569**	0.0567**	0.0421	0.0420
	(2.32)	(2.32)	(1.53)	(1.52)
Industry M&A	-0.1700	-0.1698	-0.0133	-0.0123
	(-0.98)	(-0.98)	(-0.05)	(-0.05)
High tech industry	-0.0727*	-0.0710	-0.0444	-0.0433
	(-1.67)	(-1.63)	(-0.63)	(-0.61)
Constant	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes
Observations	3,380	3,380	2,917	2,917
Adjusted R^2	0.0177	0.0174	0.0312	0.0307

Table 10. Channels of activism influence on takeover behavior

This table reports OLS estimates of making a bid (Panel A), and the number (Panel B) and volume (Panel C) of acquisition bids. Volume is scaled by the market value of the bidding firm in year *t*. The activism sample period is between 1994 and 2011. "Activist" is an indicator for an activist campaign in year *t*. "*Z*-score" is the average change in cash holdings, leverage and dividend payout between *t*-1 and *t*+1 less each policy's industry change, divided by the industry standard deviation. *, **, and *** denote statistical significance at 10%, 5%, and 1% level, respectively.

Panel A. Probability of making a takeover bid

	(1) Bid $_{(t, t+3)}$	(2) Bid $_{(t, t+4)}$	(3) Cash bid $_{(t, t+3)}$	(4) Cash bid $_{(t, t+4)}$	(5) Stock bid $_{(t, t+3)}$	(6) Stock bid $_{(t, t+4)}$
Activist	-0.0624***	-0.0532**	-0.0496**	-0.0432**	-0.0144	-0.0120
	(-2.98)	(-2.47)	(-2.50)	(-2.13)	(-1.15)	(-0.93)
Z-score	0.0729***	0.0598***	0.0456***	0.0328***	0.0199***	0.0183***
	(8.96)	(7.32)	(6.26)	(4.46)	(4.23)	(3.66)
Activist x *Z*-score	-0.1451***	-0.1368***	-0.1069***	-0.1046***	-0.0369**	-0.0405**
	(-5.08)	(-4.70)	(-4.18)	(-4.06)	(-2.12)	(-2.26)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,000	35,000	35,000	35,000	35,000	35,000
Adjusted R^2	0.256	0.277	0.235	0.256	0.0532	0.0580

Panel B. Number of acquisitions

	(1) Number of bids $_{(t, t+3)}$	(2) Number of bids $_{(t, t+4)}$	(3) Number of cash bids $_{(t, t+3)}$	(4) Number of cash bids $_{(t, t+4)}$	(5) Number of stock bids $_{(t, t+3)}$	(6) Number of stock bids $_{(t, t+4)}$
Activist	-0.1115**	-0.1107**	-0.0764	-0.0810	-0.0240**	-0.0258*
	(-2.17)	(-2.02)	(-1.56)	(-1.58)	(-2.01)	(-1.74)
Z-score	0.1291***	0.1120***	0.0765***	0.0639***	0.0223***	0.0191***
	(8.26)	(6.66)	(5.90)	(4.34)	(3.52)	(2.72)
Activist x *Z*-score	-0.2464***	-0.2667***	-0.1554***	-0.1831***	-0.0490**	-0.0581**
	(-3.98)	(-3.38)	(-3.73)	(-3.82)	(-2.10)	(-2.25)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,000	35,000	35,000	35,000	35,000	35,000
Adjusted R^2	0.211	0.227	0.204	0.222	0.0511	0.0558

Panel C. Volume of acquisitions

	(1) Volume of bids $_{(t, t+3)}$	(2) Volume of bids $_{(t, t+4)}$	(3) Volume of cash bids $_{(t, t+3)}$	(4) Volume of cash bids $_{(t, t+4)}$	(5) Volume of stock bids $_{(t, t+3)}$	(6) Volume of stock bids $_{(t, t+4)}$
Activist	-0.1053	-0.0926	-0.0526	-0.0612	-0.0293	-0.0186
	(-1.38)	(-1.15)	(-1.20)	(-1.26)	(-0.84)	(-0.53)
Z-score	0.1639***	0.1455***	0.0717***	0.0605***	0.0365***	0.0288*
	(3.58)	(3.06)	(4.97)	(4.38)	(2.98)	(1.98)
Activist x *Z*-score	-0.2466***	-0.2495***	-0.0862***	-0.0861**	-0.0797**	-0.0823**
	(-3.35)	(-3.03)	(-3.06)	(-2.58)	(-2.07)	(-2.08)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry and year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	35,000	35,000	35,000	35,000	35,000	35,000
Adjusted R^2	0.0197	0.0244	0.0187	0.0220	0.0123	0.0141