Governance under the Gun: Spillover Effects of Hedge Fund Activism[♦]

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ABSTRACT

Hedge fund activism has been associated with substantial improvements in the governance and performance of targeted firms. In this paper, we look beyond the targets and investigate whether yet-to-be-targeted peers undertake real policy changes under the threat of activism. We find that they do – industry peers with high perception of threat increase leverage and payout, decrease cash holdings, and improve return on assets and asset turnover. Our evidence strongly suggests that such policy changes are induced by activism threat rather than time-varying industry conditions or other peer effects mechanisms, such as product market competition. In choosing which policies to change, peer firms consider both their own vulnerabilities and the actions taken by recent targets in their industry. Finally, we show that the peers' valuations also improve, and these policy and valuation improvements lower the peers' ex-post probability of being targeted, suggesting that this "do-it-yourself" activism is effective. Taken together, our results imply that shareholder activism, as an external governance device, reaches beyond the targeted firms.

Keywords: Shareholder activism, Corporate governance, Hedge funds, Institutional investors

JEL classification: G12, G23, G32, G34

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1. Introduction

Hedge fund activism is an important governance device associated with marked improvements in 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).[1] These positive effects often come at the expense of managers and directors who see a sharp reduction in compensation and a higher likelihood of being replaced.[2] Anecdotes suggest that executives of yet-to-be-targeted firms feel threatened and proactively work with advisors and lawyers to evaluate firm policies "with a view toward minimizing vulnerabilities to attacks by activist hedge funds."[3] The press has documented that this "activist fire drill" leads to real policy changes such as "spinning off divisions or instituting return of capital programs to quell dissent before it begins."[4]

Our goal is to investigate the role of activism threat in inducing policy changes at the peers of activist targets and examine whether such responses are effective at fending off activists. Previous work has focused on the targeted firms and documented significant increases in payout and leverage, decreases in capital expenditures, and improvements in return on assets and asset utilization. We provide novel evidence that peers preemptively take similar actions to reduce agency costs and improve performance. Our evidence of these spillover effects contributes to a better understanding of shareholder activism as a governance device. Absent these externalities, the literature does not fully capture the impact of activism.

To organize our discussion of the effects of activism threat and outline the challenges in identifying them, we follow the social effects model of Manski (1993) in which a group behavior is driven by three distinct social effects: endogenous, contextual, and correlated.[5] The first two are manifestations of peer effects. The endogenous effect is about a firm's corporate policy (e.g., leverage) being influenced by the policies (or, more generally actions) of its peers while the contextual effect is about the firm's policy being influenced by the peers' characteristics. The correlated effects are not peer effects; peer firms have similar policies because they share certain

[1] Recent academic work has shown that among activist investors, hedge funds achieve better success as monitors than mutual funds, pension funds, and labor unions (see Kahan and Rock, 2006; Gillan and Starks, 2007).
[2] See Brav et al. (2010) and Fos and Tsoutsoura (2014) for examples.
[3] See "Key Issues for Directors in 2014" by Martin Lipton of Wachtell, Lipton, Rosen and Katz, *The Harvard Law School Forum on Corporate Governance and Financial Regulation*, December 16, 2013.
[4] See "Boardrooms Rethink Tactics to Defang Activist Investors", *The New York Times*, November 11, 2013.
[5] We define peer firms naturally as companies that operate in the same three-digit SIC industry as previous activist targets. This is consistent with the approach taken by Leary and Roberts (2014) as well as a large theoretical literature (e.g., Jensen, 1986; Shleifer and Vishny, 1988; Raff, 2011).

characteristics or are exposed to the same industry forces. Leary and Roberts (2014) apply Manski (1993)'s model to study leverage. They show that "the financing decisions and, to a lesser extent, the characteristics of peer firms are important determinants of corporate capital structure and financial policies"; that is, their evidence suggests the prevalence of endogenous effects whereby firms mimic one another. Popadak (2014) and Shue (2013) show evidence of peer effects in dividend policies and compensation, respectively.

In this paper, we argue that a non-target firm, observing that its peers are being targeted by activists, may perceive a higher risk of becoming a future target, and change its policies to mitigate this risk. Considering "being targeted" as a characteristic, the effects of activism threat are contextual effects in Manski (1993)'s framework. At the same time, a threatened peer may get guidance on which policies to change by benchmarking against recent targets in its industry; hence, the effects of activism threat may also include endogenous effects but ones that are narrowly focused on targeted peers and triggered by their characteristics. Our analysis aims at identifying the overall threat effects as an externality of activism and differentiating them from alternative peer effects mechanisms.

The first identification challenge is to isolate the peer effects of activism from the correlated effects, such as those of common industry factors that may dictate a firm's policy choice. Such correlated effects present a classic example of omitted variable bias. For instance, an industry may undergo (unobserved) changes that increase the optimal leverage for all firms. If some firms change voluntarily whereas others do not and get targeted, we would observe a positive association between target frequency and policy changes at non-targeted peers. To mitigate this concern, we refer to the literature on institutional investing and use, as a source of plausibly exogenous variation in activism, flow-based capital available to hedge funds that are likely to target a given industry. We define *Threat* as a dummy equal to one if the hedge funds' capital allocated to a given industry, as a percentage of the industry's total market capitalization, is greater than the sample median. We show that *Threat* is relevant as it predicts target frequency at the industry level. Most importantly, *Threat* is likely uncorrelated with industry shocks because it captures time-varying characteristics of *individual* hedge funds, as opposed to firm or industry characteristics.

The second identification challenge is to differentiate the effects of activism threat from other peer effects whereby firms may change certain policies in response to peer actions or characteristics. For example, Leary and Roberts (2014) show that firms mimic industry peers in choosing leverage

and discuss several theoretical motivations for such behavior. One of the motivations is the interaction between financial policies and product market competition (Bolton and Scharfstein, 1990; Chevalier and Scharfstein, 1996). In the context of activism, Aslan and Kumar (2016) demonstrate negative spillover effects that arise as a result of the peers' response to an eroding position in the product market.

To address the second challenge and identify the effects of threat from alternative peer effects mechanisms, we rely on the cross-section of threatened peers. We conjecture that the managers and directors of some peer firms would perceive the threat of activism more strongly and react by preemptively changing firm policies. Brav et al. (2010) show that CEOs and directors of targeted firms see a sizeable reduction in compensation and a higher likelihood of being fired. Moreover, Fos and Tsoutsoura (2014) show that directors who are being replaced through a proxy contest are likely to also lose board seats at other firms. Following this line of reasoning, we proxy for how a firm perceives the threat of activism by its directors' reputation costs of losing board seats; directors with more outside board seats stand to lose more if targeted, and thus, have greater incentives to implement proactive policy responses. We show that our measure of threat perception is unlikely to generate similar policy responses through other peer effects.

In sum, our identification strategy employs a combination of industry-level *Threat* and firm-level *Threat perception*. Specifically, we estimate the policy change differences between firms with high and low threat perceptions across periods when the firms' industry is threatened and not threatened. We recognize that our measure of threat perception is not randomly assigned, potentially raising a concern that our results may be driven by some omitted variables that affect both *Threat* at the industry level and policy changes across firms with varying perceptions of threat. We argue that this is unlikely since *Threat* captures characteristics of individual hedge funds, and firms with high and low threat perceptions are equally likely to be targeted regardless of whether their industry is threatened or not. Nevertheless, we use a variety of robustness checks and falsification tests to further support our conclusions.

We find positive spillover effects of activism and demonstrate that such effects occur through the threat channel – non-targeted peers with high threat perception undertake real policy changes to

reduce agency costs and improve operating performance in the same way as the targets.[6] Specifically, threatened peers increase leverage and payout, decrease cash holdings, and improve return on assets and asset turnover (relative to less threatened peers). They also reduce capital expenditures and CEO compensation but these changes lack statistical significance in most specifications. Furthermore, we demonstrate that policy vulnerability determines the magnitude of the response; firms with below-median (relative to the industry) leverage, payout, return on assets, return on sales, and asset turnover are more likely to increase these policies whereas firms with above-median cash holdings and CEO compensation are more likely to decrease them.

We conduct various robustness tests to alleviate remaining concerns about the confounding effects of time-varying industry shocks. First, we find that neither a counterfactual 'policy wave' in which the majority of peers significantly improve a particular policy nor an industry merger wave leads to the differential policy changes we document. Second, we perform a matched sample analysis to demonstrate that differences in observable characteristics across peer firms with high and low threat perceptions do not drive our results. Third, we show that the non-core segments of a diversified firm change policies in the same way as its core segments, suggesting that our results are likely not driven by shocks in the core industry.

We also present additional tests to differentiate the effects of activism threat from those of product market competition. First, peers may be responding to the improved competitive position of targeted firms rather than to the threat of activism. To see whether this is the case, we use reductions of import tariffs to proxy for a rise in competitive pressure (Fresard, 2010), and find that the differential policy changes between firms with high and low threat perceptions differ from those we demonstrate under activism threat. Second, we consider another plausible (though less likely) product market effect, whereby a target reduces competition through differentiation or innovation that benefits all firms in the industry. We proxy for this scenario using a wave of increased profit margins, and show that reduced competition cannot explain our results either.

We also explore the contextual (due to the targets' characteristics) vs. endogenous (due to the targets' actions) effects of activism threat by conditioning our analysis on the fraction of recent

[6] Brav et al. (2010) show that targets increase payout, CEO turnover, and pay-performance sensitivity. Both 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.

targets that improve a given policy. Our evidence suggests that activism does induce some mimicking behavior among peers but such behavior may or may not be due to activism threat, as peers with high and low threat perceptions appear to mimic targets by roughly the same degree. This implies that our baseline results capture a distinct component of threat that is contextual in nature.

Next, we investigate the peers' stock returns around the time of activism threat.[7] Our definition of threat based on capital availability does not allow us to identify a sharp observable event. Even so, we find evidence that the market anticipates the positive policy changes at threatened peers. In quarters *t*-1 to *t*+1 around what we define as the threat quarter, peers with high threat perception experience statistically significant positive abnormal returns of about 90 basis points per quarter. These abnormal returns are about half of those observed in actual targets, roughly proportional to the relative magnitudes of policy changes at peers and targets.

Finally, we examine the effectiveness of the 'do-it-yourself activism' and demonstrate that firms, which proactively correct potential vulnerabilities, reduce their ex-post probability of being targeted.[8] We show that the impact of activism threat on the probability of becoming a target is weaker for peers that (i) improve certain policies or (ii) experience an increase in valuation, suggesting the presence of a feedback effect. The positive policy changes that we show seem to alleviate the need for activist monitoring and/or raise market valuations, making it more costly for an activist to enter.

We make two important contributions to the literature. First, we contribute to the broad corporate governance literature by providing evidence of a new disciplining force in the marketplace – the threat of activism. Previous work has focused mainly on the threat of hostile takeovers (Song and Walkling, 2000; Servaes and Tamayo, 2014) and motivated the use of indexes of takeover defenses as measures of external governance (for example, the G-index by Gompers, Ishii, and Metrick, 2003, and the E-index by Bebchuk, Cohen, and Ferrell, 2009).[9] However, Fos (2016) and Zhu (2013) present evidence of a substantial decline in the incidence of hostile takeovers. Our findings

[7] Activists generate significant abnormal returns at their targets, both in absolute terms and in comparison to non-activist investing (see Brav et al., 2008; Clifford, 2008; and Boyson and Mooradian, 2011).
[8] Empirically, similar feedback effects have been shown by Edmans, Goldstein, and Jiang (2012) and Bradley, Brav, Goldstein, and Jiang (2012). Bond, Edmans, and Goldstein (2012) survey the theoretical literature on this topic.
[9] See also Karpoff and Wittry (2014) and Cremers and Ferrell (2014) for recent work in this literature.

suggest that the threat of hedge fund activism may have replaced the threat of hostile takeovers as an external disciplining force.

Second, our results demonstrate positive real externalities of hedge fund activism, establishing that its impact reaches beyond the firms being targeted and may have been underestimated in previous studies. These externalities have been an important but missing ingredient in the hotly contested debate about whether hedge fund activism is good or bad for the economy.[10] We show that non-targeted peers respond to the threat of activism by reducing agency costs and improving performance, typical policy prescriptions of activists at targeted firms. This proactive mentality has positive real effects; our conservative estimates suggest that the market valuations of targets and threatened peers improve by $61 billion (1,280 x $0.949 billion x 5.0%) and $342 billion (4,150 x $3,056 x 2.7%)[11], respectively, over our sample period.

Our findings complement those of Fos (2016) and Zhu (2013) who study how a firm improves its policies by learning from its own 'mistakes' in response to the threat of external interventions such as proxy contests, shareholder activism, and hostile takeovers. In contrast, we focus on how peer firms learn from the (perceived) mistakes and corrective actions of activist targets, and institute similar policy changes to address their own vulnerabilities to activist targeting. Our findings also complement those of Aslan and Kumar (2016), who document negative spillover effects of activism due to product market competition. We isolate the positive spillover effects due to threat, and show that they are distinct from other externalities of activism.

The rest of the paper proceeds as follows. Section 2 describes our firm-year panel and outlines the peer effects framework we use to identify the effects of activism threat. Section 3 investigates the role of activism threat in inducing real policy changes at peer firms. Section 4 presents additional counterfactual and robustness analyses in support of the threat mechanism. Section 5 examines whether the market anticipates the disciplining effects of activism threat, and Section 6 studies the feedback effects of threat. Section 7 concludes.

[10] For example, see "Don't Run Away from the Evidence: A Reply to Wachtell Lipton" by Bebchuk, Brav, and Jiang, *The Harvard Law School Forum on Corporate Governance and Financial Regulation*, September 17, 2013.
[11] This assumes that only peers with high threat perception experience the threat-induced valuation improvement.

2. Data and empirical framework

2.1 Sample description

Our activism sample consists of hand-collected data on hedge fund activist campaigns between 1994 and 2011. We combine 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 US 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. We retain only the first instance of targeting within a firm-year and require that targets be matched to CRSP and Compustat. Our final sample includes 1,305 unique target-years.

As seen in Figure 1, the numbers of both targeted firms and targeted industries vary substantially over the sample period, peaking in 2005-2008. In the time series, the number of targeted industries varies less than proportionally with the number of targeted firms, suggesting that activism activity is, in part, scaled up and down in the same industry. Our measure for activism threat explores the role of hedge fund capital in predicting this variation in activism over time.

[Insert Figure 1]

We create an annual firm-year panel by merging the activism sample to the CRSP-Compustat sample of public firms. Table 1 reports important characteristics of the full panel of 62,920 firm-years[12], and Appendix A provides variable definitions. At this point, we simply note that our variables are standard and have typical distributional properties.

[Insert Table 1]

2.2 Peer effects framework

For clarity, we present the spillover effects of hedge fund activism in the social effects framework of Manski (1993). Following Leary and Roberts (2014), we model a firm's policy, y_{ijt}, as

$$y_{ijt} = \alpha + \beta \bar{y}_{-ijt} + \gamma' \bar{X}_{-ijt} + \lambda' X_{ijt} + U_{jt} + \varepsilon_{ijt}, \quad (1)$$

[12] In subsequent tests, we drop 1994-1996 due to the construction of our measure of activism threat.

where the subscripts i, j, and t correspond to firm, industry, and year, respectively. The covariate $\bar{y}_{-ijt}$ denotes peer-firm average policy (excluding firm i), and the vectors $\bar{X}_{-ijt}$ and X_{ijt} are peer-firm average characteristics and own-firm characteristics, respectively. We define a peer group as firms in the same three-digit SIC industry. The vector U_{jt} contains time-varying industry factors that affect the outcome variable, and is usually assumed to contain the time-invariant industry component and the common time component that can be absorbed through industry and time fixed effects, i.e. $U_{jt} = \delta'\mu_j + \phi'\nu_t + \kappa' u_{jt}$.

Manski (1993) refers to $\beta\bar{y}_{-ijt}$ as the endogenous effects, $\gamma'\bar{X}_{-ijt}$ as the contextual (or exogenous) effects, and U_{jt} as the correlated effects. The first two are different manifestations of peer effects; the former represent group behavior affecting individual behavior whereas the latter represent group characteristics affecting individual behavior. We view the effects of activism threat as contextual effects as policy changes are induced by the peers' average characteristic of "being targeted". Consider an indicator equal to one if a firm is targeted as an element of X. Then, the corresponding element of $\bar{X}_{-ijt}$ is simply the number of activist targets divided by the number of firms in the industry (excluding firm i), to which we refer as target frequency. Thus, proving the existence of activism threat boils down to proving that the element of γ associated with target frequency is non-zero and that it embeds among other things the effects of threat on policy actions.

Leary and Roberts (2014) show that the structural model (1) translates to the following reduced-form regression:

$$E\left(y\middle|X, u_j\right) = \alpha^* + \gamma^{*\prime} E\left(X\middle|u_j\right) + \lambda^{*\prime} X + \kappa^{*\prime} u_j, \tag{2}$$

where $\alpha^* = \frac{\alpha}{1-\beta}$; $\gamma^{*\prime} = \left(\frac{\beta\lambda+\gamma}{1-\beta}\right)'$; $\lambda^{*\prime} = \lambda'$; $\kappa^{*\prime} = \left(\frac{\kappa}{1-\beta}\right)'$

Equation (2) illustrates two challenges in identifying the effects of activism threat. First, the orthogonality between the regression residuals and the included variables, particularly the main variable of interest – target frequency, may be violated, resulting in an omitted variable bias. Second, as described by Manski (1993), the different manifestations of peer effects, endogenous vs. contextual, cannot be empirically differentiated in the reduced-form estimate of γ^*.

2.3 Peer vs. correlated effects

The first challenge is to identify the effects of activism threat as peer effects. If activism has externalities on industry peers, then the coefficient γ^* in equation (2) should be non-zero (i.e., either endogenous or contextual effects or both are present). Therefore, identifying the peer effects in a broad sense would only require that the regression residual is conditionally orthogonal to the included variables $E(X|u_j)$, X, and u_j. This orthogonality assumption is likely violated in our setting since hedge funds target firms that would benefit the most from their policy prescriptions and we do not observe the hedge funds' full information set.

To address the omitted variable bias, we need variation in an industry's target frequency that is uncorrelated with the firms' policies (except through the threat mechanism). We argue that flow-based capital available to activist hedge funds to target an industry possesses these properties. Our measure is in the spirit of Edmans, Goldstein, and Jiang (2012) who use extreme mutual fund flows as an instrument for stock price changes, and Gantchev and Jotikasthira (2016) who use institutional sell and buy fractions across a set of unrelated stocks to extract uninformed trading in a given stock.[13] We refer to this flow-based measure of activism scale in the industry as threat.

Specifically, we calculate the continuous version of threat, or *Continuous threat*, for industry *j* and year t, $\bar{Z}_{jt}$, as:

$$\bar{Z}_{jt} = \max\left[\frac{\sum_{h\in H(j,t)} FIFA(h,j,t)}{MCAP(j,t\text{-}1)}, 0\right]$$

where

$$FIFA(h,j,t) = [Flow(h,t\text{-}1) + Flow(h,t\text{-}2)] \times \frac{MCAP(j,t\text{-}1)}{\sum_{i\in J(h,t)} MCAP(i,t\text{-}1)}$$

is the flow-induced fund allocation of hedge fund *h* to industry *j* in year *t*, *MCAP*(*j*,*t*-1) is the market capitalization of all firms in industry *j*, *Flow*(*h*,*t*) is the dollar flow to hedge fund *h* in year

[13] In short, our instrument captures what the literature on institutional investing calls "push" effects, or cases in which institutions change their investment in a particular asset in response to their own circumstances (such as preferences or endowments), largely in the absence of any changes in asset fundamentals (see Coval and Stafford, 2007, for example). On the other hand, "pull" effects refer to observable and unobservable asset characteristics that draw institutions to a particular asset. In our setting, the omitted variable bias is likely caused by a pull effect in which time-varying industry conditions or shared firm characteristics simultaneously impact both activism scale and policy changes at non-targeted peers.

t, *J*(*h*,*t*) is the set of industries that hedge fund *h* is likely to target in year *t*, and *H*(*j*,*t*) is the set of hedge funds for which industry *j* is a member of *J*(*h*,*t*). We consider a hedge fund likely to target industry j in year *t* if in years *t*-1 or *t*-2, the fund (i) targets at least one firm in industry j, or (ii) follows, within a span of 1-2 years, another fund that meets criterion (i) in at least one industry other than j. Our aim is to capture the additional capital received by all activists that can launch a campaign in a given industry at a relatively low cost, either because they have had recent experience doing so or because they tend to follow others that have done so in the past.[14]

The variation in $\bar{Z}_{jt}$ comes from three sources. The first source is the match between industry j and the activists during years *t*-1 or *t*-2; a larger number of hedge funds targeting firms in industry j will result in a larger value of $\bar{Z}_{jt}$. The second source comes from the characteristics of the targeting activists; for example, if the targeting hedge funds are larger and more successful, with many others following, then their combined available capital will likely also be larger. The last source is the capital growth of the targeting activists and their followers; if these hedge funds have been more successful in the past, they will likely attract more capital and pose greater threat.

We argue that our threat proxy is relevant.[15] The literature on institutional investing suggests that when institutions have abundant capital, they are under pressure to dispose of it quickly and often invest in assets they currently hold. The average activist accumulates most of his ownership in the target in the 60 days leading up the Schedule 13D file date (Gantchev and Jotikasthira, 2016), and hence activists with additional available capital are more likely to expand their activist ownership in the industries in which they have recent experience.

We define a dummy version of threat, denoted by *Threat*, as an indicator that equals one if the continuous threat is greater than the median of all non-zero values, and zero otherwise. In Figure 2, we track the number of threatened industries, i.e., those for which *Threat* equals one, and the number of targeted industries. At the industry level, *Threat* seems to track activist targeting well. *Threat* reflects not just past targeting but also capital available to activist hedge funds, which captures additional information from outside an industry. For example, the number of threatened

[14] For example, Discovery Group launches 30 campaigns in our sample period, ten of which are in the three-digit SIC industries recently targeted by Barington Capital Group, which itself initiates 33 campaigns. By contrast, Discovery follows Loeb Partners just five times, despite Loeb's launching over 110 campaigns in our sample period.

[15] The relevance condition is $E(X|\bar{Z}, u_j^O) \neq E(X|u_j^O)$, where u_j^O is the observed components of time-varying industry conditions u_j. In our setting, we can think of $E(X|u_j^O)$ as capturing the pull effects and $E(X|\bar{Z}, u_j^O) - E(X|u_j^O)$ as capturing the incremental push effects coming from capital flows.

industries peaks in 2007, lagging behind the peak in the number of targeted industries by one year. At the same time, reflecting the contraction of hedge fund capital during the Great Recession, the number of threatened industries sharply drops in 2008-2009, despite the large number of targeted industries in the prior few years.

[Insert Figure 2]

Table 2 provides additional evidence of the predictive power of our threat measures. In columns (1) and (3), we regress an industry's target frequency in year *t* on our continuous measure of threat at the beginning of year *t* while, in columns (2) and (4), we use a dummy version of threat. Both measures are highly statistically and economically significant. For ease of interpretation of the economic effects, we focus on the dummy version here and in all subsequent analyses.[16] Based on column (2), peers in threatened industries experience a 1.5% higher probability of being targeted (a 75% increase from the unconditional probability of 2%). Importantly, even after controlling for lagged target frequencies in columns (3) and (4), the coefficients of both threat measures are still highly statistically significant, suggesting that capital availability plays a distinct role in driving the scale of activism. The last two columns show that threat retains predictive power up to two years (*t* and *t*+1).

[Insert Table 2]

With respect to the exclusion restriction, we argue that our threat proxy is plausibly uncorrelated with unobserved common industry factors (after controlling for past targeting) because the latter are *time-varying industry characteristics* that affect firm policies (and simultaneously hedge fund targeting), whereas our instrument captures *time-varying characteristics (such as size, network, flows, and capital) of specific activist hedge funds* that are likely to invest in the industry in the near future. We recognize that industry characteristics may still play an important role in attracting certain types of hedge funds; therefore, we lag the match between hedge funds and industries by (up to) two years and include other hedge funds that tend to follow the activists already targeting the industry. Further, we recognize that lagging exposes us to the concern that past targeting, which partially drives our threat measures, may be correlated with unobserved industry factors that

[16] The continuous version of threat is highly positively skewed and its economic effects are difficult to interpret using typical statistics such as standard deviation or interquartile range.

affect current policy changes. We address this concern by including lagged target frequency in our regressions to absorb such effects.

Another concern may be that investors pour money into specific activist hedge funds, having in mind a specific industry for future targeting. The literature has shown that most activists are generalists, and our flow data, inferred from 13F reports, are at the investment company level. On average, hedge fund companies invest just about 10% of their assets in activist campaigns so fund flows are unlikely to be directed to activism in specific industries. Finally, we note that unobserved fund managers' information, which drives their current targeting decisions, does not affect our threat measures since we allocate flows mechanically across prospective industries based on the firms' market capitalization. For other remaining concerns, we conduct a host of robustness analyses, described in Section 4.

2.4 Threat vs. other peer effects

The second challenge is to differentiate the effects of activism threat from other peer effects such as product market competition or pure mimicking. We address this challenge by using the cross-sectional variation of threat perception among threatened non-targeted peers. Specifically, we assume that the contextual effects of activism take the form: $\gamma = \gamma_0 + \gamma_1 D_{ijt}$, where D_{ijt} proxies for the threat perceived by the managers and directors of firm i in industry j. Thus, γ_1 captures the effects of activism threat that vary with D_{ijt}, and γ_0 captures the average contextual effects of activism, including those of product market competition and average activism threat across all non-targeted peers. Assuming that $D = 1(0)$ indicates a high (low) threat perception (which may have a direct impact on policy y as captured by φD below) and X_{ijt} is a scalar indicator for being targeted, the difference in y between firms with high and low threat perceptions is:

$$E\left(y\middle|X, u_j, D = 1\right) - E\left(y\middle|X, u_j, D = 0\right) = \gamma_1^* E\left(X\middle|u_j\right) + \varphi, \quad \text{where} \quad \gamma_1^* = \frac{\gamma_1}{1-\beta} \tag{3}$$

If the target frequency, $E\left(X\middle|u_j\right)$, is exogenous, then we can estimate γ_1^*, the effects of threat that are sensitive to threat perception, by adding D and $D \times E\left(X\middle|u_j, D\right)$ to the regression in (2).

In our implementation, we conjecture that directors who stand to lose more will be more fearful of activism, and hence, will push for changes more forcefully. In particular, we create a dummy variable, *High Threat Perception* or *HTP* (i.e., D above), which equals one if the average number

of outside board seats that firm directors hold is above the sample median. We claim that this measure is highly relevant as activists often challenge incumbent boards at targeted firms (Gantchev, 2013) and directors who get replaced in proxy contests are significantly more likely to also lose board seats at other firms (Fos and Tsoutsoura, 2014).

More importantly, we argue that *HTP* is unlikely to be related to other peer effects mechanisms in the same way it is to activism threat. First, *HTP* captures director "busyness" and busy boards are associated with poor governance, lower valuation, and greater complacency (Fich and Shivdasani, 2006). Hence, busy directors are less likely to make policy changes similar to those at activist targets. Second, as seen in Table IA.1 in the Internet Appendix, firms with high threat perception (*HTP* = 1) have significantly higher market capitalization, Tobin's *Q*, and return on assets than firms with low threat perception (as well as typical activist targets). As shown by Leary and Roberts (2014), such large and successful firms are less sensitive to policy changes at smaller peers. Thus, the endogenous effects (due to mimicking) should weaken or possibly reverse our results.

Nevertheless, we recognize several potential concerns. First, directors with more outside board seats may have better skills or networks, allowing them to respond more effectively to increased (or decreased) competition. In Section 4, we perform two additional counterfactuals to study such competitive effects. Second, instead of mimicking an average peer or a leader (as in Leary and Roberts, 2014), firms may look at targets to get guidance on which policies to change. We consider this specific form of mimicking targets as part of the effects of activism threat. In Section 4, we examine the extent to which such mimicking plays a role in shaping the policies of threatened peers.

Third, our measure of threat perception is not randomly assigned. Firms with high threat perception are naturally larger (and hence, have higher stock liquidity, institutional ownership, and analyst following, for example). Note that this should not be a concern if the variation in our threat measure is completely exogenous (conditional on the variables included in the model). One type of selection bias that is particularly problematic is that some unobserved industry factors may drive both threat and policy changes at non-targeted peers, and firms with high threat perception may be especially vulnerable. If this bias is pervasive, we should observe that these vulnerable firms would be more likely to be targeted when their industry is under threat. Table IA.2 in the Internet Appendix shows that this is not the case; both types of firms have similar target frequencies in the

full sample, and when their industries are threatened and not threatened. Section 4 presents several robustness analyses that together limit the scope to which the absence of random assignment may drive our results.

2.5 Estimation

In sum, starting from equation (2), our use of $\bar{Z}$ as a source of exogenous variation in $E(X|u_j)$ and D as a source of variation in threat sensitivity leads to the following empirical model (assuming X is a scalar):

$$E(y|X, u_j, D) = \alpha^* + (\gamma_0^* + \gamma_1^* D)E(X|\bar{Z}, u_j, D) + \varphi^* D + \lambda^* X + \kappa^{*\prime} u_j, \quad (4)$$

where $\alpha^* = \frac{\alpha}{1-\beta}$; $\gamma_0^* = \left(\frac{\beta\lambda+\gamma_0}{1-\beta}\right)$; $\gamma_1^* = \frac{\gamma_1}{1-\beta}$; $\varphi^* = \varphi$; $\lambda^* = \lambda$; $\kappa^{*\prime} = \left(\frac{\kappa}{1-\beta}\right)'$.

The reduced-form parameters in (4) can be estimated using standard methods such as 2SLS. However, for the purpose of establishing the effects of activism threat, i.e., showing that γ_1 is significant and in the right direction, we simply replace $E(X|\bar{Z}, u_j, D)$ by $\bar{Z}$. The estimated coefficient of $D \times \bar{Z}$, which captures the difference in policy change between firms with high and low threat perceptions across periods with high and low levels of activism threat, is:

$$\gamma_1^*[E(X|\bar{Z} = 1, u_j, D) - E(X|\bar{Z} = 0, u_j, D)]$$

where $\bar{Z} = 1(0)$ is the dummy version of threat. Since $E(X|\bar{Z}, u_j, D)$ and $\bar{Z}$ are positively related (see Table 2), the estimated coefficient of $D \times \bar{Z}$ is proportional to γ_1^* and by extension γ_1, assuming that $-\infty < \beta < 1$.[17]

[17] This is very likely true given the structural estimates of Leary and Roberts (2014) for leverage and Popadak (2014) for dividends. It is also reasonable to assume that the policy changes at mimicking peers will be in the same direction but smaller in magnitude than those at the targets.

3. Policy changes at peer firms

To begin, we confirm prior findings that targeted firms reduce agency costs and improve operating performance following the activist campaigns. Figure IA.1 in the Internet Appendix plots mean and median policy levels at activism targets in the five-year period around the campaign (year *t*). Two findings deserve mention. First, targets increase leverage and payout, and decrease capital expenditures and CEO pay, suggesting a reduction in agency costs. These changes seem to be widespread as seen in both the mean and median levels. Second, targets generally experience a worsening operating performance before activism, followed by a sizeable improvement in mean return on assets, return on sales, and asset turnover in the two years post-activism. These operational changes appear to take longer to implement and are not as widespread as seen by the smaller improvements in the median performance levels.

We confirm these findings in Table IA.3 in the Internet Appendix, where we regress policy levels on event year dummies (from *t-2* to *t+2*). Consistent with the univariate evidence, we find that leverage, payout, capital expenditures, and CEO pay change relatively quickly after the start of the campaign; the change in all four policies is statistically significant between *Year t*-1 and *Year t*+1 as seen in the last two rows. In contrast, improvements in return on assets, return on sales, and asset turnover seem to take longer and are statistically significant between *Year t* and *Year t*+2. Based on these findings, we choose a two-year horizon in investigating policy changes at non-targeted peers but look at the period between *t*-1 to *t*+1 for financial and investment policies and between *t* to *t*+2 for operating performance.

We next examine changes in these policies at peers in threatened three-digit SIC industries. Recall that these are industries where our capital-based measure of activism threat is greater than the sample median. Figure 3 plots the mean and median differences in policy levels (from *t*-2 to *t*+2) between peers with high and low threat perceptions. In relative terms, peers with high threat perception increase mean/median book leverage and payout, and decrease cash holdings. We also observe an increase in the mean/median levels of return on assets, return on sales, and asset turnover. These results are in line with the reduction in agency costs and improvement in operating performance observed at actual targets.

[Insert Figure 3]

Table 3 reports OLS regressions of changes in policy variables (from *t*-1 to *t*+1) and performance variables (from *t* to *t*+2) on dummies for whether a firm is in a threatened industry (*Threat*) and whether it perceives a high level of threat (*HTP*). Unless otherwise noted, all models include firm-level controls as in Leary and Roberts (2014), a dummy for whether the firm undergoes bankruptcy (which may impact policy outcomes), policy quintile dummies to capture the flexibility of a firm to change a policy as well as industry and calendar year fixed effects. All control variables are measured as of year *t*-1 except the bankruptcy dummy, which is as of year *t*.

In addition, we add dummies for being a past, current, or future target to control for changes in policies that may be driven by the firm being targeted at some point around the threat year. At the industry level, we control for industry target frequency in the past two years to absorb the variation in *Threat* attributable to past activism, and include *Threat year t-2* – a dummy equal to one if the industry will be under threat in two years – to control for pre-event trends that may drive differential policy trajectories at firms with high vs. low threat perceptions.

[Insert Table 3]

The explanatory variable of interest is the interaction between *Threat* and *HTP*, which captures difference in policy changes between firms with high and low threat perceptions around the time that the industry is under threat. Consistent with the univariate evidence, relative to peers with low threat perception, peers with high threat perception significantly increase their book leverage and payout, and decrease their cash holdings. They also reduce capital expenditures and CEO compensation but these changes lack statistical significance. In economic terms, the increase in leverage (payout) is 0.8% (0.4%) higher among peers with high threat perception, and the decrease in cash holdings is 0.6% higher. Our results are consistent with the predictions of agency theory, and generally directionally similar to the changes observed at actual targets. The magnitudes of the changes among peers are about 40-50% of those at the targets. The exceptions are cash holdings, which threatened peers significantly reduce (unlike the targets), and CEO pay, which threatened peers do not change.[18]

[18] The documented magnitudes at peers may seem large, given the average target probability of 2% in normal times and slightly less than 4% during times of activism threat. We argue that risk-averse CEOs and directors may be willing to sacrifice some private benefits from specific policies (e.g., not returning cash to shareholders) to preserve their direct benefits from being employed (e.g., compensation and reputation), consistent with the lack of observable decrease in CEO pay despite significant changes in financial policies.

As for performance variables, peers with high threat perception significantly improve their return on assets and asset turnover, relative to their industry counterparts with low threat perception. Their return on sales also increases but this effect is not statistically significant. In economic terms, the increase in return on assets (asset turnover) is about 0.5% (0.9%) higher among peers with high threat perception. These magnitudes are about 30-40% of those observed at actual targets. We also note here that industry-level controls do not seem to significantly affect policy changes, but many of the firm-level controls do. The effects of firm characteristics are generally as expected; for example, firms with higher market-to-book and EBITDA-to-asset ratios tend to decrease leverage while the opposite is true for firms with higher asset tangibility.

As suggested by the anecdotal evidence discussed earlier, the managers and directors of peer firms frequently hire advisors to assess policy vulnerabilities (e.g., excess cash that could be returned to shareholders). Such vulnerabilities are firm-specific, and hence, different firms may change different policies depending on their perceived shortcomings. To test this conjecture, we divide firms at the industry median for each policy, and refer to the half with higher agency costs or worse performance as vulnerable. We then run our baseline regressions separately for the subsamples of vulnerable and non-vulnerable firms. Table 4 reports the results.

[Insert Table 4]

We show that peers that are vulnerable with respect to a given policy are more likely to change that policy. For example, threatened peers with below-median leverage increase leverage by about 1.5% (significant at 5%) whereas peers with above-median leverage increase leverage by only 0.3% (not statistically significant). Across all policy and performance variables, the magnitudes of the changes at vulnerable peers are larger than those obtained from the full sample of peers. Note also that even the effects of activism threat on CEO pay and return on sales, which are not significant in the full sample, are now significant at 10%. None of the policy changes in the sample of non-vulnerable threatened peers are significant.

Together, the results in Tables 3 and 4 demonstrate that activism threat has a disciplining effect on peers, which respond by reducing agency costs and improving operating performance. These effects are similar to those documented by Fos (2016) who shows that firms exposed to potential proxy contests increase leverage, dividends and CEO turnover, and reduce capital expenditures. However, our results differ from the baseline results of Aslan and Kumar (2016) who demonstrate

that rivals of activist targets experience significant deterioration in cash flows and return on assets as the targets become more competitive in their product markets. Recall that we identify the effects of activism threat across peers with differing degrees of threat perception, whereas Aslan and Kumar (2016) show the average effects across all peers. Furthermore, when they divide peers into those that are more vs. less likely to be targeted in the future, they find results consistent with ours: peers in the former group, arguably more threatened, experience no negative performance effects while those in the latter group bear the brunt of the negative externality. In the next section, we conduct a host of robustness tests, including some designed to differentiate the effects of activism threat from those of product market competition.

4. Robustness tests

4.1 Can common industry factors or shared firm characteristics explain our results?

In our baseline analysis, we use *Threat*, flow-driven capital available to activist hedge funds (as a fraction of the combined market capitalization of all firms in an industry), as an exogenous source of variation in activism. The idea is to capture *time-varying hedge fund characteristics* (size, network, flows, and capital), which are arguably uncorrelated with time-varying industry conditions that may drive both firm policies and activist targeting. Nevertheless, it is impossible for us to show that our threat measure is fully exogenous. Therefore, we report several counterfactual/robustness analyses to address specific types of correlated effects that may confound our results.

In Table 5, we present two examples of counterfactual industry waves targeting two specific alternative hypotheses. First, activists may be skilled at picking industries that undergo certain changes, which affect optimal policies for all firms in the industry; some firms may change voluntarily while others may be resistant to change, and hence, targeted by activists. This scenario may generate a positive association between activism threat and policy changes at peer firms. To capture this idea, we create a policy wave dummy by picking industry-years in which the majority of peers significantly improve a particular policy (e.g., leverage). We define a significant improvement as a policy change that is in the top quartile across all firm-years in our sample. In Panel A, we replace our proxy for activism threat with this policy wave to examine whether it generates similar policy changes at industry peers.

[Insert Table 5]

We first note that the coefficient on the *Policy wave* dummy is highly statistically and economically significant in all models, validating our construction of wave. More importantly, the coefficient on the interaction between *Policy wave* and *HTP* is rarely statistically significant, except for return on assets and return on sales, which have the opposite signs to our baseline results in Table 3. That is, firms with high threat perception, or those whose directors hold above-median number of outside board seats, do not respond to the policy wave more promptly than peers with low threat perception, consistent with the literature on busy boards. Overall, it appears that changing industry conditions associated with significant policy changes at the majority of industry peers do not lead to the same effects as those of activism threat.

Another concern may be that our capital-based proxy for threat broadly reflects available capital in the economy, which may be responsible for or correlated with the scale of other capital-driven transactions, such as mergers. Activists often exit their campaigns through mergers and may therefore choose industries that experience a merger wave.[19] Moreover, firms with high threat perception tend to be larger and may change certain policies to take advantage of a merger wave as potential bidders. Thus, the documented effects of activism threat may instead be due to the differential responses of peers to a capital-driven merger wave.

To test this alternative hypothesis, we follow Harford (2005) and define a merger wave dummy as being one for industry-years in which the number of mergers is at least 20% of all mergers in the industry over the period 2000-2011. We use merger data from Thomson Reuters SDC Platinum, and manually verify key transaction details as described in Boyson, Gantchev, and Shivdasani (2016). We also require that the total number of mergers in the industry is greater than five. In Panel B of Table 5, we replace *Threat* with *Merger wave* in our regressions, and find that the coefficient on the interaction between *Merger wave* and *HTP* is not statistically significant in any specification, except cash holdings (significant at 10% but with opposite sign to our baseline results). Thus, a merger wave does not produce results similar to those of activism threat. Table IA.4 in the Internet Appendix provides further evidence that the policy changes we show are not driven by the proclivity of peers with high threat perception to be bidders. Adding controls for whether a peer firm is a bidder in years t-1 to t+1 does not materially affect the significance of the

[19] Greenwood and Schor (2009) show that campaigns that end in a merger yield the highest return for activists.

interaction between *Threat* and *HTP*.[20]

To provide more general evidence that differences in observable characteristics between peers with high and low threat perceptions do not drive our results, we also perform a matched sample analysis. Specifically, we match a high threat perception firm to the closest low threat perception firm in the same deciles of market capitalization and institutional ownership, two of the most important drivers of activist targeting. This procedure eliminates most of the differences in observable characteristics between the two types of firms, as reported in Table IA.5.[21] The results in Table 6 confirm our baseline findings, suggesting that the policy changes we show are not driven by the cross-section of peers with different observable characteristics responding differentially to unknown industry factors.

[Insert Table 6]

In Table 7, we provide a final piece of evidence that our findings are likely due to activism threat rather than industry-specific shocks. Specifically, we examine whether the non-core segments of a diversified firm experience similar policy or performance changes as its core segment (segments defined as three-digit SIC). If such policy changes are driven by shocks to the core industry, we should not observe similar changes in the non-core segments. This test uses business segment data from Compustat and comes with two caveats. First, we can construct only four of our eight outcome variables at the segment level – capital expenditures, return on assets, return on sales, and asset turnover. Second, segment data are very noisy and most firms either do not report or do not have non-core segments, both of which reduce statistical power. Our analysis includes only non-core segments and the observations are at the segment-year level.

[Insert Table 7]

Focusing on the interaction between *Threat* and *HTP*, we see that even non-core segments significantly improve return on assets and return on sales. The changes in capital expenditures and asset turnover are not statistically significant but have the same signs as our baseline results.

[20] We also find that bidders increase leverage and reduce cash even more than other threatened peers, confirming that they indeed use a combination of leverage and cash to make acquisitions. This is consistent with our results in Panel B of Table 5 that firms that look like potential bidders tend to (insignificantly) decrease leverage and increase cash holdings.

[21] The only remaining differences are in leverage, Tobin's Q and analyst following, all marginally significant.

To examine the rest of the policies of interest, we modify the test by examining, at the firm level, diversified firms whose core segments account for less than 80% of total sales. Table IA.6 in the Internet Appendix shows that these diversified firms increase leverage and payout, decrease cash holdings, and improve asset turnover, consistent with our baseline results. Overall, despite the substantially reduced sample sizes, the two segment tests suggest that our results are likely not driven by industry-specific shocks.

4.2 Can alternative peer effects mechanisms explain our results?

The last set of robustness tests address the second challenge we face – identifying the effects of activism threat from those of alternative peer channels. The most plausible such alternative is product market competition whereby peers respond to the improved competitive position of targeted firms rather than to the threat of activism. To test this channel, we follow Fresard (2010) and use reductions of import tariffs as a plausibly exogenous increase in product market competition. Specifically, we define a *Tariff drop* dummy based on whether the average tariff rate in an industry-year falls by more than two standard deviations (calculated within each three-digit SIC over the period from 1996 to 2015). We estimate the average tariff rate for each industry-year as calculated duties divided by customs value of imports for consumption. Both the duties and customs values are collected by the U.S. International Trade Commission and reported at the ten-digit U.S. Harmonized Code (HC) level. We map multiple ten-digit HCs to each three-digit SIC using the concordance table provided by Pierce and Schott (2009).

As is common in the literature, we restrict our analysis to manufacturing industries (three-digit SIC between 200 and 399) for which the tariff data are available. To make sure that our baseline results are still present in this subsample, in Table IA.7 in the Internet Appendix, we show that manufacturing firms increase book leverage and payout, reduce cash holdings, and improve return on assets and asset turnover, in line with our full-sample results.

[Insert Table 8]

In Panel A of Table 8, we investigate the response of manufacturing firms to a tariff drop that increases competition in their industries. Firms with high threat perception reduce leverage, and increase capital expenditures and cash, as seen from the statistically significant coefficients on the interaction between *Tariff drop* and *HTP*. These results are in contrast to what we demonstrate for

activism threat but consistent with the average effects of increased competition documented by Fresard and Valta (2016). Other firm policies do not experience statistically significant changes. Thus, the effects of increased competition on firm policies, if present in the context of activism, should either not affect or reduce the observed effects of activism threat.

In Panel B of Table 8, we consider an alternative product market effect, whereby the target firm does not improve its competitive standing (as in the test above) but rather reduces competition in the industry. This may be due to product differentiation and/or innovation (see Brav et al., 2016), which may expand the overall amount of industry profits. We create an *Increased margin wave* by picking industry-years in which the majority of firms in the industry significantly improve their return on sales. The interaction between *Increased margin wave* and *HTP* is not statistically significant (except in the return on sales and asset turnover models), indicating that reduced competition is unlikely to produce the results we document for activism threat.

Finally, we attempt to differentiate the effects of threat as contextual (due to the targets' characteristics) vs. endogenous (due to the targets' actions). In seeking to fend off activists, peers may get guidance on which policies to change by benchmarking against recent targets in the industry; hence, the effects of activism threat may also include an endogenous effect but one that is narrowly focused on targeted peers and triggered by their characteristics. Manski (1993) discusses in detail the "reflection" problem – the endogenous and contextual effects cannot be separately identified in most cases. Nevertheless, following the analysis of Leary and Roberts (2014), we look for suggestive evidence. We split industry-years with targeting in the past two years into two groups by the fraction of targets that improve a given policy (e.g., increase leverage or decrease capital expenditures). We then use a dummy, *Targets improve*, to indicate the industry-years that lie above the median, and interact this dummy with *Threat* and *HTP* to disentangle the contextual and endogenous components of activism threat. Before we discuss Table 9, we note that our results are merely suggestive since policy changes at targets are likely not exogenous and may instead capture unobserved time-varying industry characteristics.

[Insert Table 9]

First, our main effects, captured by the coefficients of the interaction between *Threat* and *HTP*, remain largely the same as our baseline results. Second, the coefficients of the interaction between *Targets improve* and *Threat* are also significant and in the right direction for book leverage, payout,

cash, return on assets, and asset turnover. Third, the three-way interaction term among *Targets improve*, *Threat*, and *HTP* is insignificant in all models. Together, these results suggest that activism does induce some mimicking behavior among peers but such behavior may or may not be due to activism threat as peers with high and low threat perceptions appear to mimic targets by roughly the same degree. Leary and Roberts (2014) discuss various reasons for policy mimicking, one of which is product market competition. In the end, our main effects are not explained by mimicking, confirming a distinct component of threat that is contextual in nature. Threatened peers do not simply mimic recent targets in their industry; they also make their own assessment of which policies to improve, given the general playbook of activists.

In sum, we argue that the collection of presented evidence strongly suggests that the effects of activism threat are a specific form of peer effects.

5. Peer firm returns

We continue our investigation of the peer effects of activism threat by examining changes in peer firms' valuation around the time of threat. We conjecture that the share price response will be positive due to the market's expectation that peers will improve their policies to avoid being targeted, and/or due to a higher likelihood that the peers that do not improve will become future activist targets. Our conjecture follows from the findings of the previous literature that targets themselves experience significant positive abnormal returns at the announcement of activism.[22]

In Table 10, we study the peers' stock price reaction to activism threat by estimating quarterly abnormal returns from quarters *t*-2 to *t*+2, where *t* is the quarter in which we define an the industry as threatened. Consistent with our policy analysis, we code the activism threat dummy for an industry-quarter as one if the continuous threat measure calculated on a rolling basis over the past eight quarters is greater than the sample median of 0.0012. This is the same cutoff that defines the activism threat dummy at the annual frequency. Note that our threat measure is based on the capital available to hedge funds to target a specific industry and we define an event when this threat measure rises above a certain level. As such, we do not have a sharp observable event as in

[22] In their review of the literature, Brav et al. (2010) report abnormal returns of 6% for the [-20, +20] daily window around announcement. Klein and Zur (2009) find a [-30, +30] market-adjusted return of 7.2% while Clifford (2008) estimates a [-2, +2] market-adjusted return of 3.39%. For longer horizons, Clifford (2008) reports three- and four-factor monthly alphas between 1.5% and 1.9% in the year following activism.

a typical event study, and therefore, report average quarterly abnormal returns for threat quarters *t*-1 to *t*+1 to smooth out noise and better capture the market's expectation around the time of threat.[23]

We calculate quarterly abnormal returns, including dividends, using three benchmarks: (i) CRSP value-weighted returns to calculate market-adjusted returns in columns (1) and (2), (ii) value-weighted returns of the Fama-French 25 size and value portfolios to calculate FF25VW-adjusted returns in column (3), and (iii) equally-weighted returns of the Fama-French 25 size and value portfolios to calculate FF25EW-adjusted returns in column (4). We simply subtract the benchmark return from each peer's stock return to avoid estimating parameters of market models that may not be stable around events like ours. We control for whether a firm files for bankruptcy and include calendar year fixed effects and firm fixed-effects to absorb firm-level persistence in returns relative to the benchmarks.

[Insert Table 10]

Column (1) reveals that in the three quarters around the time that activism threat becomes apparent, an average peer experiences a positive return of about 1.3%, which is not statistically significant. This result does not differentiate the effects of activism threat from those of alternative peer effects mechanisms. For example, Aslan and Kumar (2016) show that due to product market competition, a target's improvement comes at the expense of rival firms, which suffer negative abnormal returns upon the announcement of activism at the target. Thus, the positive effects of threat and the negative effects of product market competition (and other peer effects channels) may partially offset, rendering unclear the sign and magnitude of abnormal returns.

In columns (2)-(4), we interact the dummies for *Quarter t*-1 *to t*+1 with an indicator for firms with high threat perception (*HTP*). Regardless of the risk adjustment benchmark, the models in columns (2)-(4) show that the market anticipates a positive valuation effect associated with the threat of activism. The coefficient on the interaction term is 0.9% per quarter and statistically significant, indicating that peers with high threat perception experience on average 0.9% higher quarterly returns compared to peers with low threat perception.

[23] Table IA.8 in the Internet Appendix reports abnormal returns for each individual quarter and generally supports the conclusion that peers experience a share price appreciation around the time of threat.

The bottom of Table 10 also reports the respective returns for the targets of activist campaigns. We observe that targets experience negative abnormal returns in the two quarters leading up to the campaign, confirming findings in the previous literature. The mean targets' returns turn positive in the quarter of the activist campaign and range between 4.8% and 5.2% per quarter. Thus, the mean peers' returns attributable to activism threat (0.9% x 3 = 2.7%) are about half of the returns of actual targets. This large magnitude is likely due to the threatened peers' significant policy changes, which tend to be more than the expected changes (i.e., increase in targeting probability x expected change conditional on being targeted).

6. Feedback effects of activism threat

In this section, we examine whether the improvements implemented by threatened peers reduce their probability of being targeted. This feedback effect could result from two sources: (i) the improvements at peers may alleviate the problems which would have required the involvement of an activist, and/or (ii) these changes, or the expectation that they are about to happen, may raise the peers' market valuation, making it less profitable for an activist to initiate a campaign.

In Table 11, we estimate linear probability models of activist targeting where the dependent variable is a dummy equal to one if a hedge fund activist targets a firm in years *t* or *t*+1. All the independent variables are as of the end of year *t*-1, with the exception of the bankruptcy dummy, which is as of year *t*. Though denoted as a contemporaneous variable, *Threat* reflects information available at the beginning of year *t*, as described in Section 2. In column (1), the coefficient of *Threat* is positive and statistically significant, consistent with our industry-level evidence in Table 2. Being in a threatened industry increases a firm's probability of becoming a target by 0.8%, or about 20% of the unconditional probability over a two-year period.

[Insert Table 11]

We estimate the effects of a firm's policy improvements by an *Avg. improvement z-score.* To compare policy changes on the same scale, we calculate *Improvement z-score* for a given policy as the difference between a firm's improvement (e.g. increase in leverage or decrease in cash holdings) from years *t*-1 to *t*+1 and the average industry change over the same period, divided by the cross-sectional standard deviation. We set *Improvement z-score* to zero if it is negative to capture only relative improvement rather than deterioration. *Avg. improvement z-score* is the

average of *Improvement z-score* across all eight policy and performance variables. The results in column (2) of Table 11 show that policy improvements have a negligible impact on the probability of being targeted when the industry is not threatened (insignificant coefficient of *Avg. improvement z-score*) but significantly reduce such probability when the industry is under threat (significantly negative coefficient of *Threat* x *Avg. improvement z-score*). In economic terms, the average improvement z-score for threatened peers is about 0.3, implying that an average peer manages to reduce its probability of being targeted by 0.0063 (=0.3 x -0.021). This reduces the average effect of activism threat from about 1.4% to 0.8%, as shown in column (1).

In column (3), we investigate the effect of a firm's valuation improvement on its probability of being targeted. We measure the firm's valuation improvement by its average quarterly abnormal returns in year *t*, calculated with respect to the matched Fama-French 25 value-weighted size and value portfolios. The coefficient on *Abnormal return* is negative and statistically significant, suggesting that higher valuation makes it more costly for an activist to initiate a campaign even when the industry is not threatened. More importantly, the coefficient on the interaction between *Threat* and *Abnormal return* is also negative and statistically significant, indicating that a threatened peer's valuation improvement has an even larger negative effect when the industry is under threat. The economic magnitude is relatively small for an average threatened peer that sees an average abnormal return of about 0.5%, resulting in a reduction in the incremental probability of being targeted by just 0.0003 (=0.005 x -0.063). However, some peers experience relatively high abnormal returns; for example, those at the 75th percentile have an average quarterly abnormal return of about 5%, which reduces their incremental probability of being targeted by 0.0032 (or about 0.3%, which is large compared to the average threat effect of 0.8%).

The effects of policy and valuation improvements retain virtually the same statistical and economic significance when we combine them in column (4), suggesting that both policy improvements and increased valuation have independent effects in reducing the probability of being targeted. Since peers that make significant policy improvements tend to enjoy higher abnormal returns as well, the compound effects of the two channels can be quite substantial.

The last two columns split the sample of peers into those with low and high threat perception (HTP=0 and HTP=1, respectively). Even though firms with high threat perception are more likely to change, firms with low threat perception see similar reductions in the probability of being targeted if they implement policy improvements or experience higher valuations. Thus, the

changes implemented by peers with high threat perception do not appear to be driven by firms that are more exposed to threat and stand to benefit more from policy improvements.

The feedback effect we show supports the idea that activism plays a disciplinary role at non-targeted firms. However, we note that our evidence here is only suggestive since in the presence of feedback, the net increase in the probability of being targeted (due to threat), the expected 'preemptive' policy improvements, and the market valuation are simultaneously determined. This is a fixed-point problem in which the equilibrium is reached when all three rationally reflect each other, given other exogenous forces, such as the costs and frictions associated with policy changes. Without a natural experiment or clean instruments for policy changes, we are left with somewhat imperfect tests.

7. Conclusion

This paper investigates the role of activism threat in inducing policy changes at non-targeted peers and examines whether such proactive responses are effective in fending off activists. We find that peers respond to activism threat by reducing agency costs and improving operating performance in the same way as the targets. Our empirical design identifies the effects of activism threat from those of common industry factors and alternative peer effects mechanisms by relying on a combination of (i) an exogenous variation in the scale of activism coming from hedge fund capital, and (ii) the cross section of firms whose directors are expected to bear different costs if they are targeted. We also employ a host of robustness and falsification tests to minimize the scope for alternative mechanisms to explain our results. Finally, we find that the peers' positive policy changes are anticipated by the market and reflected in stock valuations. As a result, these peers see a significant reduction in their ex-post probability of being targeted, indicating that this 'do-it-yourself activism' is indeed effective.

Together, our results provide novel large-scale evidence of positive externalities of shareholder activism on industry peers, establishing that the impact of activism reaches beyond the firms being directly targeted. Such externalities have been an important but missing ingredient in the hotly contested debate on whether hedge fund activism is good or bad for the economy.

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Appendix A: Variable Definitions

Activism threat and its components

Variable	Observation	Definition
Flow	HF-year	*Flow*(*h*,*t*) is the sum of dollar flows to hedge fund *h* in all quarters of year *t*. Quarterly flow is calculated as the market value of all stock holdings at the end of the current quarter minus the hypothetical market value if end of previous quarter holdings were kept through the current quarter. Source: Thomson Reuters.
Flow-induced fund allocation	HF-SIC3-year	*FIFA*(*h*,*j*,*t*) denotes the dollar flows in years *t*-1 and *t*-2 that hedge fund *h* may allocate to prospective industry *j* in year *t*. Allocations across all prospective industries of hedge fund *h* are assumed proportional to the market capitalization of all firms in each industry. $$FIFA(h,j,t) = [Flow(h,t\text{-}1) + Flow(h,t\text{-}2)] \times \frac{MCAP(j,t\text{-}1)}{\sum_{i \in J(h,t)} MCAP(i,t\text{-}1)}.$$
Prospective activists	SIC3-year	*H*(*j*,*t*) is the set of hedge funds considered likely to target firms in industry *j* in year *t*. These include (i) hedge funds that target firms in industry *j* during years *t*-1or *t*-2, and (ii) other hedge funds whose activism activities in years *t*-1or *t*-2 follow within a year those of the hedge funds in (i) in at least one industry other than *j*.
Prospective industries	HF-year	*J*(*h*,*t*) is the set of 3-digit SICs for which hedge fund *h* is a prospective activist.
(Continuous) threat	SIC3-year	Continuous threat for industry *j* in year *t* is the sum of *FIFA*(*h*,*j*,*t*) across all prospective activists *h*, normalized by the market capitalization of all firms in industry *j*, if positive, and zero otherwise: $$\bar{Z}_{jt} = \max\left[\frac{\sum_{h \in H(j,t)} FIFA(h,j,t)}{MCAP(j,t\text{-}1)}, 0\right].$$ Threat is an indicator that equals one if continuous threat is greater than the median of all non-zero values (0.0012), and zero otherwise.
Threat event quarters	SIC3-quarter	Set of dummy variables defining calendar quarters relative to a threat event. *Threat quarter t* equals one if the value of *Continuous threat* calculated on a rolling basis over the past eight quarters is greater than the sample median.

Other variables

Variable	Observation	Definition
Abnormal returns	Firm-quarter	Quarterly stock return minus contemporaneous benchmark return. We use three benchmarks: (i) CRSP value-weighted returns for market adjustment, (ii) value-weighted returns of Fama-French 25 size and value portfolios for FF25VW adjustment, and (iii) equally-weighted returns of Fama-French 25 size and value portfolios for FF25EW adjustment. Source: CRSP.
Asset turnover	Firm-year	Total sales divided by the average of the book values of assets at the beginning and end of the year. Source: Compustat.
Book leverage	Firm-year	Debt (long-term debt plus debt in current liabilities) divided by the sum of debt and common equity. Year-end values. Source: Compustat.
Capex/Assets	Firm-year	Sum of capital expenditures and R&D expenses divided by the book value of assets at the beginning of the year. Source: Compustat.
Cash/Assets	Firm-year	Cash and short-term investments divided by total assets. Year-end values. Source: Compustat.
Bankruptcy	Firm-year	Dummy variable equal to one if the firm files for bankruptcy during the year and zero otherwise. Source: Capital IQ.

Variable	Observation	Definition
EBITDA/Assets	Firm-year	Earnings before interest, taxes, depreciation, and amortization divided by the book value of assets at the beginning of the year. Source: Compustat.
High threat perception (HTP)	Firm-year	Dummy variable equal to one if the average number of outside board seats that each director of the firm holds at the beginning of the year is greater than the sample median, and zero otherwise. For observations with missing board data, the dummy equals zero. Source: BoardEx.
Improvement z-score	Firm-year	Standardized policy or performance improvement. For policies for which an increase is considered an improvement, improvement z-score is *max[(change - mean(industry, year))/ stddev(industry, year), 0]*. For other policies, improvement z-score is *max[(mean(industry, year) - change)/ stddev(industry, year), 0]*. Change is measured from years *t*-1 to *t*+1 for policies and from years *t* to *t*+2 for performance. Avg. improvement z-score is the average across all policy and performance variables, ignoring missing values. Source: Compustat.
Inst. ownership	Firm-year	Total ownership (as % of shares outstanding) of institutional investors who file 13F reports. Year-end values. Source: Thomson Reuters.
ln(Analysts)	Firm-year	Natural log of (one plus) the number of analysts following the firm during the year. Source: I/B/E/S.
ln(CEO pay)	Firm-year	Natural log of total CEO compensation for the year. Source: Execucomp.
ln(Market cap)	Firm-year	Natural log of the firm's market capitalization at the end of the year. Source: CRSP and Compustat.
ln(Sales)	Firm-year	Natural log of the firm's total sales for the year. Source: Compustat.
ln(Stock turnover)	Firm-year	Natural log of the firm's average daily stock turnover during the year. Daily stock turnover is the ratio of the number of shares traded on each trading day to the number of shares outstanding at the end of the year. Source: CRSP.
ln(Tobin's Q)	Firm-year	Natural log of Tobin's Q, which is calculated as the market value of common equity plus the book value of debt (long-term debt plus debt in current liabilities) divided by the sum of book values of common equity and debt. Year-end values. Source: CRSP and Compustat.
Market-to-book ratio	Firm-year	Ratio of market value to book value of common equity at the end of the year. Source: CRSP and Compustat.
Net PPE/Assets	Firm-year	Book value (net of depreciation) of property, plant, and equipment divided by book value of assets. Year-end values. Source: Compustat.
Ongoing campaign	Firm-year	Dummy variable equal to one if an activist campaign is ongoing as of the beginning of the year, and zero otherwise. Source: Schedule 13D.
Payout/Market cap	Firm-year	Sum of dividends and share repurchases divided by market capitalization at the beginning of the year. Source: Compustat.
Past campaigns	Firm-year	Natural log of (one plus) the number of hedge fund activist campaigns targeting the firm in the preceding three years. Source: Schedules 13D.
Policy quintile dummies	Firm-year	Set of five dummy variables defining the quintile in which the firm's policy at the beginning of the year lies relative to the policies of other firms in the same 3-digit SIC. Source: Compustat.
Return on assets	Firm-year	Operating cash flow divided by the average of the book values of assets at the beginning and end of the year. Source: Compustat.
Return on sales	Firm-year	Operating cash flow divided by annual sales. Source: Compustat.
Sales growth	Firm-year	Percentage change in total sales from the previous year to the current year. Source: Compustat.
Target event years (quarters)	Firm-year (firm-quarter)	Set of dummy variables defining year (quarter) relative to a target event. *Target year t* equals one if the firm is targeted by an activist during the year.
Target frequency	SIC3-year	Number of firms targeted by activist hedge funds during the year divided by the total number of firms at the beginning of the year. Both quantities are for each 3-digit SIC, based on firms with available CRSP/Compustat data.

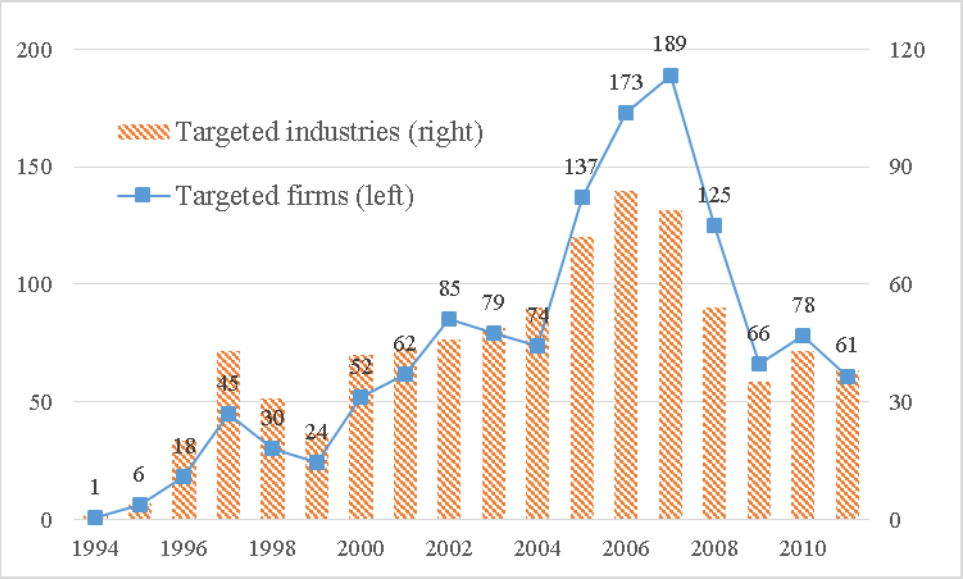

Figure 1: Numbers of Activist-Targeted Firms and Industries Over Time. This figure plots frequency counts of firms (blue line with square markers) and three-digit SIC industries (patterned orange bars) targeted by hedge fund activists over the sample period from 1994 to 2011. Included are only targeted firms matched to CRSP, Compustat, and Thomson Reuters 13F.

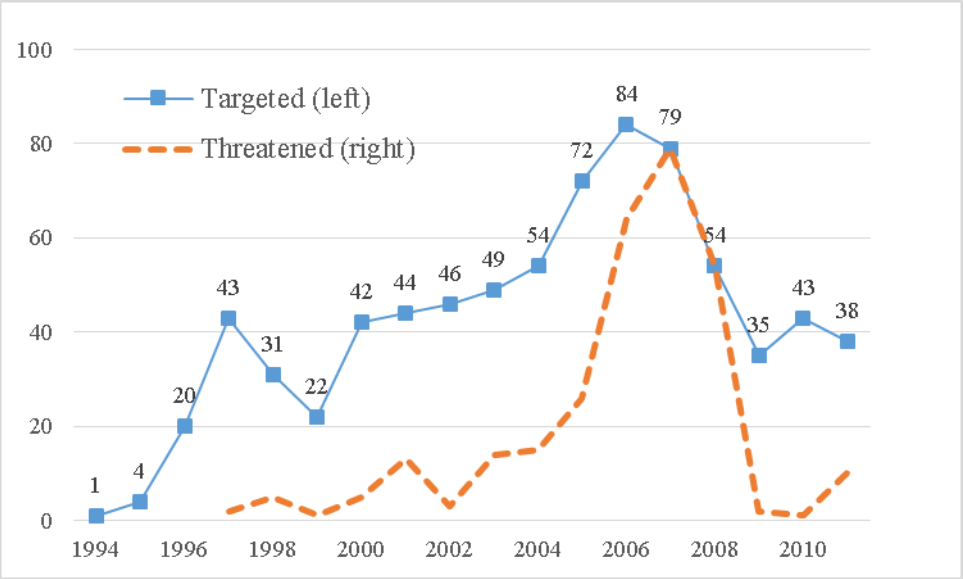

Figure 2: Numbers of Activist-Targeted and Threatened Industries Over Time. This figure plots frequency counts of activist-targeted (blue line with square markers) and threatened (dashed orange line) three-digit SIC industries. Targeted industries are those with at least one firm targeted by an activist hedge fund in a given year over the period from 1994 to 2011. Threatened industries are defined (in Appendix A) over the period from 1997 to 2011 (1994-1996 are dropped due to the calculation of threat). Included are only industries with at least five firms matched to CRSP, Compustat, and Thomson Reuter 13F.

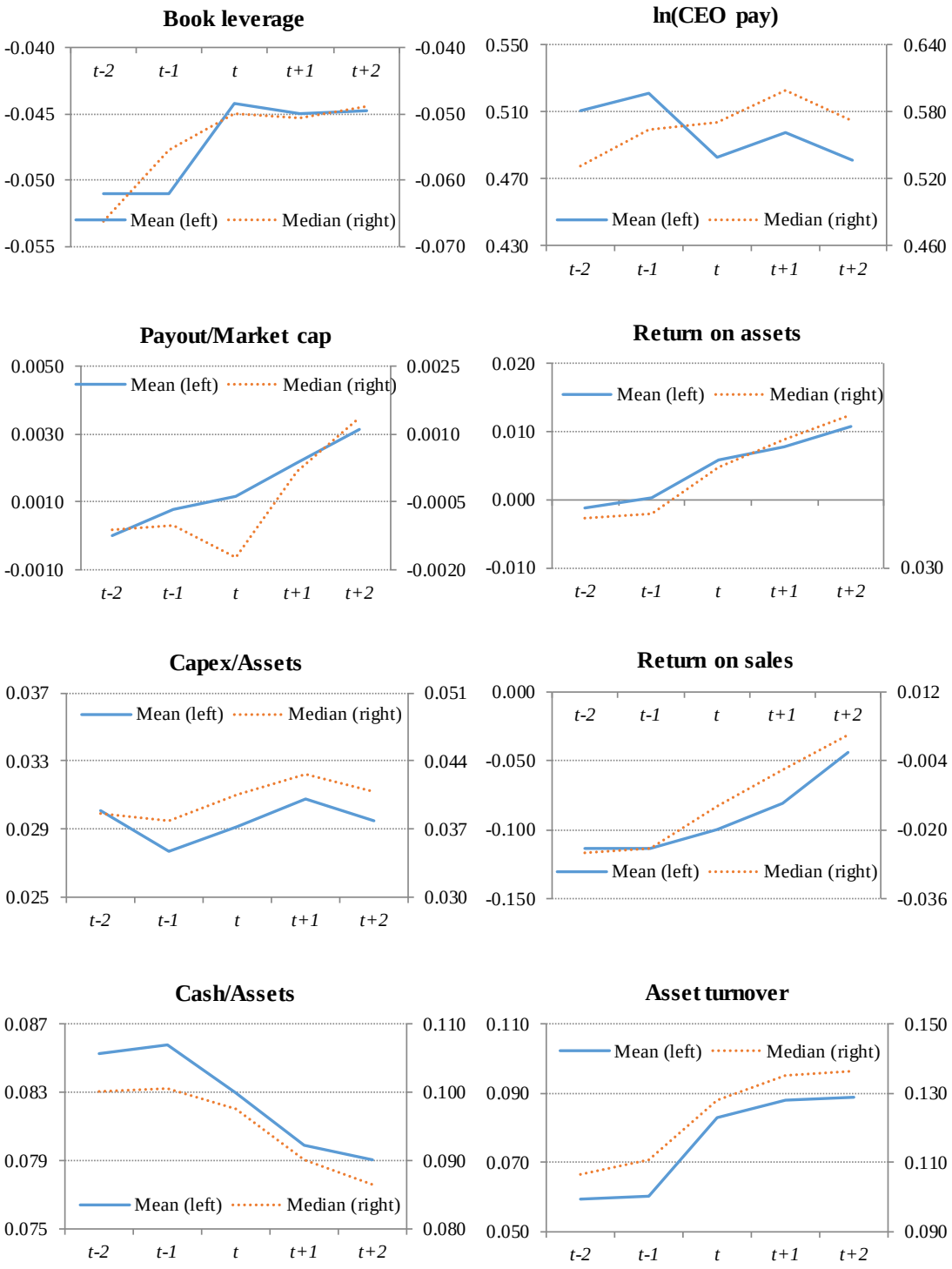

Figure 3: Policy Changes at Threatened Peer Firms. This figure plots mean and median differences in financial, investment, and operating policies between industry peers (of activist targets) with high and low threat perceptions (*High threat perception* or HTP = 1 and HTP = 0, respectively). The sample period is 1997-2011 (1994-1996 are dropped due to the calculation of threat). The statistics are calculated for event years *t*-2 to *t*+2, where year *t* is the year in which the industry is under threat. Threat, HTP, and all policy variables are defined in Appendix A.

Table 1: Summary Statistics

This table reports summary statistics for key firm-level variables. The sample includes all firms that have non-missing CRSP, Compustat, and Thomson Reuters 13F data and are in three-digit SIC industries with at least five firms. The observations are firm-year, and the sample period is 1997-2011 (1994-1996 are dropped due to the calculation of threat). The number of observations is 62,920, with *CEO compensation* available for 22,976 observations, *Analysts* available for 26,824 observations, and *Outside board seats per director* available for 45,412 observations. The number of unique firms is 7,421, and the number of unique three-digit SIC industries is 237. All variables are winsorized at 2.5% and 97.5%, and are defined in Appendix A.

	Mean	Std. Dev.	5th PCT	25th PCT	Median	75th PCT	95th PCT
Market cap. ($ million)	1,674	3,953	9	57	247	1,065	10,211
Book leverage	0.303	0.272	0.000	0.026	0.263	0.512	0.799
Payout/Market cap.	0.021	0.033	0.000	0.000	0.002	0.031	0.095
Capex/Assets	0.092	0.116	0.000	0.005	0.050	0.130	0.349
Cash/Assets	0.195	0.225	0.004	0.027	0.095	0.296	0.713
CEO compensation ($ million)	4.522	5.100	0.453	1.224	2.580	5.574	17.305
Return on assets	0.057	0.194	-0.365	0.017	0.094	0.164	0.291
Return on sales	-0.113	1.024	-1.390	0.026	0.109	0.208	0.428
Asset turnover	1.004	0.782	0.064	0.398	0.866	1.397	2.657
Tobin's Q	2.316	2.172	0.646	1.046	1.517	2.629	7.236
Stock turnover x 100	0.696	0.661	0.079	0.231	0.469	0.925	2.216
Sales growth	0.212	0.492	-0.315	-0.020	0.096	0.279	1.212
Analysts	8.602	8.856	1.000	2.000	6.000	12.000	27.000
Inst. ownership	0.459	0.307	0.015	0.176	0.446	0.732	0.951
Outside board seats per director	0.630	0.970	0.000	0.000	0.400	0.889	2.125

Table 2: Activism Threat and Target Frequency

This table reports OLS estimates for (predictive) panel regressions of target frequency on threat. The observations are three-digit SIC industry-year, and the sample period is 1997-2011. Target frequency is calculated as the number of firms targeted by activist hedge funds during year *t* divided by the total number of firms in the industry at the beginning of year *t*. *Continuous threat* for year *t* is calculated using hedge fund-specific information available at the beginning of year *t* as follows. First, for each industry, prospective hedge funds are defined as those that targeted the industry during years *t*-2 and *t*-1 plus those that recently have followed these funds in targeting firms in other industries. Second, for each prospective hedge fund, we aggregate the amount of dollar fund flows during years *t*-2 and *t*-1, and allocate it across industries for which the fund is a prospective hedge fund. The allocation is proportional to each industry's total market capitalization at the beginning of year *t*. Finally, to obtain *Continuous threat*, we sum the allocated dollar flows, using only the positive values, over all prospective hedge funds for the industry, and divide the sum by the industry's total market capitalization at the beginning of year *t*. *Continuous threat* is positive for 602 of 2,616 (23%) industry-year observations and zero for the remaining. Of the positive values, the mean and median are 0.0072 and 0.0012, respectively. *Threat* is a dummy variable that equals one if *Continuous threat* is greater than the median of 0.0012. Additional details on the construction of *Threat* are in Appendix A. In columns (1) – (4), the dependent variable is the target frequency in year *t*. In columns (5) and (6), the dependent variables are target frequencies in years *t*+1 and *t*+2, respectively. All regressions include industry and year fixed effects. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Target Freq.(*t*)				Target Freq.(*t*+1)	Target Freq.(*t*+2)
	(1)	(2)	(3)	(4)	(5)	(6)
Continuous threat(*t*)	6.341***		3.652**			
	(1.493)		(1.658)			
Threat(*t*)		0.015***		0.009**	0.007*	-0.002
		(0.004)		(0.004)	(0.004)	(0.004)
Target frequency(*t*-1)			0.091*	0.094*	0.101***	0.019
			(0.052)	(0.051)	(0.028)	(0.033)
Target frequency(*t*-2)			0.055**	0.056**	0.010	0.049
			(0.024)	(0.025)	(0.029)	(0.051)
Industry FE	YES	YES	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES	YES	YES
Observations	2,616	2,616	2,616	2,616	2,461	2,310
R-squared (within)	0.087	0.086	0.096	0.096	0.082	0.046

Table 3: Policy Changes at Peer Firms Facing Activism Threat

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception (HTP)*, and their interaction. The observations are firm-year, and the sample period is 1997-2011. In columns (1) – (5), the dependent variables are changes in financial and investment policies from years *t*-1 to *t*+1, where year *t* is the current observation year. In columns (6) – (8), the dependent variables are changes in operating performance metrics from years *t* to *t*+2. Bankruptcy is as of year *t* while all other control variables are as of year *t*-1. All regressions include dummies for years around activist target events, industry and calendar year fixed effects, and policy quintile dummies. All variables are defined in Appendix A. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Main variables								
Threat	-0.011**	-0.001	-0.001	-0.009*	0.003	0.008**	-0.004	0.007
	(0.005)	(0.003)	(0.003)	(0.005)	(0.031)	(0.003)	(0.014)	(0.008)
[HTP] High threat perception	-0.002	-0.002	0.001	0.004***	0.042**	0.003*	0.002	-0.004
	(0.002)	(0.003)	(0.001)	(0.001)	(0.016)	(0.002)	(0.006)	(0.004)
Threat x HTP	0.008**	0.004**	-0.004	-0.006**	-0.014	0.005*	0.012	0.009**
	(0.004)	(0.002)	(0.003)	(0.003)	(0.008)	(0.003)	(0.020)	(0.004)
Activist target event controls								
Year *t*-1	0.010*	0.006	-0.014**	0.008**	0.052	-0.005	-0.011	-0.003
	(0.006)	(0.007)	(0.006)	(0.003)	(0.048)	(0.005)	(0.012)	(0.010)
Year *t*	0.016**	0.011*	-0.012***	0.007	-0.110***	0.012**	0.030**	0.030***
	(0.007)	(0.005)	(0.004)	(0.005)	(0.036)	(0.005)	(0.014)	(0.009)
Year *t*+1	-0.003	-0.005	-0.006	-0.000	-0.042	0.010	-0.012	0.008
	(0.007)	(0.005)	(0.003)	(0.004)	(0.049)	(0.006)	(0.008)	(0.008)
Firm-level controls								
Bankruptcy	-0.131***	-0.006	0.019	0.010	0.131	0.009	0.034	-0.023
	(0.035)	(0.020)	(0.012)	(0.029)	(0.359)	(0.016)	(0.022)	(0.067)
ln(MCAP)	0.010***	0.006***	0.004*	-0.006***	0.058***	-0.006***	0.025***	-0.015***
	(0.002)	(0.001)	(0.002)	(0.001)	(0.009)	(0.002)	(0.005)	(0.004)

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	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ln(Sales)	-0.004**	-0.001	-0.008***	0.005***	0.058***	0.011***	-0.021***	0.015***
	(0.002)	(0.001)	(0.003)	(0.001)	(0.007)	(0.002)	(0.004)	(0.004)
Market-to-book ratio	-0.004***	-0.002**	-0.002**	0.001***	0.005***	-0.001	-0.003**	-0.008***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)	(0.001)	(0.001)
EBITDA/Assets	-0.033***	0.007	0.039*	-0.010	-0.321***	-0.135***	-0.305***	-0.195***
	(0.007)	(0.011)	(0.023)	(0.007)	(0.056)	(0.012)	(0.017)	(0.028)
Net PPE/Assets	0.065***	-0.001	-0.041***	-0.033***	0.060	0.018**	0.031	-0.060***
	(0.008)	(0.010)	(0.008)	(0.006)	(0.037)	(0.007)	(0.022)	(0.012)
Industry-level controls								
Target frequency in past two years	0.005	-0.004	0.003	-0.005	0.007	0.003	-0.007	-0.005
	(0.004)	(0.004)	(0.006)	(0.004)	(0.039)	(0.003)	(0.013)	(0.006)
Target frequency in past two years x HTP	0.001	0.006	0.002	0.005	-0.042	-0.005	0.011	0.007
	(0.005)	(0.004)	(0.004)	(0.004)	(0.036)	(0.005)	(0.011)	(0.009)
Threat year *t*-2	0.027	-0.009	-0.020**	0.014	-0.024	-0.008	-0.029	0.000
	(0.020)	(0.020)	(0.010)	(0.014)	(0.144)	(0.014)	(0.033)	(0.036)
Threat year *t*-2 x HTP	0.002	0.002	-0.011	-0.009	-0.046	0.010	0.061	0.030
	(0.021)	(0.022)	(0.013)	(0.013)	(0.140)	(0.020)	(0.040)	(0.055)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES	YES	YES	YES	YES
Policy quintile dummies	YES	YES	YES	YES	YES	YES	YES	YES
Observations	45,378	45,378	45,378	45,378	19,041	45,327	45,327	45,327
R-squared (within)	0.088	0.158	0.073	0.113	0.157	0.066	0.063	0.089

Table 4: Policy Changes at Threatened Peer Firms Conditional on Policy-Specific Vulnerability

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception* (*HTP*), and their interaction for the subsamples of firms that are vulnerable (Panel A) and not vulnerable (Panel B) to activist targeting, given their current policies. The observations are firm-year, and the sample period is 1997-2011. For each specific policy (e.g., leverage), a firm is considered vulnerable if its policy at the end of *t*-1 is worse (e.g., lower leverage), from the activists' perspective, than the industry median. In columns (1) – (5), the dependent variables are changes in policies from years *t*-1 to *t*+1. In columns (6) – (8), the dependent variables are changes in performance metrics from years *t* to *t*+2. As in Table 3, all regressions include dummies for years around activist target events, firm- and industry-level controls, industry and calendar year fixed effects, and policy quintile dummies. All variables are defined in Appendix A. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Vulnerable peers with regard to each policy								
Threat	-0.019***	-0.001	-0.004	-0.006	0.005	0.010*	-0.003	0.007
	(0.005)	(0.002)	(0.006)	(0.006)	(0.043)	(0.006)	(0.023)	(0.007)
[HTP] High threat perception	0.001	-0.000	-0.002	0.002	0.048**	0.004	0.005	-0.006
	(0.003)	(0.001)	(0.003)	(0.002)	(0.023)	(0.018)	(0.009)	(0.006)
Threat x HTP	0.015**	0.008**	-0.009	-0.014**	-0.020*	0.010***	0.029*	0.014*
	(0.006)	(0.004)	(0.009)	(0.005)	(0.011)	(0.003)	(0.016)	(0.007)
Observations	22,853	23,836	22,095	22,994	10,094	20,128	20,143	21,869
R-squared (within)	0.042	0.027	0.063	0.068	0.115	0.040	0.063	0.068
Panel B: Non-vulnerable peers with regard to each policy								
Threat	-0.002	-0.000	0.001	-0.013	0.003	0.005*	-0.004	0.008
	(0.008)	(0.004)	(0.002)	(0.008)	(0.045)	(0.003)	(0.008)	(0.010)
[HTP] High threat perception	-0.007**	-0.003	0.004	0.005*	0.027	-0.001	-0.002	-0.001
	(0.003)	(0.005)	(0.002)	(0.003)	(0.019)	(0.002)	(0.005)	(0.007)
Threat x HTP	0.003	0.003	-0.001	0.002	-0.001	0.003	0.010	0.008
	(0.008)	(0.005)	(0.005)	(0.003)	(0.059)	(0.005)	(0.014)	(0.007)
Observations	22,525	21,542	23,283	22,384	8,947	25,199	25,184	23,458
R-squared (within)	0.075	0.022	0.051	0.055	0.074	0.086	0.033	0.071
Controls and FEs as in Table 3 (both panels)	YES	YES	YES	YES	YES	YES	YES	YES

Table 5: Policy Changes at Peer Firms Facing Time-Varying Industry Shocks (Falsification Tests)

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on time-varying industry shocks, (firm-level) *High threat perception* (*HTP*), and their interaction. The observations are firm-year, and the sample period is 1997-2011. Two specific types of shocks are studied: *Policy wave* (Panel A) and *Merger wave* (Panel B). For each specific policy (e.g., leverage), *Policy wave* is an indicator variable that equals one if over half of the firms in the industry significantly improve the policy from years *t*-1 to *t*+1for financial and investment policies in columns (1) – (5) or from *t* to *t*+2 for operating performance metrics in columns (6) – (8). A significant improvement is defined as a policy change that is in the top quartile if all firm-year observations are ordered from the most to the least improved (e.g., from largest increase to largest decrease in leverage). In the same spirit as Harford (2005), *Merger wave* is an indicator variable that equals one if the number of mergers in the industry during year *t* is at least 20% of the total number of mergers in the industry over the period 2000-2011 (when the merger data are available to us) and the total number of mergers in the industry is greater than five. All other variables are defined in Appendix A. As in Table 3, all regressions include dummies for years around activist target events, firm- and industry-level controls (with lagged *Threat* replaced by lagged *Policy wave* or lagged *Merger wave*), industry and calendar year fixed effects, and policy quintile dummies. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

Panel A: Policy waves

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Policy wave	0.072***	0.016***	-0.035***	-0.042***	-0.566***	0.062***	0.147***	0.164***
	(0.005)	(0.002)	(0.010)	(0.004)	(0.078)	(0.009)	(0.029)	(0.014)
[HTP] High threat perception	-0.001	-0.000	0.002	0.004***	0.038**	0.004**	0.009	-0.001
	(0.002)	(0.001)	(0.001)	(0.001)	(0.015)	(0.002)	(0.006)	(0.005)
Policy wave x HTP	-0.006	0.001	-0.003	-0.001	-0.072	-0.017**	-0.054***	-0.006
	(0.007)	(0.002)	(0.013)	(0.004)	(0.112)	(0.006)	(0.019)	(0.014)
Controls and FEs as in Table 3	YES	YES	YES	YES	YES	YES	YES	YES
Observations	45,378	45,378	45,378	45,378	19,041	45,327	45,327	45,327
R-squared (within)	0.088	0.158	0.073	0.113	0.157	0.066	0.063	0.089

Table 5, Cont'd: Policy Changes at Peer Firms Facing Time-Varying Industry Shocks (Falsification Tests)

Panel B: Merger waves (2000-2011)

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Merger wave	0.011*	-0.001	0.001	-0.006	0.035	0.000	0.004	-0.012
	(0.007)	(0.001)	(0.004)	(0.004)	(0.049)	(0.004)	(0.010)	(0.010)
[HTP] High threat perception	-0.001	-0.000	0.002*	0.002	0.033**	0.001	0.001	0.004
	(0.002)	(0.000)	(0.001)	(0.002)	(0.016)	(0.001)	(0.004)	(0.003)
Merger wave x HTP	-0.001	0.001	0.002	0.006*	-0.009	-0.002	-0.008	-0.013
	(0.008)	(0.002)	(0.003)	(0.004)	(0.047)	(0.006)	(0.012)	(0.013)
Controls and FEs as in Table 3	YES	YES	YES	YES	YES	YES	YES	YES
Observations	35,032	35,032	35,032	35,023	15,495	34,998	34,998	34,998
R-squared (within)	0.085	0.169	0.075	0.107	0.164	0.069	0.070	0.093

Table 6: Policy Changes at Threatened Peer Firms with High and Low Threat Perceptions Matched by Industry, Size, and Institutional Ownership

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception* (*HTP*), and their interaction. The sample includes firms with HTP = 1 and HTP = 0 matched by industry, market capitalization and institutional ownership. The observations are firm-year, and the sample period is 1997-2011. For each firm-year observation with HTP = 1, matched firm-year observations with HTP = 0 are picked, with replacement, from the same industry, market capitalization decile, and institutional ownership decile. In case of no matches, the observation is dropped. In case of multiple matches, only one matched firm with the closest market capitalization is kept. In columns (1) – (5), the dependent variables are changes in financial and investment policies from years *t*-1 to *t*+1, where year *t* is the current observation year. In columns (6) – (8), the dependent variables are changes in operating performance metrics from years *t* to *t*+2. As in Table 3, all regressions include dummies for years around activist target events, firm- and industry-level controls, industry and calendar year fixed effects, and policy quintile dummies. All variables are defined in Appendix A. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Main variables								
Threat	-0.012***	0.004**	-0.007	-0.015**	0.100	0.005	0.015	0.000
	(0.003)	(0.002)	(0.005)	(0.007)	(0.063)	(0.003)	(0.011)	(0.006)
[HTP] High threat perception	-0.005	0.000	0.001	0.009**	0.028	0.002	0.016*	-0.024**
	(0.004)	(0.001)	(0.002)	(0.004)	(0.024)	(0.002)	(0.008)	(0.009)
Threat x HTP	0.010**	0.003**	-0.005	-0.008*	-0.137	0.006*	0.011	0.015*
	(0.005)	(0.002)	(0.008)	(0.004)	(0.100)	(0.003)	(0.024)	(0.008)
Select control variables associated with HTP								
Target frequency in past two years x HTP	0.030	0.012	-0.007	-0.048	-0.065	0.068	0.088	0.189
	(0.033)	(0.010)	(0.030)	(0.029)	(0.323)	(0.046)	(0.134)	(0.159)
Threat year *t*-2 x HTP	0.008	0.002	0.004	0.005	-0.029	-0.005	0.010	0.008
	(0.006)	(0.003)	(0.004)	(0.003)	(0.029)	(0.006)	(0.015)	(0.006)
Controls and FEs as in Table 3	YES	YES	YES	YES	YES	YES	YES	YES
Observations	21,884	21,884	21,884	21,884	12,274	21,850	21,850	21,850
R-squared (within)	0.103	0.162	0.104	0.134	0.230	0.085	0.080	0.120

Table 7: Policy Changes at Non-Primary Segments of Threatened Peer Firms

This table reports OLS estimates for regressions of changes in policies and performance at non-primary segments of peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception* (*HTP*), and their interaction. The observations are segment-firm-year, and the sample period is 1997-2011. Non-primary segments are distinct parts of the firm with three-digit SICs that differ from the firm's main three-digit SIC. *Threat* is assigned to all segments of the firm based on its main three-digit SIC. Segment-level data are from Compustat Segment files. In column (1), the dependent variable is the change in segment-level *Capex*/*Assets* from years *t*-1 to *t*+1. In columns (2) – (4), the dependent variables are changes in segment-level *Return on assets*, *Return on sales*, and *Asset turnover*, respectively, from years *t* to *t*+2. Segment-level controls, given the availability of segment data, include *ln*(*Sales*) and *EBITDA*/*Assets*. All regressions include dummies for years around activist target events, firm- and (primary) industry-level controls, (segment) industry and calendar year fixed effects, and (firm-level) policy quintile dummies. All variables are defined in Appendix A. Standard errors, clustered by firm, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Δ Capex/ Assets (1)	Δ Return on assets (2)	Δ Return on sales (3)	Δ Asset turnover (4)
Main variables				
Threat	-0.000	-0.001	0.002	-0.007
	(0.004)	(0.007)	(0.009)	(0.022)
[HTP] High threat perception	0.001	0.002	-0.003	0.002
	(0.002)	(0.004)	(0.005)	(0.013)
Threat x HTP	-0.005	0.010*	0.023**	0.015
	(0.007)	(0.006)	(0.010)	(0.017)
Activist target event controls				
Year *t*-1	-0.007**	-0.002	0.001	0.013
	(0.004)	(0.007)	(0.010)	(0.018)
Year *t*	-0.010**	0.017**	0.038***	0.043**
	(0.004)	(0.008)	(0.014)	(0.021)
Year *t*+1	-0.003	0.009	-0.012	0.009
	(0.004)	(0.008)	(0.012)	(0.022)
Segment-level controls				
ln(Sales)	-0.003***	0.002	-0.007***	0.005
	(0.001)	(0.001)	(0.003)	(0.005)
EBITDA/Assets	0.005	-0.154***	-0.171***	-0.358***
	(0.007)	(0.011)	(0.015)	(0.028)
Controls as in Table 3	YES	YES	YES	YES
(Segment) Industry FE	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES
Policy quintile dummies	YES	YES	YES	YES
Observations	17,786	18,240	18,532	18,486
R-squared (within)	0.073	0.071	0.045	0.049

Table 8: Policy Changes at Peer Firms Facing Increased and Decreased Product Market Competition (Falsification Tests)

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on measures of increased (Panel A) and decreased (Panel B) product market competition, (firm-level) *High threat perception* (*HTP*), and their interaction. The observations are firm-year, and the sample period is 1997-2011. The sample in Panel A includes only firms in manufacturing industries (three-digit SIC from 200 to 399). Following Fresard (2010), we use as an exogenous increase in competition *Tariff drop*, an indicator variable that equals one if the change in tariff rate from years *t*-1 to *t* is negative and greater in magnitude than two times the within-industry standard deviation of yearly tariff rate change. Tariff rate is calculated duties divided by customs value of U.S. imports for consumption. Both the calculated duties and customs value are from the U.S. International Trade Commission, and aggregated from ten-digit U.S. Harmonized System codes to each three-digit SIC, using the concordance table provided by Pierce and Schott (2009) and assuming that the mappings in 2006 are valid through 2011. In Panel B, we use as a measure of decreased competition *Increased margin wave*, an indicator variable that equals one if over half of the firms in the industry significantly improve *Return on sales* from years *t* to *t*+2 (the same as Policy wave in column (7) of Table 5). A significant improvement is defined as a change in *Return on sales* that is in the top quartile of all firm-year observations. In columns (1) – (5), the dependent variables are changes in financial and investment policies from years *t*-1 to *t*+1, where year *t* is the current observation year. In columns (6) – (8), the dependent variables are changes in operating performance metrics from years *t* to *t*+2. As in Table 3, all regressions include dummies for years around activist target events, firm- and industry-level controls (with lagged *Threat* replaced by lagged *Tariff drop* or lagged *Increased margin wave*), industry and calendar year fixed effects, and policy quintile dummies. All variables other than *Tariff drop* or lagged *Increased margin wave* are defined in Appendix A. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

Panel A: Increased product market competition (manufacturing firms)

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tariff drop	0.002	-0.002*	-0.002	0.001	-0.033	-0.012*	-0.023	-0.017*
	(0.005)	(0.001)	(0.004)	(0.006)	(0.040)	(0.006)	(0.018)	(0.010)
[HTP] High threat perception	0.001	0.001	-0.001	0.001	0.022	0.002	-0.002	-0.006
	(0.002)	(0.001)	(0.002)	(0.002)	(0.020)	(0.001)	(0.004)	(0.005)
Tariff drop x HTP	-0.014**	0.000	0.006**	0.010**	0.048	-0.002	0.004	0.003
	(0.007)	(0.001)	(0.003)	(0.004)	(0.041)	(0.008)	(0.026)	(0.013)
Controls and FEs as in Table 3	YES	YES	YES	YES	YES	YES	YES	YES
Observations	19,430	19,430	19,430	19,430	8,277	19,413	19,413	19,413
R-squared (within)	0.102	0.057	0.147	0.118	0.160	0.074	0.072	0.124

Table 8, Cont'd: Policy Changes at Peer Firms Facing Increased and Decreased Product Market Competitions (Falsification Tests)

Panel B: Decreased product market competition

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Increased margin wave	-0.012	-0.002	-0.013	0.001	0.110	0.035***	0.147***	0.028
	(0.015)	(0.001)	(0.009)	(0.004)	(0.068)	(0.013)	(0.029)	(0.024)
[HTP] High threat perception	-0.001	0.000	0.001	0.004***	0.040***	0.003*	0.009	-0.003
	(0.002)	(0.000)	(0.001)	(0.001)	(0.015)	(0.002)	(0.006)	(0.004)
Increased margin wave x HTP	0.006	-0.001	0.013	0.003	-0.072	0.003	-0.054***	0.034**
	(0.010)	(0.002)	(0.008)	(0.003)	(0.062)	(0.007)	(0.019)	(0.014)
Controls and FEs as in Table 3	YES	YES	YES	YES	YES	YES	YES	YES
Observations	45,378	45,378	45,378	45,378	19,041	45,327	45,327	45,327
R-squared (within)	0.088	0.158	0.074	0.113	0.158	0.072	0.073	0.091

Table 9: Policy Changes at Peer Firms Facing Activism Threat Conditional on Targets' Improvement

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception* (*HTP*), (industry-level) *Targets improve*, and their interactions. The observations are firm-year, and the sample period is 1997-2011. For each specific policy (e.g., leverage), *Targets improve* is an indicator that equals one for a given industry if the fraction of targets in the industry in years *t*-1 and *t*-2 that improve the policy is greater than the sample median (including only industry-years with activist targeting in years *t*-1 or *t*-2). All other variables are defined in Appendix A. In columns (1) – (5), the dependent variables are changes in policies from years *t*-1 to *t*+1. In columns (6) – (8), the dependent variables are changes in performance from years *t* to *t*+2. As in Table 3, all regressions include dummies for years around activist target events, firm- and industry-level controls, industry and calendar year fixed effects, and policy quintile dummies. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Δ Book leverage	Δ Payout/ Mkt. cap	Δ Capex/ Assets	Δ Cash/ Assets	Δ ln(CEO pay)	Δ Return on assets	Δ Return on sales	Δ Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Main variables								
Threat	-0.011*	0.001	-0.001	-0.006	0.040	-0.002	-0.023	-0.004
	(0.006)	(0.001)	(0.005)	(0.004)	(0.038)	(0.004)	(0.019)	(0.007)
[HTP] High threat perception	-0.002	-0.001	0.002	0.004***	0.041**	0.004*	0.002	-0.007
	(0.002)	(0.000)	(0.001)	(0.001)	(0.016)	(0.002)	(0.005)	(0.006)
Threat x HTP	0.012**	0.002**	-0.002	-0.006*	-0.027	0.004	0.016	0.019*
	(0.006)	(0.001)	(0.002)	(0.003)	(0.037)	(0.005)	(0.024)	(0.011)
Variables associated targeted firms' policy change								
Targets improve	0.000	-0.000	0.002	0.004	0.021	-0.004	-0.022***	-0.015*
	(0.011)	(0.001)	(0.003)	(0.002)	(0.032)	(0.002)	(0.007)	(0.008)
Targets improve x Threat	0.005*	0.003*	0.008	-0.008**	-0.110	0.009*	0.046	0.028**
	(0.003)	(0.002)	(0.007)	(0.004)	(0.127)	(0.005)	(0.029)	(0.012)
Targets improve x HTP	-0.000	0.000	-0.004	-0.003	0.024	0.008	0.016	0.021**
	(0.005)	(0.001)	(0.006)	(0.002)	(0.043)	(0.005)	(0.017)	(0.009)
Targets improve x Threat x HTP	-0.008	0.001	-0.010	0.001	0.081	0.003	-0.001	-0.006
	(0.009)	(0.002)	(0.008)	(0.005)	(0.151)	(0.004)	(0.014)	(0.019)
Controls and FEs as in Table 3	YES	YES	YES	YES	YES	YES	YES	YES
Observations	45,378	45,378	45,378	45,378	19,041	45,327	45,327	45,327
R-squared (within)	0.088	0.159	0.074	0.113	0.158	0.066	0.064	0.090

Table 10: Abnormal Returns of Peer Firms Facing Activism Threat

This table reports OLS estimates for regressions of quarterly abnormal stock returns on (industry-level) threat event-quarter dummies, (firm-level) *High threat perception* (*HTP*), and their interactions. Observations are firm-quarter, and the sample period is 1997-2011. For each firm, *Threat quarter t* is an indicator that equals one if the value of *Continuous threat* calculated on a rolling basis over the past eight quarters is greater than the sample median of 0.0012. *Threat quarters t*-1 to *t*+1 is an indicator variable that equals one if *Threat quarter t*-1, *t*, or *t*+1 equals one. For each firm, *Target quarter t* is an indicator variable that equals one if the firm is targeted by an activist hedge fund in that quarter. Market-adjusted returns are stock returns minus CRSP VW returns. FF25VW (EW)-adjusted returns are stock returns minus value-weighted (equally-weighted) returns of the matched Fama-French 25 size and value/growth portfolios. All regressions include a control for bankruptcy, and firm and calendar year fixed effects. Standard errors, clustered by firm, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Market (1)	Market (2)	FF25VW (3)	FF25EW (4)
[HTP] High threat perception		-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)
Threat event time				
Threat quarter *t*-2	0.009	0.008	0.007	0.004
	(0.011)	(0.013)	(0.011)	(0.011)
Threat quarters *t*-1 to *t*+1	0.013	0.005	0.003	0.004
	(0.008)	(0.010)	(0.008)	(0.008)
Threat quarter *t*+2	0.009	0.013	0.008	0.006
	(0.009)	(0.010)	(0.006)	(0.005)
Threat quarter *t*-2 x HTP		0.000	0.006	0.005
		(0.007)	(0.005)	(0.005)
Threat quarters *t*-1 to *t*+1 x HTP		0.009*	0.009**	0.009*
		(0.005)	(0.004)	(0.005)
Threat quarter *t*+2 x HTP		-0.007	-0.004	-0.006
		(0.005)	(0.004)	(0.005)
Activist target event controls				
Target quarter *t*-2	-0.028***	-0.028***	-0.033***	-0.033***
	(0.005)	(0.005)	(0.005)	(0.005)
Target quarter *t*-1	-0.033***	-0.033***	-0.034***	-0.033***
	(0.007)	(0.007)	(0.007)	(0.007)
Target quarter *t*	0.050***	0.050***	0.052***	0.048***
	(0.008)	(0.008)	(0.008)	(0.007)
Target quarter *t*+1	0.010	0.010	0.006	0.007
	(0.010)	(0.010)	(0.010)	(0.009)
Target quarter *t*+2	0.006	0.006	0.005	0.005
	(0.005)	(0.006)	(0.006)	(0.006)
Bankruptcy, Firm FE, and Calendar year FE	YES	YES	YES	YES
Observations	214,025	214,025	214,025	214,025
R-squared (within)	0.030	0.030	0.008	0.003

Table 11: Feedback Effects of Policy Changes and Returns at Threatened Peer Firms

This table reports OLS estimates for linear probability models of activist targeting. Observations are firm-year, and the sample period is 1997-2011. The dependent variable is an indicator variable that equals one if a firm is targeted in an activist campaign within the *next two years*. The explanatory variables of interest are *Threat*, *Avg. improvement z-score*, *Abnormal return*, and the interactions between *Threat* and the latter two variable. These variables, as well as the control variables, are defined in Appendix A. Columns (1) – (4) are for the full sample. Columns (5) and (6) are for the subsamples of firms with high and low threat perceptions, respectively. All regressions include industry and calendar year fixed effects. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Full Sample				HTP = 0	HTP = 1
	(1)	(2)	(3)	(4)	(5)	(6)
Main variables						
Threat	0.008**	0.014***	0.008**	0.014***	0.014**	0.014**
	(0.004)	(0.005)	(0.004)	(0.005)	(0.006)	(0.007)
Avg. improvement z-score		0.007		0.006	0.004	0.007
		(0.005)		(0.005)	(0.006)	(0.007)
Threat		-0.021**		-0.021**	-0.023**	-0.020**
x Avg. improvement z-score		(0.008)		(0.008)	(0.009)	(0.010)
Abnormal return			-0.076***	-0.074***	-0.085***	-0.072***
			(0.017)	(0.018)	(0.029)	(0.021)
Threat x Abnormal return			-0.063**	-0.064**	-0.059*	-0.064*
			(0.031)	(0.031)	(0.034)	(0.035)
Firm-level controls						
[HTP] High threat perception	0.005	0.005	0.004	0.004		
	(0.003)	(0.003)	(0.003)	(0.003)		
ln(Market cap)	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
ln(Tobin's Q)	-0.013***	-0.013***	-0.008**	-0.008**	-0.008	-0.010**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.005)	(0.004)
Book leverage	-0.002	-0.001	-0.001	-0.001	0.012	-0.006
	(0.006)	(0.006)	(0.006)	(0.006)	(0.011)	(0.007)
Payout/Market cap.	-0.029	-0.022	-0.030	-0.024	-0.057	0.000
	(0.044)	(0.045)	(0.044)	(0.045)	(0.072)	(0.059)
Sales growth	0.003	0.003	0.004	0.004	-0.001	0.006
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)
Return on assets	-0.000	0.000	0.004	0.002	0.016	-0.013
	(0.010)	(0.010)	(0.010)	(0.010)	(0.015)	(0.010)
ln(Stock turnover)	0.106	0.087	0.179	0.168	0.526	-0.111
	(0.215)	(0.216)	(0.215)	(0.217)	(0.371)	(0.272)
ln(Analysts)	-0.000	-0.000	-0.001	-0.001	0.000	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)	(0.002)
Inst. ownership	0.060***	0.060***	0.060***	0.060***	0.051***	0.068***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.012)	(0.008)

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	Full Sample				HTP = 0	HTP = 1
	(1)	(2)	(3)	(4)	(5)	(6)
Past campaigns	0.055	0.055	0.053	0.054	0.118	0.007
	(0.051)	(0.051)	(0.051)	(0.050)	(0.099)	(0.048)
Ongoing campaign	0.053**	0.054**	0.053**	0.054**	0.058*	0.045
	(0.021)	(0.021)	(0.021)	(0.021)	(0.032)	(0.028)
Industry-level controls						
Target frequency in past two years	-0.027	-0.019	-0.027	-0.021	-0.014	-0.024
	(0.019)	(0.030)	(0.019)	(0.030)	(0.039)	(0.039)
Target frequency in past two years x Avg. improvement z-score		-0.024		-0.019	-0.038	-0.068
		(0.052)		(0.052)	(0.067)	(0.068)
Target frequency in past two years x Abnormal return			-0.144	-0.149	-0.144	-0.447
			(0.190)	(0.191)	(0.267)	(0.290)
Industry FE	YES	YES	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES	YES	YES
Observations	37,155	37,153	37,087	37,085	20,109	16,976
R-squared (within)	0.017	0.017	0.018	0.018	0.017	0.021

Internet Appendix for

Governance under the Gun: Spillover Effects of Hedge Fund Activism

This Internet Appendix provides supplemental analyses to the main tables and figures.

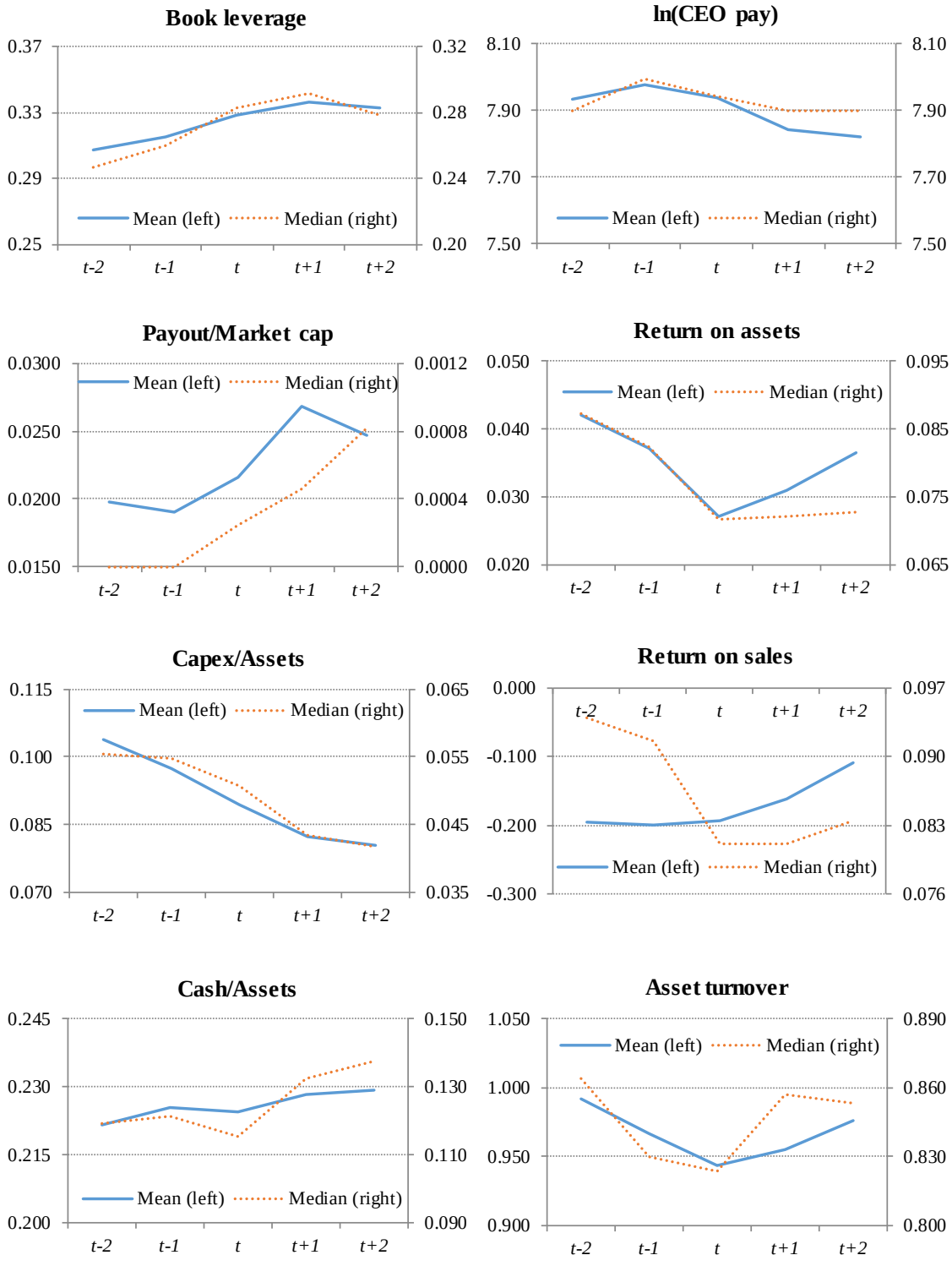

Figure IA.1: Policy Changes at Activist Targets. This figure plots mean and median levels of financial, investment, and operating policies at targets of hedge fund activism. The sample period is 1997-2011 (1994-1996 are dropped due to the calculation of threat). The statistics are calculated for event years *t*-2 to *t*+2, where year *t* contains the start of the activist campaign. All policy variables are defined in Appendix A of the paper.

Table IA.1: Summary Statistics for Activist Targets and Firms with High and Low Threat Perceptions

This table reports summary statistics of key firm-level variables for firms targeted by activist hedge funds (Panel A), firms with high threat perception (*High threat perception* or HTP = 1) (Panel B), and firms with low threat perception (HTP = 0) (Panel C). The full sample includes all firms that have non-missing CRSP, Compustat, and Thomson Reuters 13F data, and are in three-digit SIC industries with at least five firms. The observations are firm-year, and the sample period is 1997-2011 (1994-1996 are dropped due to the calculation of threat). All variables are defined in Appendix A of the paper.

Panel A: Target firms
Number of observations: 1,280 (total), 432 (with available *CEO compensation*), 764 (with available *Analysts*), 905 (with available *Outside board seats per director*)

	Mean	Std. Dev.	5th PCT	25th PCT	Median	75th PCT	95th PCT
Market cap. ($ million)	949	2,456	13	54	170	658	4,409
Book leverage	0.279	0.274	0.000	0.003	0.229	0.493	0.786
Payout/Market cap.	0.019	0.033	0.000	0.000	0.000	0.026	0.099
Capex/Assets	0.095	0.116	0.000	0.010	0.055	0.136	0.352
Cash/Assets	0.229	0.238	0.005	0.035	0.135	0.348	0.750
CEO compensation ($ million)	3.874	4.310	0.477	1.155	2.335	5.133	13.075
Return on assets	0.043	0.190	-0.357	0.004	0.085	0.147	0.267
Return on sales	-0.182	1.112	-1.825	0.005	0.085	0.168	0.387
Asset turnover	1.022	0.757	0.065	0.474	0.874	1.392	2.589
Tobin's Q	1.872	1.541	0.580	0.978	1.373	2.211	4.733
Stock turnover x 100	0.785	0.671	0.107	0.288	0.567	1.059	2.283
Sales growth	0.145	0.449	-0.345	-0.043	0.053	0.200	0.930
Analysts	8.508	8.108	1.000	3.000	6.000	12.000	24.000
Inst. ownership	0.558	0.295	0.067	0.300	0.581	0.831	0.951
Outside board seats per director	0.620	0.829	0.000	0.143	0.444	0.857	2.000

Table IA.1, Cont'd: Summary Statistics for Activist Targets and Firms with High and Low Threat Perceptions

Panel B: Firms with high threat perception (HTP = 1)
Number of observations: 23,377 (total), 12,753 (with available *CEO compensation*), 13,154 (with available *Analysts*), 23,377 (with available *Outside board seats per director*)

	Mean	Std. Dev.	5th PCT	25th PCT	Median	75th PCT	95th PCT
Market cap. ($ million)	3,056	5,361	27	168	664	2,732	19,748
Book leverage	0.296	0.262	0.000	0.028	0.268	0.486	0.782
Payout/Market cap.	0.024	0.034	0.000	0.000	0.007	0.036	0.100
Capex/Assets	0.094	0.114	0.000	0.010	0.055	0.132	0.343
Cash/Assets	0.211	0.233	0.005	0.032	0.110	0.326	0.739
CEO compensation ($ million)	5.371	5.550	0.550	1.541	3.294	6.981	20.022
Return on assets	0.078	0.178	-0.296	0.034	0.111	0.175	0.293
Return on sales	-0.089	1.002	-1.245	0.045	0.120	0.209	0.410
Asset turnover	1.004	0.737	0.085	0.459	0.869	1.356	2.559
Tobin's Q	2.509	2.186	0.737	1.154	1.730	2.949	7.415
Stock turnover x 100	0.796	0.685	0.110	0.303	0.576	1.057	2.403
Sales growth	0.189	0.448	-0.294	-0.010	0.092	0.250	0.992
Analysts	10.488	9.900	1.000	3.000	7.000	15.000	30.000
Inst. ownership	0.586	0.279	0.081	0.369	0.631	0.827	0.951
Outside board seats per director	1.170	1.048	0.400	0.571	0.857	1.333	3.000

Panel C: Firms with low threat perception (HTP = 0)
Number of observations: 39,543 (total), 10,223 (with available *CEO compensation*), 13,670 (with available *Analysts*), 22,035 (with available *Outside board seats per director*)

	Mean	Std. Dev.	5th PCT	25th PCT	Median	75th PCT	95th PCT
Market cap. ($ million)	3,056	5,361	27	168	664	2,732	19,748
Book leverage	0.296	0.262	0.000	0.028	0.268	0.486	0.782
Payout/Market cap.	0.024	0.034	0.000	0.000	0.007	0.036	0.100
Capex/Assets	0.094	0.114	0.000	0.010	0.055	0.132	0.343
Cash/Assets	0.211	0.233	0.005	0.032	0.110	0.326	0.739
CEO compensation ($ million)	5.371	5.550	0.550	1.541	3.294	6.981	20.022
Return on assets	0.078	0.178	-0.296	0.034	0.111	0.175	0.293
Return on sales	-0.089	1.002	-1.245	0.045	0.120	0.209	0.410
Asset turnover	1.004	0.737	0.085	0.459	0.869	1.356	2.559
Tobin's Q	2.509	2.186	0.737	1.154	1.730	2.949	7.415
Stock turnover x 100	0.796	0.685	0.110	0.303	0.576	1.057	2.403
Sales growth	0.189	0.448	-0.294	-0.010	0.092	0.250	0.992
Analysts	10.488	9.900	1.000	3.000	7.000	15.000	30.000
Inst. ownership	0.586	0.279	0.081	0.369	0.631	0.827	0.951
Outside board seats per director	1.170	1.048	0.400	0.571	0.857	1.333	3.000

Table IA.2: Target Frequencies among Firms with High and Low Threat Perceptions

This table reports numbers of targets among firms with high and low threat perceptions (*High threat perception* or HTP = 1 and HTP = 0, respectively). The sample includes all firms that have non-missing CRSP, Compustat, and Thomson Reuters 13F data, and are in three-digit SIC industries with at least five firms. The observations are firm-year, and the sample period is 1997-2011 (1994-1996 are dropped due to the calculation of threat). The first two columns are for the full sample. The middle two columns are for the firm-year observations with (industry-level) *Threat* = 0. The last two columns are for the firm-year observations with (industry-level) *Threat* = 1. Both *Threat* and *High threat perception* are defined in detail in Appendix A of the paper.

	Full Sample		Threat = 0		Threat = 1	
	# Firms	# Targets	# Firms	# Targets	# Firms	# Targets
HTP = 0	39,543	778	32,942	531	6,601	247
HTP = 1	23,377	502	18,649	312	4,728	190
Total	62,920	1,280	51,591	843	11,329	437

Table IA.3: Policy Changes at Activist Targets

This table reports OLS estimates for regressions of policies and performance on targeting event year dummies, where *Year t* contains the start of an activist campaign. The observations are firm-year, and the sample period is 1997-2011. Bankruptcy is as of the current year while all other control variables are as of the previous year. All regressions include industry and calendar year fixed effects, and policy quintile dummies. All variables are defined in Appendix A of the paper. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Book leverage	Payout/ Mkt. cap	Capex/ Assets	Cash/ Assets	ln(CEO pay)	Return on assets	Return on sales	Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Activist target event time								
Year *t*-2	0.002	0.001	0.006***	0.007**	0.055*	0.009**	0.032	-0.045**
	(0.003)	(0.001)	(0.002)	(0.003)	(0.031)	(0.004)	(0.020)	(0.019)
Year *t*-1	0.003	0.000	0.006***	0.010***	0.066**	0.010***	0.054***	-0.047**
	(0.003)	(0.001)	(0.002)	(0.003)	(0.028)	(0.003)	(0.020)	(0.022)
Year *t*	0.010*	0.001	0.000	0.007**	0.047	0.007	0.021	-0.065***
	(0.005)	(0.001)	(0.002)	(0.003)	(0.031)	(0.006)	(0.028)	(0.020)
Year *t*+1	0.015***	0.004***	-0.000	0.004	0.000	0.015***	0.061*	-0.024
	(0.005)	(0.001)	(0.003)	(0.005)	(0.026)	(0.005)	(0.033)	(0.022)
Year *t*+2	0.015***	0.003**	-0.001	0.001	0.001	0.016***	0.085***	-0.025
	(0.005)	(0.001)	(0.002)	(0.004)	(0.021)	(0.004)	(0.030)	(0.024)
Firm-level controls								
Bankruptcy	0.046	-0.009	0.006	0.045	-0.338*	0.008	0.129	-0.306***
	(0.028)	(0.007)	(0.015)	(0.029)	(0.195)	(0.019)	(0.080)	(0.083)
ln(Market cap)	-0.031***	-0.000**	0.013***	0.042***	0.111***	0.009***	0.029***	-0.175***
	(0.002)	(0.000)	(0.003)	(0.006)	(0.013)	(0.001)	(0.009)	(0.015)
ln(Sales)	0.041***	0.001***	-0.014***	-0.052***	0.070***	0.007***	0.298***	0.177***
	(0.002)	(0.000)	(0.003)	(0.007)	(0.017)	(0.001)	(0.067)	(0.018)
Market-to-book ratio	-0.008***	0.000	0.002***	-0.000	0.007**	-0.000*	0.017*	0.034***
	(0.001)	(0.000)	(0.000)	(0.001)	(0.003)	(0.000)	(0.010)	(0.004)

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	Policy Variables					Performance Variables		
	Book leverage	Payout/ Mkt. cap	Capex/ Assets	Cash/ Assets	ln(CEO pay)	Return on assets	Return on sales	Asset turnover
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EBITDA/Assets	-0.072***	-0.002	-0.116***	-0.103***	-0.045	0.766***	2.132***	0.363***
	(0.013)	(0.001)	(0.025)	(0.022)	(0.096)	(0.017)	(0.200)	(0.075)
Net PPE/Assets	0.105***	0.000	0.020*	-0.142***	-0.227***	0.014***	-0.008	-0.147***
	(0.022)	(0.001)	(0.010)	(0.029)	(0.056)	(0.003)	(0.056)	(0.053)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES	YES	YES	YES	YES
Policy quintile dummies	YES	YES	YES	YES	YES	YES	YES	YES
Observations	53,084	53,084	53,084	53,084	21,167	52,703	52,703	52,703
R-squared (within)	0.731	0.574	0.585	0.661	0.774	0.517	0.556	0.638
Year *t*+1 - Year *t*-1	0.012**	0.004***	-0.007**	-0.006	-0.066*	0.005	0.007	0.023
Year *t*+2 - Year *t*	0.005	0.002	-0.001	-0.006	-0.046	0.009*	0.064**	0.040**

Table IA.4: Policy Changes at Peer Firms Facing Activism Threat with Controls for Being Acquisition Bidders

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception (HTP)*, and their interaction. The observations are firm-year, and the sample period is 1997-2011. Acquisition bidding event year dummies are added to the original specifications in Table 3 of the paper. *Bidder year t* is an indicator that equals one if the firm bids to acquire another firm in that year. In columns (1) – (5), the dependent variables are changes in financial and investment policies from years *t*-1 to *t*+1, where year *t* is the current observation year. In columns (6) – (8), the dependent variables are changes in operating performance metrics from years *t* to *t*+2. Bankruptcy is as of year *t* while all other control variables are as of year *t*-1. All regressions include industry and calendar year fixed effects and policy quintile dummies. All variables are defined in Appendix A of the paper. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Δ Book leverage (1)	Δ Payout/ Mkt. cap (2)	Δ Capex/ Assets (3)	Δ Cash/ Assets (4)	Δ ln(CEO pay) (5)	Δ Return on assets (6)	Δ Return on sales (7)	Δ Asset turnover (8)
Main variables								
Threat	-0.013***	0.003***	-0.001	-0.010*	0.042	0.006**	-0.004	0.014
	(0.005)	(0.001)	(0.003)	(0.005)	(0.035)	(0.003)	(0.012)	(0.010)
[HTP] High threat perception	-0.000	-0.001	0.002*	0.001	0.027*	-0.002	-0.007	-0.005
	(0.002)	(0.001)	(0.001)	(0.002)	(0.016)	(0.002)	(0.005)	(0.006)
Threat x HTP	0.009**	0.003**	-0.003	-0.005*	-0.013	0.008*	0.014	0.014
	(0.006)	(0.001)	(0.002)	(0.003)	(0.043)	(0.004)	(0.018)	(0.014)
Activist target event controls								
Year *t*-1	0.012*	0.001	-0.019***	0.008**	0.064	-0.005	-0.007	-0.002
	(0.006)	(0.002)	(0.007)	(0.004)	(0.043)	(0.007)	(0.018)	(0.010)
Year *t*	0.016**	0.009***	-0.011**	0.006	-0.107***	0.010**	0.030**	0.038***
	(0.008)	(0.002)	(0.004)	(0.006)	(0.034)	(0.005)	(0.015)	(0.010)
Year *t*+1	-0.005	0.002	-0.006*	-0.002	-0.037	0.007	-0.011	0.002
	(0.007)	(0.002)	(0.003)	(0.004)	(0.047)	(0.006)	(0.010)	(0.009)

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	Policy Variables					Performance Variables		
	Δ Book leverage (1)	Δ Payout/ Mkt. cap (2)	Δ Capex/ Assets (3)	Δ Cash/ Assets (4)	Δ ln(CEO pay) (5)	Δ Return on assets (6)	Δ Return on sales (7)	Δ Asset turnover (8)
Acquisition bidder event controls								
Year *t*-1	0.016***	-0.001	-0.000	-0.011**	0.012	-0.008***	0.002	-0.050***
	(0.005)	(0.001)	(0.004)	(0.005)	(0.024)	(0.002)	(0.004)	(0.010)
Year *t*	0.019***	-0.000	0.001	-0.037***	0.012	-0.002	-0.003	-0.007
	(0.007)	(0.001)	(0.003)	(0.009)	(0.022)	(0.002)	(0.006)	(0.006)
Year *t*+1	0.009	0.001	-0.004	-0.006*	0.002	0.000	-0.003	0.004
	(0.007)	(0.001)	(0.007)	(0.004)	(0.026)	(0.002)	(0.007)	(0.007)
Firm-level controls								
Bankruptcy	-0.174***	0.004	0.022	0.008	-0.032	0.024	0.058**	-0.005
	(0.043)	(0.009)	(0.017)	(0.032)	(0.378)	(0.017)	(0.027)	(0.054)
ln(MCAP)	0.010***	0.003***	0.003	-0.005***	0.036***	-0.006***	0.031***	-0.016***
	(0.002)	(0.000)	(0.002)	(0.001)	(0.012)	(0.001)	(0.007)	(0.004)
ln(Sales)	-0.005**	-0.000	-0.008**	0.006***	0.085***	0.012***	-0.025***	0.018***
	(0.002)	(0.000)	(0.003)	(0.001)	(0.011)	(0.002)	(0.006)	(0.004)
Market-to-book ratio	-0.004***	-0.000***	-0.002	0.001*	0.000	-0.000	-0.003*	-0.008***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.003)	(0.001)	(0.001)	(0.001)
EBITDA/Assets	-0.046***	0.010***	0.036	-0.008	-0.275***	-0.121***	-0.329***	-0.201***
	(0.009)	(0.001)	(0.022)	(0.009)	(0.059)	(0.011)	(0.028)	(0.029)
Net PPE/Assets	0.059***	-0.010***	-0.038***	-0.039***	0.025	0.015**	0.028	-0.053***
	(0.010)	(0.001)	(0.009)	(0.009)	(0.042)	(0.007)	(0.020)	(0.013)

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	Policy Variables					Performance Variables		
	Δ Book leverage (1)	Δ Payout/ Mkt. cap (2)	Δ Capex/ Assets (3)	Δ Cash/ Assets (4)	Δ ln(CEO pay) (5)	Δ Return on assets (6)	Δ Return on sales (7)	Δ Asset turnover (8)
Industry-level controls								
Target frequency in past two years	0.036	-0.004	-0.007	0.003	-0.111	-0.017	-0.062	0.006
	(0.022)	(0.005)	(0.009)	(0.015)	(0.163)	(0.015)	(0.055)	(0.036)
Target frequency in past two years x HTP	0.010	-0.007	0.001	0.001	0.063	0.024	0.103	0.080
	(0.025)	(0.005)	(0.015)	(0.015)	(0.154)	(0.019)	(0.061)	(0.054)
Threat year *t*-2	0.005	-0.001	0.004	-0.005	-0.001	0.000	-0.016	-0.010
	(0.004)	(0.001)	(0.006)	(0.004)	(0.040)	(0.004)	(0.016)	(0.007)
Threat year *t*-2 x HTP	-0.001	0.001	0.001	0.007	-0.030	0.005	0.011	0.002
	(0.005)	(0.001)	(0.004)	(0.005)	(0.037)	(0.004)	(0.012)	(0.009)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES	YES	YES	YES	YES
Policy quintile dummies	YES	YES	YES	YES	YES	YES	YES	YES
Observations	28,570	28,570	28,570	28,570	12,863	28,543	28,543	28,543
R-squared (within)	0.092	0.168	0.071	0.115	0.182	0.064	0.075	0.087

Table IA.5: Summary Statistics for Firms with High and Low Threat Perceptions Matched by Industry, Size, and Institutional Ownership

This table reports summary statistics of key firm-level variables for firms with high threat perception (*High threat perception* or HTP = 1) (Panel A) and firms with low threat perception (HTP = 0) (Panel B), matched by industry, market capitalization and institutional ownership. The observations are firm-year, and the sample period is 1997-2011. For each firm-year observation with HTP = 1, matched firm-year observations with HTP = 0 are picked, with replacement, from the same industry, market capitalization decile, and institutional ownership decile. In case of no matches, the observation is dropped. In case of multiple matches, only one matched firm with the closest market capitalization is kept. All variables are defined in Appendix A of the paper.

Panel A: Firms with high threat perception (HTP = 1)
Number of observations: 15,792 (total), 8,433 (with available *CEO compensation*), 8,506 (with available *Analysts*), 15,792 (with available *Outside board seats per director*)

	Mean	Std. Dev.	5th PCT	25th PCT	Median	75th PCT	95th PCT
Market cap. ($ million)	2,700	4,825	21	172	759	2,264	17,238
Book leverage	0.249	0.260	0.000	0.001	0.175	0.439	0.752
Payout/Market cap.	0.021	0.033	0.000	0.000	0.001	0.031	0.098
Capex/Assets	0.128	0.129	0.000	0.024	0.095	0.190	0.410
Cash/Assets	0.283	0.255	0.007	0.053	0.210	0.462	0.801
CEO compensation ($ million)	4.915	5.157	0.549	1.539	3.020	6.044	17.889
Return on assets	0.053	0.205	-0.405	0.013	0.097	0.172	0.307
Return on sales	-0.177	1.190	-2.463	0.019	0.129	0.243	0.424
Asset turnover	0.829	0.632	0.071	0.374	0.712	1.127	2.060
Tobin's Q	3.123	2.679	0.827	1.314	2.096	3.841	10.761
Stock turnover x 100	0.943	0.746	0.141	0.357	0.720	1.313	2.649
Sales growth	0.254	0.521	-0.305	0.002	0.123	0.333	1.426
Analysts	11.405	10.219	1.000	4.000	8.000	16.000	32.000
Inst. ownership	0.590	0.300	0.059	0.348	0.636	0.876	0.951
Outside board seats per director	1.188	1.032	0.400	0.571	0.889	1.375	3.000

Table IA.5, Cont'd: Summary Statistics for Firms with High and Low Threat Perceptions Matched by Industry, Size, and Institutional Ownership

Panel B: Firms with low threat perception (HTP = 0)
Number of observations: 15,792 (total), 8,231 (with available *CEO compensation*), 8,399 (with available *Analysts*), 9,145 (with available *Outside board seats per director*)

	Mean	Std. Dev.	5th PCT	25th PCT	Median	75th PCT	95th PCT
Market cap. ($ million)	2,441	4,335	21	172	755	2,231	13,032
Book leverage	0.236	0.262	0.000	0.001	0.132	0.426	0.746
Payout/Market cap.	0.020	0.032	0.000	0.000	0.001	0.031	0.095
Capex/Assets	0.126	0.127	0.000	0.024	0.092	0.184	0.407
Cash/Assets	0.272	0.249	0.006	0.049	0.200	0.446	0.775
CEO compensation ($ million)	4.811	5.162	0.486	1.469	2.986	5.762	17.668
Return on assets	0.062	0.210	-0.420	0.021	0.103	0.181	0.324
Return on sales	-0.146	1.153	-2.070	0.036	0.141	0.254	0.454
Asset turnover	0.848	0.639	0.068	0.391	0.750	1.139	2.071
Tobin's Q	3.227	2.765	0.834	1.320	2.145	4.041	11.062
Stock turnover x 100	0.957	0.762	0.136	0.362	0.727	1.348	2.819
Sales growth	0.259	0.510	-0.314	0.007	0.134	0.346	1.327
Analysts	10.924	9.914	1.000	4.000	8.000	15.000	31.000
Inst. ownership	0.589	0.300	0.061	0.346	0.633	0.872	0.951
Outside board seats per director	0.031	0.617	-0.333	0.000	0.125	0.250	0.333

Table IA.6: Policy Changes at Threatened Peer Firms Operating in Multiple Industries

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception (HTP)*, and their interaction for the subsample of diversified firms. A diversified firm is defined as a firm whose sales from its primary three-digit SIC industry is 80% or less of its total sales. The observations are firm-year, and the sample period is 1997-2011. In columns (1) – (5), the dependent variables are changes in financial and investment policies from years *t*-1 to *t*+1, where year *t* is the current observation year. In columns (6) – (8), the dependent variables are changes in operating performance metrics from years *t* to *t*+2. Bankruptcy is as of year *t* while all other control variables are as of year *t*-1. All regressions include industry and calendar year fixed effects and policy quintile dummies. All variables are defined in Appendix A of the paper. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Δ Book leverage (1)	Δ Payout/ Mkt. cap (2)	Δ Capex/ Assets (3)	Δ Cash/ Assets (4)	Δ ln(CEO pay) (5)	Δ Return on assets (6)	Δ Return on sales (7)	Δ Asset turnover (8)
Main variables								
Threat	-0.007**	-0.001	0.008	0.001	0.036	-0.002	-0.003	-0.008
	(0.003)	(0.001)	(0.007)	(0.004)	(0.058)	(0.004)	(0.010)	(0.011)
[HTP] High threat perception	-0.003	-0.002*	0.005**	0.005**	0.029	0.004	-0.005	-0.012
	(0.004)	(0.001)	(0.002)	(0.002)	(0.019)	(0.003)	(0.008)	(0.007)
Threat x HTP	0.010**	0.004*	-0.006	-0.013*	-0.030	0.007	0.030	0.028**
	(0.005)	(0.002)	(0.007)	(0.007)	(0.070)	(0.005)	(0.025)	(0.013)
Activist target event controls								
Year *t*-1	0.009	0.001	-0.014**	0.006*	0.036	-0.006	-0.011	0.003
	(0.007)	(0.002)	(0.006)	(0.003)	(0.051)	(0.005)	(0.011)	(0.011)
Year *t*	0.013**	0.007***	-0.013**	0.005	-0.137***	0.010**	0.035*	0.036***
	(0.005)	(0.002)	(0.005)	(0.005)	(0.042)	(0.005)	(0.021)	(0.009)
Year *t*+1	-0.000	0.000	-0.008*	-0.003	-0.037	0.008	-0.011	0.011
	(0.006)	(0.002)	(0.004)	(0.004)	(0.051)	(0.006)	(0.010)	(0.008)
Firm-level controls								
Bankruptcy	-0.205***	0.009	0.039	-0.047	-0.176	0.031	0.062	-0.035
	(0.036)	(0.012)	(0.034)	(0.031)	(0.224)	(0.027)	(0.039)	(0.082)
ln(MCAP)	0.012***	0.002***	0.002	-0.007***	0.052***	-0.007***	0.022***	-0.017***
	(0.002)	(0.000)	(0.001)	(0.001)	(0.013)	(0.002)	(0.005)	(0.005)

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	Policy Variables					Performance Variables		
	Δ Book leverage (1)	Δ Payout/ Mkt. cap (2)	Δ Capex/ Assets (3)	Δ Cash/ Assets (4)	Δ ln(CEO pay) (5)	Δ Return on assets (6)	Δ Return on sales (7)	Δ Asset turnover (8)
ln(Sales)	-0.006***	0.000	-0.006***	0.007***	0.063***	0.011***	-0.018***	0.016***
	(0.002)	(0.000)	(0.002)	(0.001)	(0.011)	(0.002)	(0.005)	(0.005)
Market-to-book ratio	-0.004***	-0.000***	-0.001*	0.001	0.008**	-0.001*	-0.003*	-0.008***
	(0.001)	(0.000)	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.001)
EBITDA/Assets	-0.015	0.010***	0.015	-0.026**	-0.466***	-0.155***	-0.306***	-0.219***
	(0.010)	(0.002)	(0.014)	(0.011)	(0.076)	(0.022)	(0.046)	(0.034)
Net PPE/Assets	0.059***	-0.011***	-0.031***	-0.037***	0.066	0.007	0.026	-0.065***
	(0.010)	(0.002)	(0.009)	(0.006)	(0.052)	(0.006)	(0.017)	(0.015)
Industry-level controls								
Target frequency in past two years	0.004	-0.004***	-0.001	-0.006	-0.014	0.001	-0.007	-0.013
	(0.009)	(0.001)	(0.002)	(0.006)	(0.042)	(0.004)	(0.008)	(0.008)
Target frequency in past two years x HTP	0.002	0.005**	0.012	0.002	-0.042	-0.011	0.000	-0.001
	(0.011)	(0.002)	(0.010)	(0.007)	(0.048)	(0.007)	(0.011)	(0.013)
Threat year *t*-2	0.002	-0.002	-0.004	0.039*	-0.048	-0.001	-0.020	0.047
	(0.029)	(0.008)	(0.014)	(0.022)	(0.280)	(0.017)	(0.038)	(0.056)
Threat year *t*-2 x HTP	0.020	0.001	-0.008	-0.023	-0.143	0.006	0.013	0.018
	(0.031)	(0.008)	(0.015)	(0.023)	(0.244)	(0.028)	(0.053)	(0.084)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES	YES	YES	YES	YES
Policy quintile dummies	YES	YES	YES	YES	YES	YES	YES	YES
Observations	14,124	14,124	14,124	14,124	6,670	14,114	14,114	14,114
R-squared (within)	0.089	0.165	0.076	0.112	0.157	0.071	0.060	0.099

Table IA.7: Policy Changes at Threatened Peer Firms in Manufacturing Industries

This table reports OLS estimates for regressions of changes in policies and performance at peers of activist targets on (industry-level) *Threat*, (firm-level) *High threat perception (HTP)*, and their interaction for the subsample of firms in manufacturing industries (three-digit SIC from 200 to 399). In columns (1) – (5), the dependent variables are changes in financial and investment policies from years *t*-1 to *t*+1, where year *t* is the current observation year. In columns (6) – (8), the dependent variables are changes in operating performance metrics from years *t* to *t*+2. Bankruptcy is as of year *t* while all other control variables are as of year *t*-1. All regressions include industry and calendar year fixed effects and policy quintile dummies. All variables are defined in Appendix A of the paper. Standard errors, clustered by industry, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Policy Variables					Performance Variables		
	Δ Book leverage (1)	Δ Payout/ Mkt. cap (2)	Δ Capex/ Assets (3)	Δ Cash/ Assets (4)	Δ ln(CEO pay) (5)	Δ Return on assets (6)	Δ Return on sales (7)	Δ Asset turnover (8)
Main variables								
Threat	-0.013*	0.002	0.007	-0.004	-0.006	0.008**	0.034	0.016*
	(0.007)	(0.001)	(0.004)	(0.004)	(0.058)	(0.004)	(0.028)	(0.009)
[HTP] High threat perception	0.003	-0.000	0.001	0.001	0.005	0.002	-0.005	-0.010
	(0.006)	(0.001)	(0.002)	(0.003)	(0.027)	(0.002)	(0.003)	(0.007)
Threat x HTP	0.010**	0.003***	-0.001	-0.015*	-0.036	0.012*	0.016	0.014*
	(0.005)	(0.001)	(0.005)	(0.008)	(0.071)	(0.006)	(0.036)	(0.008)
Activist target event controls								
Year *t*-1	0.000	0.000	-0.006	0.004	-0.075	0.008	-0.005	0.016
	(0.007)	(0.001)	(0.007)	(0.006)	(0.061)	(0.008)	(0.009)	(0.016)
Year *t*	0.012*	0.004**	-0.013**	-0.001	-0.113	0.014***	0.056*	0.019*
	(0.006)	(0.002)	(0.005)	(0.011)	(0.082)	(0.005)	(0.029)	(0.011)
Year *t*+1	-0.002	0.001	-0.005	-0.010	-0.033	0.009	-0.026	-0.015
	(0.005)	(0.003)	(0.003)	(0.007)	(0.063)	(0.007)	(0.018)	(0.012)
Firm-level controls								
Bankruptcy	-0.182***	-0.004	-0.007	0.011	0.174	0.030	0.047***	-0.022
	(0.057)	(0.017)	(0.014)	(0.026)	(0.669)	(0.024)	(0.015)	(0.159)
ln(MCAP)	0.027***	0.004***	-0.001	-0.020***	-0.076**	-0.019***	0.046*	-0.027***
	(0.004)	(0.000)	(0.005)	(0.003)	(0.030)	(0.004)	(0.023)	(0.006)

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	Policy Variables					Performance Variables		
	Δ Book leverage (1)	Δ Payout/ Mkt. cap (2)	Δ Capex/ Assets (3)	Δ Cash/ Assets (4)	Δ ln(CEO pay) (5)	Δ Return on assets (6)	Δ Return on sales (7)	Δ Asset turnover (8)
ln(Sales)	-0.014***	0.002***	-0.028***	0.018***	-0.050**	0.011**	-0.114***	0.010
	(0.004)	(0.000)	(0.009)	(0.004)	(0.022)	(0.004)	(0.032)	(0.010)
Market-to-book ratio	-0.009***	-0.001***	-0.005***	0.003***	0.008*	0.000	-0.012***	-0.008***
	(0.001)	(0.000)	(0.002)	(0.001)	(0.004)	(0.001)	(0.003)	(0.002)
EBITDA/Assets	-0.029**	-0.004**	0.173**	0.009	-0.018	-0.223***	-0.404***	-0.203***
	(0.011)	(0.001)	(0.069)	(0.006)	(0.116)	(0.016)	(0.051)	(0.023)
Net PPE/Assets	0.163***	-0.013***	-0.136***	-0.042**	0.040	-0.035***	-0.068***	-0.319***
	(0.018)	(0.003)	(0.028)	(0.016)	(0.126)	(0.010)	(0.019)	(0.044)
Industry-level controls								
Target frequency in past two years	0.027	-0.003	0.016	0.028	-0.146	-0.047	-0.091*	-0.095
	(0.024)	(0.008)	(0.020)	(0.028)	(0.265)	(0.030)	(0.049)	(0.064)
Target frequency in past two years x HTP	0.002	-0.006	-0.028	-0.011	-0.166	0.081	0.235*	0.056
	(0.028)	(0.011)	(0.035)	(0.033)	(0.263)	(0.048)	(0.127)	(0.096)
Threat year *t*-2	0.009	-0.003**	0.015	0.003	-0.094	-0.005	0.008	0.009
	(0.007)	(0.001)	(0.014)	(0.006)	(0.067)	(0.003)	(0.012)	(0.006)
Threat year *t*-2 x HTP	0.001	0.003***	-0.005	0.003	0.023	0.005	-0.002	0.021*
	(0.010)	(0.001)	(0.008)	(0.003)	(0.073)	(0.009)	(0.014)	(0.011)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES
Calendar year FE	YES	YES	YES	YES	YES	YES	YES	YES
Policy quintile dummies	YES	YES	YES	YES	YES	YES	YES	YES
Observations	19,987	19,987	19,987	19,987	8,531	19,971	19,971	19,971
R-squared (within)	0.138	0.063	0.162	0.129	0.158	0.087	0.076	0.159

Table IA.8: Abnormal Returns of Peer Firms Facing Activism Threat

This table reports OLS estimates for regressions of quarterly abnormal stock returns on (industry-level) threat event-quarter dummies, (firm-level) *High threat perception* (*HTP*), and their interaction. Observations are firm-quarter, and the sample period is 1997-2011. For each firm, *Threat quarter t* is an indicator variable that equals one if the value of *Continuous threat* calculated on a rolling basis over the past eight quarters is greater than the sample median of 0.0012. For each firm, *Target quarter t* is an indicator variable that equals one if the firm is targeted by an activist hedge fund in that quarter. Market-adjusted returns are stock returns minus CRSP VW returns. FF25VW (EW)-adjusted returns are stock returns minus value-weighted (equally-weighted) returns of the matched Fama-French 25 size and value/growth portfolios. All regressions include a control for Bankruptcy, and firm and calendar year fixed effects. Standard errors, clustered by firm, are in parentheses. *, **, and *** refer to statistical significance at 10%, 5%, and 1% levels, respectively.

	Market	Market	FF25VW	FF25EW
	(1)	(2)	(3)	(4)
[HTP] High threat perception		-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)
Threat event time				
Threat quarter *t*-2	0.008	0.008	0.006	0.003
	(0.011)	(0.013)	(0.010)	(0.011)
Threat quarter *t*-1	0.010	0.009	-0.000	0.002
	(0.012)	(0.014)	(0.012)	(0.011)
Threat quarter *t*	0.020**	0.015	0.006	0.000
	(0.009)	(0.011)	(0.009)	(0.009)
Threat quarter *t*+1	0.004	-0.001	0.002	0.006
	(0.013)	(0.016)	(0.010)	(0.009)
Threat quarter *t*+2	0.008	0.009	0.008	0.006
	(0.009)	(0.010)	(0.006)	(0.005)
Threat quarter *t*-2 x HTP		0.000	0.006	0.005
		(0.006)	(0.005)	(0.005)
Threat quarter *t*-1 x HTP		0.005	0.004	0.005
		(0.005)	(0.006)	(0.006)
Threat quarter *t* x HTP		0.009	0.011*	0.011*
		(0.006)	(0.006)	(0.006)
Threat quarter *t*+1 x HTP		0.012*	0.009*	0.008
		(0.006)	(0.005)	(0.005)
Threat quarter *t*+2 x HTP		-0.007	-0.004	-0.007
		(0.005)	(0.004)	(0.005)

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	Market	Market	FF25VW	FF25EW
	(1)	(2)	(3)	(4)
Activist target event controls				
Target quarter *t*-2	-0.028***	-0.028***	-0.033***	-0.033***
	(0.005)	(0.005)	(0.005)	(0.005)
Target quarter *t*-1	-0.033***	-0.033***	-0.034***	-0.033***
	(0.007)	(0.007)	(0.007)	(0.007)
Target quarter *t*	0.050***	0.050***	0.052***	0.048***
	(0.008)	(0.008)	(0.008)	(0.007)
Target quarter *t*+1	0.010	0.010	0.006	0.007
	(0.010)	(0.010)	(0.010)	(0.009)
Target quarter *t*+2	0.007	0.007	0.005	0.005
	(0.005)	(0.006)	(0.006)	(0.006)
Bankruptcy, Firm FE, and Calendar year FE	YES	YES	YES	YES
Observations	214,025	214,025	214,025	214,025
R-squared (within)	0.030	0.030	0.008	0.003