TAXATION, ACCOUNTING, AND FINANCE
TAF WORKING PAPER

Shareholder activism around the globe: Hedge funds vs. other professional investors

Hartmann, Jochen / Pelster, Matthias / Sievers, Sönke

Shareholder activism around the globe:

Hedge funds vs. other professional investors[*]

Jochen Hartmann, Matthias Pelster & Sönke Sievers

Abstract

Shareholder activism has sharply increased over the past decade and spread both across countries and among different types of investors. Today, 50% of all engagements occur outside North America, with non-hedge fund investors accounting for one-third of all engagements. We investigate the effects and drivers of hedge fund and non-hedge fund activism using an international dataset of 2,689 activist engagements across 44 countries between 2008 and 2019. Activist investments in North America, on average, yield the largest immediate positive stock market returns and buy-and-hold returns, followed by engagements in Europe and the Asia-Pacific region. In North America, short-term abnormal returns for hedge funds are at a similar level as those for non-hedge funds, but in Europe and the Asia-Pacific region, they are higher for non-hedge funds. However, globally, hedge funds achieve higher buy-and hold returns and are more successful than non-hedge funds in implementing change in target firms. Over time, our results suggest unfulfilled investor expectations, as announcement returns are increasing but (abnormal) buy-and-hold returns and the impact on performance measures of target firms are decreasing for both hedge funds and non-hedge funds.

"In most cases this favorable price performance will be accompanied by a well-defined improvement in the average earnings, in the dividend, and in the balance-sheet position. Thus in the long run the market test and the ordinary business test of a successful equity commitment tend to be largely identical." (Graham, 1954: 23)

1   Introduction

This paper provides new evidence on the characteristics and performance of hedge fund and non-hedge fund activism (e.g., by private equity, high-net-worth individuals, and corporate investors) around the globe. We find that cumulative average abnormal returns (CAARs) around announcement dates of engagements have increased in recent years, particularly for non-hedge fund engagements. At the same time, however, the two-year buy-and-hold abnormal returns (BHARs) of engagements have declined for more recent engagements. These findings are consistent around the globe.

Activist investments are, among other things, the result of years of low bond yields and readily available financing. This environment has led to increased capital flows into alternative investments (PwC, 2018). Additionally, non-hedge fund investors have moved from rather passive to more activist investor-like roles and have started to directly approach companies to promote change and generate higher returns (J.P. Morgan, 2015; Lazard, 2018). This trend has supported an increase in global shareholder activism over the last decade, an area that was previously mostly occupied by hedge funds and centered in North America.

Given these recent developments, we investigate the impact of the globally increasing number of activist engagements over the last decade regarding short- and medium-term stock market reactions, target selection, and achieved outcomes by activists. How does the stock market perceive investments by hedge funds compared to those by non-

hedge funds around the globe? Do hedge funds and non-hedge funds differ in their approaches to selecting, investing, and asking for change in their target firms? Are there significant regional differences between both groups?

We answer these questions using a large sample of activist engagements, focusing on the difference between hedge funds and non-hedge funds. International data on activist engagements are challenging to obtain, as many countries do not require disclosures equivalent to Schedule 13D filings in the U.S. (Becht et al., 2017). We overcome this challenge by using data from *Activist Insight*. *Activist Insight* identifies activist engagements of hedge funds and non-hedge funds of any size across the globe by examining regulatory filings, news articles, and other filings and provides detailed engagement information such as, e.g., public demands of activists or exit types.

Our sample is from 2008 to 2019 and covers 2,689 activist engagements, comprising 1,655 engagements by 427 unique hedge funds and 1,034 engagements by 682 unique non-hedge funds from the Asia-Pacific region, Europe, and North America. The five largest countries for shareholder activism cover 82% of all engagements: the U.S. with 1,260 engagements, the United Kingdom with 331 engagements, Japan with 283 engagements, Australia with 205 engagements, and Canada with 120 engagements. This list of the top five countries with the most activist engagements is also similar for the hedge fund and non-hedge fund samples. The average acquired stake is comparable across regions at approximately 10% for non-hedge fund engagements and at approximately 7% for hedge fund engagements. This finding is consistent with prior studies by Krishnan et al. (2016) and Becht et al. (2017) and shows that activists still require the support of other investors, as they do not control large blocks of stocks.

Studying hedge funds and non-hedge funds shows similarities and differences in immediate stock market reactions and firm outcomes. We find a significant positive CAAR

of 6.8% for hedge fund engagements and of 8.5% for non-hedge fund engagements during a [-20, +20] window surrounding engagement announcements across all regions. Confidence intervals based on twice the standard error range from 5.6% to 8.0% and from 6.4% to 10.6%, respectively. Turning to the different regions, CAARs are at similar levels for hedge fund engagements and for non-hedge fund engagements in North America (8.9% vs. 8.7%), while they are higher for non-hedge fund engagements than for hedge fund engagements in the Asia-Pacific region (8.9% vs. 5.3%) and Europe (7.4% vs. 3.6%). All reported CAARs are significant at the 1% level, but differences between hedge fund and non-hedge fund engagements are significant only in Europe. These results indicate that globally, CAARs of non-hedge fund engagements caught up with CAARs of hedge fund engagements from 2008 to 2019, in contrast to the historically lower performance of non-hedge fund engagements (see Becht et al., 2010; Prevost et al., 2012).

To shed more light on this issue, we split the sample into two periods, one from 2008 to 2014 and one from 2015 to 2019. We find a significant increase (at the 1% level) in CAARs of hedge fund engagements in Europe (0.8% vs. 6.4%) and North America (6.9% vs. 11.6%) in later years, while we observe no significant change in CAARs of hedge fund engagements in the Asia-Pacific region (7.6% vs. 4.2%). For non-hedge fund engagements, we find a significant increase in CAARs in North America (5.0% vs. 12.3%) and no significant changes in the Asia-Pacific region (8.0% vs. 9.8%) and Europe (5.0% vs. 9.2%). Thus, the catching-up effect of non-hedge funds is driven particularly by engagements in North America.

With respect to firm outcomes, hedge funds are more successful in implementing change than non-hedge funds across all regions. While we find significant negative effects of hedge fund activists on target firms' total sales and a significant increase in target firms' profitability, we do not find similar effects for the non-hedge fund sample (see also Klein

and Zur, 2009; Krishnan et al., 2016). This seems to be consistent with the market perspective, which shows significant positive average two-year BHARs of 9.0 percentage points (pp) for hedge fund engagements but significant negative two-year BHARs of 7.5 pp for non-hedge fund engagements. Over time, BHARs are lower, but not significantly lower, in the period from 2015 to 2019 than in the period from 2008 to 2014 for the hedge fund (7.0 pp vs. 10.6 pp) and non-hedge fund sample (-13.2 pp vs. -2.5 pp). This negative stock market trend regarding BHARs is particularly surprising, given that immediate stock market reactions (CAARs) indicate increasing expectations for hedge funds and non-hedge funds. Thus, it seems that non-hedge fund activists in particular do not fulfill investors' long-term expectations. However, what are potential explanations for these contradicting results?

Our detailed sample allows us to investigate different market conditions and activist behavior that is consistent with these findings. First, the competition among activist investors has sharply increased over the last decade, as the number of activist engagements has increased, spread globally, and attracted new investors.

Second, we observe a higher share of one-time investors among non-hedge fund investors compared to hedge fund investors (58% vs. 13%) and a significantly lower mean of average transactions in the two years prior to an engagement for non-hedge fund activists than for hedge fund activists at the 1% level (2.8 vs. 7.5 transactions). The lack of transaction experience of one-time investors and the rise of activist campaigns in new markets and different types of target firms may partly explain the underperformance of non-hedge funds.

Third, our results show that hedge fund and non-hedge fund investors have broadened their investment focus with regard to financial and operational firm characteristics, which may be explained by the lack of attractive targets combined with record levels of dry powder (see, e.g., Gompers and Lerner, 2000).

Our study makes several contributions to the literature and provides important new insights for practitioners. First, we compare the performance of hedge fund and non-hedge fund investors using an international dataset. Therefore, we extend prior studies by Prevost and Rao (2000), Becht et al. (2010), and Prevost et al. (2012), who analyze specific non-hedge fund investors such as labor unions or pension funds for U.S. and global samples. Most importantly, we extend the results of Becht et al. (2017) by contrasting hedge fund and non-hedge fund activism around the globe. In particular, we show that CAARs of non-hedge fund activism are comparable to those of hedge fund activism on a global level, but the results differ sharply across the three regions. Finally, the initial euphoria that occurs when a non-hedge fund activist enters a firm seems to be premature, given that the negative BHAR performance is rather disappointing. This indicates that it is essential to investigate both short- and medium-term return measures when examining shareholder activism (see also Renneboog and Vansteenkiste, 2019).

Second, we extend prior literature on shareholder activism in earlier time periods (see, e.g., Brav et al., 2008; Clifford, 2008; Klein and Zur, 2009; Renneboog and Szilagyi, 2011; Prevost et al., 2012; Krishnan et al., 2016) by using a more recent sample. We thereby identify changes in previously observed patterns and new trends in shareholder activism. Studying the recent developments in shareholder activism is important, as we find that the short- and medium-term performance of activist engagements diverges for some groups of investors and some regions. We show that short-term CAARs increase in the later years of our sample, whereas two-year BHARs decrease over time.

Third, we investigate potential reasons for these different short- and medium-term market reactions. Our results are consistent with the idea that increased competition, new activist investors, and a broadened investment focus of activists may explain these developments (see, e.g., Gompers and Lerner, 2000). Additionally, differences between

hedge fund and non-hedge fund activists with regard to public demands seem to contribute to these results. We find that engagements without public demands earn lower CAARs for both the hedge fund sample (4.9% vs. 9.4%, *t*-statistic on differences: -2.50) and the non-hedge fund sample (6.0% vs. 7.9%, *t*-statistic on differences: -0.59). For all investors, CAARs for engagements with public demands are highest in North America, followed by the Asia-Pacific region and Europe.

The remainder of the paper is organized as follows. Section 2 discusses the key findings of the related literature and our hypotheses. Section 3 describes our sample and the empirical methodology and reports descriptive statistics on activist engagements. Section 4 presents and, most importantly, provides a synoptic discussion of our main results. Section 5 concludes.

2   Related research and hypotheses development

Shareholder activism has become an integral and well-researched part of capital markets since it began in the 1980s (Karpoff et al., 1996; Brav et al., 2008; Clifford, 2008; Klein and Zur, 2009; Greenwood and Schor, 2009; Becht et al.,2010; Mietzner and Schweizer, 2014; Becht et al., 2017; Denes et al., 2017; Gantchev et al., 2020; Wong, 2020). Table A.I in the Appendix provides an overview of prior research. This section reviews the related literature and develops our hypotheses. Bearing in mind our research questions that center on the differences between hedge-fund vs. non-hedge fund activists, we divide this section into research on i) short-term stock market reactions, ii) medium-term stock market reactions, iii) target selection, and iv) target impact. Our global sample allows us to capture differences across the Asia-Pacific region, Europe and North America regarding these four dimensions. Finally, we discuss the impact of activist engagements over time.

2.1 Announcement return effects

Empirical evidence for the U.S. suggests that activist engagements yield significant positive abnormal announcement returns. In addition, financial markets estimate the value creation potential of hedge fund engagements to be higher than that of non-hedge fund engagements.[1] Prior research shows that hedge fund engagements yield short-term CAARs between 5% and 10% compared to 1% to 4% for non-hedge fund engagements (Brav et al., 2008; Clifford, 2008; Klein and Zur, 2009; Greenwood and Schor, 2009; Prevost et al., 2012; Becht et al., 2017). Abnormal returns, however, vary across geographies and types of investors. Becht et al. (2017) show that hedge fund engagements yield higher CAARs for engagement announcements in North America than in the Asia-Pacific region or Europe. In addition, Klein and Zur (2009) report significantly higher CAARs for hedge fund compared to non-hedge fund engagements using a sample focused on North America, while Mietzner and Schweizer (2014), using a sample of German engagements, find no significant differences in CAARs of hedge fund and private equity engagements.

In summary, the overarching picture seems to be that, in general, hedge funds are associated with higher announcement returns than non-hedge funds. According to the very few studies that investigate markets other than the U.S., the announcement returns seem to be higher in the U.S. Unfortunately, these studies often investigate only one group of investors or focus on a single or few regions and different time periods, thereby complicating the comparison of results. Thus, how the various developments among hedge funds and non-hedge fund activists have affected CAARs, especially in recent years, remains an open

---

[1]   Table A.I in the Appendix provides an overview of estimated CAARs in prior research.

question. Bearing the very scarce international evidence in mind, we formulate the following hypotheses:

H1a. Hedge fund engagements realize higher CAARs than non-hedge fund engagements across all regions.

H1b. Hedge fund and non-hedge fund engagements realize higher CAARs in North America than in the Asia-Pacific region and Europe.

2.2 Buy-and-hold-returns of target firms

Prior studies show that the patterns for medium-term BHARs of target firms are mostly consistent with observed patterns for short-term CAARs.[2] Target firms of hedge fund activists yield, on average, annualized BHARs between 5% and 11%, while non-hedge fund targets earn only between 1% and 5%. Some results, however, seem to be very sample specific and driven by certain regions and by whether the studies comingle hedge-fund and non-hedge funds within their analysis. For instance, Clifford (2008) reports one-year BHARs of 22% for hedge fund targets in the U.S. and Klein and Zur (2009) report one-year BHARs of 17.8% for non-hedge fund targets in the U.S., while Mietzner and Schweizer (2014) report negative one-year BHARs for a German sample of hedge fund (-22%) and non-hedge fund engagements (-3%). Thus, there is a great need to analyze medium-term BHARs in a more comprehensive and international sample. In addition, recent new time trends that have not been incorporated in the analysis so far increase the importance of a current study. For example, given the documented increase in non-hedge fund activism, most lucrative targets may have already been targeted, which may put existing and new activists under pressure to

---

[2]   Table A.I in the Appendix provides an overview of BHARs estimated in prior research.

achieve a significant outperformance of target firms' stocks (J.P. Morgan, 2015; Krishnan et al., 2016).

Based on the abovementioned studies, we expect similar findings overall for BHARs compared to CAARs. However, given the limited international evidence regarding differences between hedge fund and non-hedge fund engagements, it is not clear whether the findings mentioned above will be confirmed for our more comprehensive and recent sample. Nevertheless, our baseline expectations yield the following hypotheses:

H2a. Hedge fund engagements realize higher BHARs than non-hedge fund engagements across all regions.

H2b. Hedge fund and non-hedge fund engagements realize higher BHARs in North America than in the Asia-Pacific region and Europe.

2.3   Characteristics of target companies

Historically, hedge fund and non-hedge fund activists tend to prefer, on average, smaller firms with lower market-to-book ratios and lower sales growth compared to control groups (Brav et al., 2008; Klein and Zur, 2009; Denes et al., 2017). However, prior studies also report investor-specific particularities, as, for instance, the profitability of target firms is higher on average for hedge fund targets than for control firms, while non-hedge fund targets share similar or lower profitability characteristics than control groups (Denes et al., 2017). Klein and Zur (2009) also report higher sales levels as well as higher profitability and cash ratios for hedge fund targets than for non-hedge fund targets. These findings are supported by Denes et al. (2017), who conclude that hedge fund activists tend to focus on larger, financially healthier firms with higher earnings and profitability that offer individual opportunities for value creation, while non-hedge fund investors often focus on firms with overall poor financial and operational performance. In terms of geographical particularities,

only Becht et al. (2017) provide comprehensive large-sample evidence on the target selection of hedge funds in an international setting. They report relatively similar target firm characteristics for hedge fund targets in the Asia-Pacific region, Europe, and North America and conclude that hedge fund activists may generally be less restricted than previously thought to investments in smaller firms. However, Becht et al. (2017) do not investigate non-hedge fund activism and target selection. For a German sample, Mietzner and Schweizer (2014) complement this research by reporting that on average, non-hedge fund activists invest in larger firms than hedge funds do. In sum, the abovementioned results neither provide a comprehensive assessment of the similarities and differences among hedge funds and non-hedge funds in terms of target firm selection nor allow us to investigate a time trend induced by the sharp increase in activist engagements in the mid-2010s.

Thus, we formulate the following hypotheses based on the insightful but limited evidence to date, acknowledging that the outcome is an empirical question.

H3a. Hedge funds invest in smaller and financially better-performing firms than nontarget firms across all regions.

H3b. Non-hedge funds invest in smaller and financially worse-performing firms than nontarget firms across all regions.

H3c. Hedge funds invest in larger and more profitable firms than non-hedge funds across all regions.

H3d. Hedge funds and non-hedge funds use similar target strategies in the Asia-Pacific region, Europe, and North America.

2.4 Impact on the operating and financial performance of target firms

While the previous section focused on target selection, this section is concerned with the impact of hedge funds vs. non-hedge funds on target firms. In general, prior studies

indicate that hedge fund investors are overall more successful in increasing the operational and financial performance of target firms than non-hedge fund investors (Brav et al., 2008; Klein and Zur, 2009; Becht et al., 2010; Renneboog and Szilagyi, 2011; Prevost et al., 2012; Bebchuk et al., 2015). In particular, the target firms of hedge fund activists typically increase their operating profitability, engage in asset divestitures, decrease capital expenditures, and simultaneously increase payout ratios in the years following an activist campaign (Brav et al., 2008; Clifford, 2008; Boyson and Mooradian, 2011; Denes et al., 2017). Evidence regarding the impact of non-hedge fund investors on the operating and financial performance of target firms is mixed. While Karpoff et al. (1996) report a significant decrease in firm size but no significant changes in the performance indicators of target firms in the year after an engagement, Klein and Zur (2009) find significant decreases in cash holdings and R&D expenditures. Similarly, Becht et al. (2010) analyze a sample of non-hedge fund engagements in mostly European-based target firms and find no significant changes in the operating performance of target firms two years after an engagement. Given these differences in prior studies and the overall increase in activist engagements, it is highly relevant to assess the development of activists' success in shaping target firms' performance metrics using an international sample of hedge fund and non-hedge fund engagements. Based on prior studies, we formulate the following hypotheses:

H4a. Improvements in the operating performance of target firms are higher for hedge fund engagements than for non-hedge fund engagements across all regions.

H4b. Hedge fund and non-hedge fund engagements achieve higher target company improvements in North America than in the Asia-Pacific region and Europe.

2.5 Activist engagements over time

As highlighted earlier, the number of activist engagements across the globe has been sharply increasing over the last decade. However, only a few studies have shed light on the impact of this increase on the short- and medium-term performance of such engagements.

Krishnan et al. (2016) report that the experience of activists from prior transactions works against declining CAARs that are driven by increasing competition within hedge fund activism over the last decade. In particular, Krishnan et al. (2016) document that only some hedge funds with sufficient capital resources and a track record of past successful engagements were able to successfully deal with these changing conditions between 2008 and 2014 and outperform other hedge fund investors with regard to, e.g., CAARs and their impact on target firms. Becht et al. (2017) support these findings and show that short-term CAARs are higher in the early 2000s than in the late 2000s for hedge fund engagements in the relatively mature North American market. In Europe, short-term CAARs of hedge fund engagements follow the opposite trend, as they are higher in later years than in the early 2000s. However, the European market is still not as developed as the North American market, so Europe may lag behind trends and patterns already observed in North America (Becht et al., 2017). Alexandridis et al. (2017) cite improvements in the quality of corporate governance in the aftermath of the 2008 global financial crisis as a main driver of increasing abnormal returns to acquisitions. In line with this notion, it is plausible that the returns to activist campaigns also increase over time.

However, Krishnan et al. (2016) and Becht et al. (2017) also report that hedge fund activists have begun to invest in larger firms over time and are less restricted by firm size, as previously believed, and pursue more complex engagements across the globe and thereby have begun to broaden their investment focus. Considering evidence from the acquisitions literature that indicates that focused investments provide superior performance (Renneboog

and Vansteenkiste, 2019), this trend could be a harbinger of declining returns. Given that international evidence over time has been unexplored so far, we restrict ourselves to the following two hypotheses:

H5a. Short-term CAARs decrease over time for hedge fund and non-hedge fund engagements across all regions.

H5b. The BHARs of target firms decrease over time for hedge fund and non-hedge fund engagements across all regions.

3   Empirical design

3.1   Data

We obtain our data on activist engagements from *Activist Insight. Activist Insight* is a commercial database provider on global shareholder activism that collects engagements from regulatory filings, press releases, newspaper articles, and so forth. The data include engagements in publicly traded firms of all sizes and industries across the globe. The database provides information on investors, their demands, achieved outcomes, and exit strategies. The data offer several advantages compared to hand-collected data based on regulatory filings. Specifically, the data provide comprehensive insights into the campaigns of both regulated and nonregulated companies, such as hedge funds, asset managers, traditional companies, and private persons. The data also contain engagements regardless of the number of shares acquired and include campaigns below regulatory thresholds.

We collect information on all activist engagements between January 2008 and July 2019, which gives us an initial dataset containing 9,829 activist engagements. We filter the data according to the following criteria: We exclude 228 investments that are outside the Asia-Pacific region, Europe, and North America and 218 reinvestments in target firms. We impose a minimum holding period of at least 30 days, thereby excluding 55 engagements.

We exclude 2,379 engagements that do not include information on the percentage and number of acquired shares and 550 engagements that do not include a classification of the activist's business background. Further, we exclude 504 investments in investment funds or equivalents and eliminate 2,587 engagements for which the acquired stake is not announced within ten days after the acquisition. The ten days correspond to regulatory requirements such as, for instance, 13D filings with the U.S. Securities and Exchange Commission (SEC, 2018). Sometimes, it takes several weeks or months for an engagement to be publicly announced. The extension of our ten-day notice period to forty days would not substantially change our sample and results in only 152 additional engagements. Finally, we exclude 230 multiple investments in one firm on the same date and 389 engagements for which insufficient price and financial statement data are available. The final sample comprises 2,689 engagements by 1,109 unique investors in 2,221 unique target firms. Table A.II in the Appendix summarizes our filtering criteria.

We complement the data with annual balance sheet and profit and loss data from *Refinitiv Worldscope* and additional share price data from *Refinitiv Datastream*. We collect a control group of nontarget firms using all available data from *Refinitiv Worldscope*. The control group comprises 61,155 unique firms – 30,048 from the Asia-Pacific region, 14,422 from Europe, and 16,685 from North America – and 528,816 year-firm matches. We collect environmental, social and governance (ESG) scores and information on the board of directors for target and nontarget firms from *Refinitiv Datastream Asset4*. We obtain country-specific data on governance from the *Worldwide Governance Indicators* published by the World Bank, comprising observations for the home countries of target and nontarget firms. Descriptions of all variables and their calculations are given in Table A.III and A.IV in the Appendix.

3.2   Methodology

Stock performance

We estimate CAARs to measure the stock price impact of disclosures of activist engagements across regions and for different geographies using the market model. Our estimation window comprises the last 200 trading days prior to the event window, i.e.,   [-220, -21]. Formally, we estimate

$$R_{it} = \alpha_i + \hat{\beta}_i R_{mt} + \varepsilon_i \qquad \text{for} \qquad t = -220, \dots, -21, \qquad (1)$$

where R_{it} denotes the stock return for company i on day t, and R_{mt} denotes the market index return for day t. We provide a list of benchmark indices in Table A.IV in the Appendix (see, e.g., Campbell et al., 2010). We consider only target firms with observations on all trading days within the estimation and event window. We then calculate expected returns in the event window and daily abnormal returns as the difference between observed and expected stock returns. To assess the statistical significance, we use the cross-sectional *t*-test, the standardized cross-sectional test by Boehmer et al. (1991), and the generalized sign test by Cowan (1992).

We also regress the [-20, +20] CAARs on a set of investment-specific explanatory variables using standard ordinary least squares regression analysis to control for potential other effects driving the difference of hedge funds and non-hedge funds. The variables of interest are firm size, leverage, and payout ratios in addition to the amount of invested capital and stock performance for the last twelve months prior to an engagement (Brav et al, 2008; Mietzner and Schweizer, 2014; Krishnan et al., 2016; Boyson et al., 2017). We also control for target firm geographies and lag all firm characteristics by one year.

Trading volume

We estimate the expected trading volume as the average trading volume during the estimation period. Abnormal trading volume is then given as the difference between the actual trading volume in the event window and the expected trading volume (see Brav et al, 2008; Becht et al., 2017). The trading volume analysis covers only 2,166 engagements globally due to the limited availability of data on trading volume. We consider only target firms in our sample that have at least 176 (25) observations in the estimation (event) window.

Operational and financial impact of activists

To assess the impact of activist investors on firm characteristics and to calculate BHARs, we build a sample of target and matched nontarget firms. We use one-to-one propensity score matching based on total assets measured in USD, market-to-book ratios, and return on assets on a year-by-year basis (e.g., Rosenbaum and Rubin, 1983; Rosenbaum, 1989; Li and Prabhala, 2007; Roberts and Whited, 2013). We match only firms within the same geographic region and industry, which is found using the first two digits of the firms' SIC codes. We test the statistical significance of the difference between target and nontarget firms using a cross-sectional *t*-test. The results of our matching procedure are shown in Table A.V in the Appendix. In addition, we assess the quality of our matching by trying to forecast which firms of our matched sample are target firms. In particular, we fit a logit model to estimate the determinants of becoming a target. The dependent variable is a dummy variable (treatment), which takes a value of one for target firms and zero for nontarget firms. Explanatory variables are firm characteristics. We then calculate the fitted values and the root mean square error (RMSE) as the differences between fitted values and the treatment dummy. The average RMSE of this exercise amounts to 0.4998. A forecast with absolutely

no explanatory power has an RMSE of 0.5. The resulting distribution of forecast errors is shown in A.VI in the Appendix.

Using the matched sample, we run various difference-in-differences regression analyses using financial and operational characteristics as dependent variables. Moreover, to study the differences between hedge funds and non-hedge funds and across geographic regions, we conduct a difference-in-difference-in-differences analysis. We consider a pair of target and matched nontarget firms only if both firms have an observation for the variable of interest. Formally, we estimate

$$Y_{it} = \alpha_i + \beta_1 post_i + \beta_2 treat_i + \beta_3 post_i \times treat_i + \gamma_t + e_i, \tag{2}$$

and

$$Y_{it} = \alpha_i + \beta_1 post_i + \beta_2 treat_i + \beta_3 Geo_i + \beta_4 post_i \times treat_i + \tag{3}$$
$$\beta_5 post_i \times Geo_i + \beta_6 Geo_i \times treat_i + \beta_7 post_i \times treat_i \times Geo_i + \gamma_t + e_i,$$

where the dependent variable denotes a firm characteristic, such as sales, of firm *i* at time *t*. *Post* is a dummy variable that takes a value of one in the treatment period and zero otherwise; *treat* is a dummy variable that takes a value of one for firms in the treatment group and zero otherwise; *Geo* takes a value of one for firms in the region of interest and zero otherwise. We use this variable for the Asia-Pacific region, Europe, and North America. In a similar vein, we replace *Geo* with a hedge fund dummy variable. The specification includes firm fixed effects and time fixed effects to control for observed and unobserved heterogeneity across firms and over time. Dinc (2005) and Atanasov and Black (2016) note that the inclusion of firm fixed effects can help to address potential covariate imbalance between the treatment and control groups. The coefficient of interest in Equation (2) is β_3, capturing the impact of activist investors on the characteristics of target firms. The

coefficient of interest in Equation (3) is β_7, which captures the impact of activist engagements on the characteristics of target firms in a specific region (of hedge funds).

Buy-and-hold abnormal returns

To determine the medium-term stock price effects of activist engagements, we calculate abnormal buy-and-hold returns over a two-year period after an engagement. We calculate BHARs as the difference in log returns of two-year BHRs for target and matched nontarget firms,

$$BHAR_i = \ln(1 + BHAR_{it}) - \ln(1 + BHAR_{im}), \tag{4}$$

where $BHAR_{it}$ captures the two-year stock return of target firm i following an investment and $BHAR_{im}$ the stock return of the matched nontarget firm. BHARs are given by

$$BHAR_{it} = \frac{Price\ Year2_{it}}{Price\ Year0_{it}} - 1, \text{and} \tag{5}$$

$$BHAR_{im} = \frac{Price\ Year2_{im}}{Price\ Year0_{im}} - 1. \tag{6}$$

Target selection

We conduct logit regressions and calculate marginal effects to analyze how different firm characteristics affect the probability of activist engagement. The dependent variable is a dummy variable that takes a value of one if an activist invests in a firm and zero otherwise. X_i are firm- and country-specific explanatory variables. Explanatory variables are based on prior literature and include firm characteristics, such as size, profitability, cash levels, and growth rates (e.g., Brav et al., 2008; Clifford, 2008; Greenwood and Schor, 2009; Klein and

Zur, 2009; Becht et al., 2017). All variables in our regression model are lagged by one year. Formally, we estimate

$$Logit(Y_{1/0}) = \alpha_i + \beta_1 Size_i + \sum_{j=2}^{J+1} \beta_j X_i^j + e_i. \tag{7}$$

In addition, we report the economic significance for each variable by multiplying marginal effects by one standard deviation of the respective variable, following Bushman et al. (2010).

3.3 A descriptive overview of shareholder activism around the globe

We begin our analysis with a thorough descriptive analysis of activist engagements in our sample. Table I provides an overview of activist engagements in different regions together with several investment details, while Table II provides an overview of market developments, such as the number of present investors and transactions.[3]

Place Tables I and II about here

The number of activist engagements has sharply increased over the last decade from only 80 engagements in 2008 to 243 engagements in 2018 (see also Figure I). We observe an increase in activist engagements by hedge funds and non-hedge funds across all regions. Engagements peaked in 2015 and have slightly declined since then. The regional split of the 2,689 activist engagements in our sample shows that they are not equally distributed across the globe. A total of 1,380 engagements took place in North America, 680 in Europe, and 629 in the Asia-Pacific region. The top ten countries in terms of the number of engagements

---

[3] We provide a detailed overview of the different demand types split by region in Table A.VII in the Appendix.

account for 90% of all engagements and are led by the U.S. (47% of all engagements), the United Kingdom (12% of all engagements), and Japan (11% of all engagements).

Place Figure I about here

Although North America (the U.S. and Canada) accounts for 51% of all engagements in our sample, the growth rates of activist engagements in the Asia-Pacific region between 2008 and 2018 are almost five times higher than those in North America (840% vs. 180%), highlighting the increasing relevance of shareholder activism outside North America. Surprisingly, growth rates in Europe are 80% over the same period, which is approximately half the growth rate of the North American sample. The overall increase in the number of activist campaigns is driven not only by increased investment activities of present investors but also by a large number of new investors (see Table II).

We also observe an increase in the number of unique activists across all regions for hedge funds and non-hedge funds. The increase in unique investors is largest in the Asia-Pacific region, from eight investors in 2008 to 43 investors in 2018. In North America, we find 26 investors in 2008 and 97 investors in 2018, while Europe counted 16 investors in 2008 and 34 investors in 2018 (see Table II). The share of activist investors that only engage in one transaction is highest in the Asia-Pacific region, with 41% (256 engagements), followed by 27% (374 engagements) in North America and 26% (176 engagements) in Europe. The average share of one-time investors across all regions is highest among non-hedge funds at 58% (595 engagements) compared to 13% (211 engagements) for hedge funds. One-time non-hedge fund activists occur most frequently in the Asia-Pacific region, followed by Europe and North America, whereas one-time hedge fund activism is more frequent in North America, followed by the Asia-Pacific region and Europe. The share of one-time investors has increased over time for both groups of investors and across all regions.

Transaction experience, measured as the number of past engagements of an activist over a two-year period prior to an engagement is highly skewed and shows that experience is higher for hedge fund investors, which have 7.5 engagements on average, than for non-hedge fund investors, which have 2.8 transactions on average. Across regions, hedge funds have the most experience in the Asia-Pacific region (average transactions: 11.5), followed by Europe (average transactions: 9.9) and North America (average transactions: 5.1). In contrast, the transaction experience of non-hedge funds is similar across regions, with, on average, 3.0 transactions in North America, 3.0 transactions in the Asia-Pacific region, and 2.3 transactions in Europe. Over time, the transaction experience of hedge fund investors increases in the Asia-Pacific region and Europe but decreases in the U.S. Thus, shareholder activism is more concentrated among hedge funds, as the number of one-time investors is lower and the average transaction experience is higher than those of non-hedge funds. Finally, the observed concentration is specifically pronounced among hedge funds in the Asia-Pacific region and Europe.

To shed additional light on these findings, we analyze the engagements of the ten most active investors across regions. In the Asia-Pacific region, the ten most active hedge funds account for 73% of the 301 hedge fund engagements, in contrast to only 22% of the 924 hedge fund engagements in North America and 53% of the 430 hedge fund engagements in Europe. The concentration among the top ten activists is lower for non-hedge funds. Here, the share is lowest in the Asia-Pacific region, where the ten most active non-hedge funds only account for 24% of the 328 non-hedge fund engagements, in contrast to 29% of the 250 non-hedge fund engagements in Europe and 29% of the 456 non-hedge fund engagements in North America (untabulated).

Within the full sample, hedge fund investors account for 62% and, thus, the majority of all engagements compared to 38% of non-hedge fund engagements. This share of non-

hedge fund activists is increasing over time (36% in 2008-2014 and 41% in 2015-2019) and correspondingly decreasing for hedge funds (see Table II). However, the number of hedge fund transactions in absolute terms increases over time across all regions (see Table II).

Across regions, hedge funds account for the majority of transactions in North America (67%) and Europe (63%) but only 48% of all engagements in the Asia-Pacific region. In Europe, 49% of all engagements occur in the United Kingdom but are split approximately equally among other countries. Interestingly, Australia (205 engagements) and Japan (283 engagements) are the most frequently targeted countries in the Asia-Pacific region and together account for 78% of all transactions in the region. While hedge funds account for 208 of all engagements in Japan, non-hedge funds account for 143 of all engagements in Australia. Surprisingly, more than 81% of non-hedge fund investors in Australia are one-time investors, whereas only approximately 2% of hedge fund investors in Japan are one-time investors.

The sample of non-hedge fund investors is very diverse with regard to the investors' backgrounds. The 1,034 non-hedge fund engagements are attributable to the following groups of investors: 293 individual investors, 266 asset managers, 237 private equity firms, 119 companies, 96 anonymous shareholders, 13 government or cause-oriented investors, nine pension funds, and one short-focused investor.

Our data also show that activists raise public demands in 63% of all engagements (see Table II). We find large differences across hedge fund and non-hedge fund investors and across regions, indicating different investment and negotiation strategies. The share of engagements with public demands is highest in North America, at 70% (961 engagements), followed by Europe (59%, 398 engagements) and the Asia-Pacific region (54%, 341 engagements). Non-hedge funds raise public demands more frequently than hedge funds. Differences among investors are largest in the Asia-Pacific region, where non-hedge funds

raise public demands in 78% or 255 engagements, while hedge funds do so in 29% of engagements (86 engagements). In Europe, non-hedge funds raise public demands in 81% or 203 engagements, while hedge funds do so in 45% of engagements (195 engagements). In North America, this ratio is more balanced among hedge fund and non-hedge fund investors, as non-hedge funds raise public demands in 76% (348) of engagements, while hedge funds do in 66% of engagements (613 engagements). The ratio of engagements with public demands among non-hedge fund investors is relatively stable over time in Europe and North America but increases for hedge fund engagements in both regions. This is contrary to our observation in the Asia-Pacific region, where hedge funds (non-hedge funds) use public demands less frequently (more often) over time.

The numbers for public demands cover demands that are made during the lifetime of an engagement.

We now briefly discuss characteristics of public demands that are made immediately and not more than ten days after an engagement (untabulated). This time frame corresponds to the submission deadline of 13D filings. Public demands are made within ten days for 32% of engagements on average, while they are made for 63% of engagements across the lifetime of the engagement. We observe lower shares across all regions (Asia-Pacific: 21% vs. 54%, Europe: 21% vs. 59%, North America: 43% vs. 70%) and across different types of investors (hedge funds: 25% vs. 54%, non-hedge funds: 49% vs. 78%). These numbers indicate that the majority of investors across all regions go public to find support for their demands, but only a small portion of investors announce their demands immediately after an engagement. This lag may have several reasons. First, investors may initially try to achieve their goals privately and go public at a later stage to increase pressure on target firms (see, e.g., Levit, 2019). Second, investors may want to make use of additional or private information before going public with their demands.

Next, we compare activist engagements by the origin of investors. We define an investor as domestic if the target firm and investor originate in the same country. We find that shareholder activism has grown internationally, and hedge funds invest abroad more frequently than non-hedge funds (see Tables I and II). Only a few foreign activists engage in North America, whereas North American investors, on average, are more open to investing abroad.

The share of domestic investors is largest in North America, where 92% of hedge fund and 88% of non-hedge fund engagements are domestic (see Table I). In the Asia-Pacific region and Europe, the share of domestic investors is lower for hedge fund investors than for non-hedge fund investors (Asia-Pacific: 50% vs. 78%, Europe: 34% vs. 53%). The share of domestic investors increases over time in the Asia-Pacific region and decreases over time in Europe and North America for both hedge fund and non-hedge fund engagements.

To account for the fact that, for example, activist investors in Europe may engage across borders but within the same regulatory confinements, we also briefly analyze the share of investors that originate from the same geographic region as the target firm (untabulated). The results, however, are similar to the findings above and show that the share of regionally domestic investors is highest for hedge fund engagements in North America. In the Asia-Pacific region and Europe, regional domestic engagements are less frequent for hedge fund investors than for non-hedge fund investors.

Panel II of Table I shows that hedge funds acquire, on average, smaller stakes in target firms than non-hedge funds (7.4% vs. 10.5%) and invest similar amounts of capital across regions. Likewise, the average acquired stake is similar among non-hedge funds, between 10.3% and 10.8% across all regions. However, non-hedge fund activists in Europe invest almost twice as much capital as non-hedge fund activists in the Asia-Pacific region and North America. For the hedge fund sample, acquired stakes are largest in North America

and are 8.3% on average compared to approximately 6% in the Asia-Pacific region and Europe. Again, invested capital is highest in Europe. The average acquired stakes tend to decrease over time for the hedge fund sample and increase for the non-hedge fund sample, while average invested capital increases for the hedge fund sample and decreases for the non-hedge fund sample.

Panel III of Table I shows the distribution of public demands across various types and the achieved results. Across all regions, investor types, and over time, board-related, M&A-related, and balance sheet-related demands represent the top three demand types and account for the majority of demands. Overall, hedge fund activists are successful in their demands most frequently in North America, with a success rate of 56%, followed by Europe (53%) and the Asia-Pacific region (29%). Interestingly, non-hedge funds perform better than hedge funds in enforcing their demands in the Asia-Pacific region, with a success rate of 42%, but worse in Europe (51%) and North America (48%; see also Table A.VII in the Appendix).

Panel IV of Table I shows that preferred exit types are similar across regions for hedge fund and non-hedge fund investors. The most common exit types of engagements across all regions are the sale of shares or exit within the purchase of the target company by a listed or private company. Interestingly, almost a quarter of non-hedge fund engagements in the Asia-Pacific region and Europe exit by delisting as the second most frequent exit type. These trends persist over time across all regions and investor types.

Turning to the duration of engagements, we estimate Kaplan-Meier survival functions to account for the fact that a large number of engagements are ongoing. We estimate survival functions for hedge fund and non-hedge fund engagements and for the 2008-2014 and 2015-2019 subsamples, respectively. Figure II shows that (i) hedge funds exit target firms earlier than non-hedge funds, (ii) this observation holds across both time

periods, (iii) holding periods are similar for non-hedge funds across both time periods, and (iv) hedge funds hold targets longer for more recent engagements.

<div align="center">Place Figure II about here</div>

4   Empirical results and hypotheses tests

4.1   Engagement announcement returns

Table III reports our event study results on short-term stock market reactions to activist engagements around investment dates. We find significant positive abnormal returns of 6.8% for hedge fund engagements and 8.5% for non-hedge fund engagements across all regions in the [-20, +20] window at the 1% significance level. Confidence intervals based on twice the standard error range from 5.6% to 8.0% and from 6.4% to 10.6%, respectively. Our results are robust for several event windows and significantly positive across all regions and groups of investors.

<div align="center">Place Table III about here</div>

We find that CAARs of non-hedge fund engagements reach slightly higher levels than CAARs of hedge fund engagements for all event windows, although these differences are (mostly) not statistically significant (see Panel C). This trend holds across all geographic regions. Hence, we do not find supporting evidence for hypothesis H1a, which stated that hedge fund engagements realize higher CAARs than non-hedge fund engagements across all regions.

CAARs of hedge fund engagements in the [-20, +20] window are statistically significant at the 1% level in each region and highest in North America at 8.7%, compared to 5.3% in the Asia-Pacific region and 3.6% Europe. Differences across regions are statistically significant for the Asia-Pacific region and Europe compared to North America (Asia-Pacific vs. North America t-statistic: -2.28; Europe vs. North America t-

statistic: -4.03), while we do not find significant differences between CAARs in the Asia-Pacific region and Europe. We do not find significant differences across regions for the non-hedge fund sample, as the estimated CAARs are relatively similar across regions. We report significant positive CAARs of 8.9% in North America and the Asia-Pacific region and 7.4% in Europe in the [-20, +20] window. Thus, the results for hypothesis H1b, which stated that hedge fund and non-hedge fund engagements realize higher CAARs in North America than in the Asia-Pacific region and Europe, are mixed; the evidence supports the hypothesis for hedge fund engagements but not for non-hedge fund engagements. Table A.VIII in the Appendix reports CAARs for different types of engagements and on an annual basis for all regions.

Figure III plots CAARs and abnormal trading volume during the [-20, +20] window. We find regional differences with regard to pre- and post-disclosure drift in abnormal returns and trading volume. Abnormal returns begin to cumulate ten days prior to an activist engagement in North America, compared to three to five days in the Asia-Pacific region and Europe. Similarly, abnormal trading volume begins to increase in North America earlier than in the Asia-Pacific region and Europe. The largest share of CAARs in the Asia-Pacific region and Europe originates mostly between five days prior and three days after an engagement, while this time period is larger in North America and ranges from approximately ten days prior until ten days after an engagement.

Place Figure III about here

Digging a little deeper, we provide additional insights on CAARs for the non-hedge fund sample, as the background of such investors is very diverse (untabulated). Estimated CAARs in this subsample are highest for corporate investors (12.9%, *t*-statistic: 3.94, N=119) and private equity investors (11.2%, *t*-statistic: 4.85, N=237), followed by individual investors (8.5%, *t*-statistic: 4.14, N=293), anonymous shareholders (8.4%, *t*-statistic: 2.10,

N=96), and asset managers (4.5%, *t*-statistic: 3.00, N=266). Government or cause-oriented investors (4.9%, N=13), pension funds (-5.3%, N=9), and short-focused investors (90.6%, N=1) have only a limited number of engagements, which do not allow meaningful analyses.

Due to the large variation in CAARs of non-hedge fund engagements, we analyze differences within this sample more formally and thus define two separate groups of non-hedge fund investors according to their investment approach (the results are tabulated in Table A.IX in the Appendix). The first group (*Panel A*) comprises private equity and corporate investors, as they have a similar investment approach and scope, while the second group (*Panel B*) comprises the remaining types of non-hedge fund investors (Pound, 1992; Mietzner and Schweizer, 2014). For the [-20, +20] window, CAARs of private equity and corporate investors are significantly positive and average 11.8% compared to 6.8% for other non-hedge funds. The results are similar in shorter event windows, with differences being mostly significant at the 5% or 10% level. The difference between the two groups is largest in the Asia-Pacific region (13.8% for Panel A vs. 5.9% for Panel B) and smallest in Europe (8.6% for Panel A vs. 6.8% for Panel B). The differences between Panel A and Panel B are (mostly) significant at the 1% level only for the Asia-Pacific sample, while the differences for Europe and North America are not significant.

Last, we turn to Hypothesis H5a and study CAARs over time for hedge fund and non-hedge fund engagements across all regions. According to our hypothesis, we expect a decrease in CAARs. We illustrate CAARs on an annual basis for the hedge fund and non-hedge fund sample in Figure IV. Formally, we analyze the development of CAARs in the [-20, +20] window over time using two subperiods. The first subsample comprises engagements from 2008 until 2014, while the second comprises engagements from 2015 to 2019. We set the boundary in 2014 to compare periods with a high number of activist engagements with periods of relatively regular activities. Our results show that CAARs of

hedge fund and non-hedge fund engagements increase over time. CAARs of non-hedge fund engagements are slightly higher than CAARs of hedge fund engagements in both subsamples, although the observed differences are not significant. In addition, the relative increase in CAARs in the [-20, +20] window between the two subperiods across all regions is higher for non-hedge fund engagements (6.0% vs. 10.8%) than for hedge fund engagements (5.5% vs. 8.2%). The difference between CAARs in earlier and later years is significant for the hedge fund and non-hedge fund samples (*t*-statistic: 2.40 and 2.32). The results on single geographies are consistent with the overall findings. Engagements of hedge funds in the Asia-Pacific region are the only group of engagements that have lower CAARs on average in the years from 2015 onwards compared to earlier years (hedge funds: 7.6% to 4.2%; non-hedge funds: 8.0% to 9.8%). The increase in CAARs of hedge fund and non-hedge fund engagements is largest in North America (hedge funds: 6.9% to 11.6%; non-hedge funds: 5.0% to 12.3%). The increase in CAARs in Europe over time is higher for hedge fund engagements (0.6% to 6.4%) than for non-hedge fund engagements (5.0% to 9.2%) (untabulated). The observed changes are significant at the 1% significance level for hedge funds in Europe and North America and at the 5% level for non-hedge funds in North America. As a robustness check, we also shift the boundary by one year in each direction but do not find contrary evidence (untabulated).

Place Figure IV about here

To analyze how target firm and investment characteristics affect the level of CAARs, we run several regressions on CAARs for the [-20, +20] window and report our results in Table IV. Panel A comprises all engagements for our hedge fund and non-hedge fund sample. Our findings are mostly consistent for hedge funds and non-hedge fund engagements across single regions.

Most strikingly, we find that engagements with demands realize higher CAARs than those without demands, with coefficients ranging between 0.035 and 0.042 across regions. Additionally, we observe that firms with inferior stock performance in the twelve months prior to an engagement (coefficient of -0.048) and smaller firms (coefficient of -0.015) realize significantly higher CAARs across all regions. We find no significant differences in CAARs for engagements by foreign investors and those by domestic investors. Investor experience, however, is associated with slightly larger CAARs, with a positive coefficient of 0.002.

Place Table IV about here

We also find a significant negative coefficient of -0.071 for engagements by hedge funds on CAARs in the Asia-Pacific region and a significant positive coefficient of 0.057 for engagements by hedge funds on CAARs in North America. The results for the Asia-Pacific region are consistent with CAARs reported in Table III, which are higher for non-hedge funds than for hedge funds, while our findings for North America indicate that engagements of hedge funds and non-hedge funds must differ with regard to other return-creating characteristics, as average CAARs in Table III are similar in North America for both groups of investors. We shed additional light on this observation when discussing target selection in Section 4.3.

4.2 Buy-and-hold abnormal returns

We now turn to hypotheses H2a and H2b and study buy-and-hold returns (BHRs). We compare two-year BHRs for target and matched nontarget firms and report our findings in Table V. We visualize the distribution of differences in two-year BHARs for target and matched nontarget firms for hedge fund and non-hedge fund engagements in Figure V.

For the global sample, we find that target firms of hedge funds achieve, on average, significantly positive two-year BHRs of 24.2%, which is 9.0 pp higher than the BHRs of matched nontarget firms. In contrast, target firms of non-hedge funds achieve significantly positive two-year BHRs of 9.8% on average, which are 7.5 pp lower than the two-year BHRs of matched nontarget firms. Differences between target and matched nontarget firms are significant at the 5% significance level for the hedge fund sample and at the 10% significance level for the non-hedge fund sample.

<div align="center">Place Table V and Figure V about here</div>

Turning to the different regions, Panel A of Table V shows that hedge fund targets realize significantly positive BHRs above 20% in all regions and outperform matched nontarget firms in all regions. The outperformance ranges from 7.7 pp in North America to 8.2 pp in Europe and up to 14.2 pp in the Asia-Pacific region and is significant in all regions except North America. Our results for non-hedge fund targets are mixed. Non-hedge fund targets do not significantly outperform matched target firms in any of the three regions, as the observed differences are not significantly different from zero. In addition, differences in BHRs are significantly higher for hedge fund than non-hedge fund targets in the Asia-Pacific region and Europe, which supports the notion of poor performance of non-hedge fund targets. Hence, these results provide support for Hypothesis H2a, which states that hedge fund engagements realize higher BHARs than non-hedge fund engagements across all regions.

In the Appendix, we repeat our analysis for (abnormal) BHRs until the exit date of an activist engagement (see Table A.X in the Appendix). The analysis reveals similar trends across regions and for hedge fund and non-hedge fund engagements, although the observed differences are mostly not significant, e.g., the analyzed sample is also considerably smaller.

Turning to Hypothesis H2b, which states that hedge fund and non-hedge fund engagements realize higher BHARs in North America than in the Asia-Pacific region and Europe, we find mixed evidence (see Table V). In particular, we find that BHRs are largest, on average, for non-hedge funds in North America (0.146), followed by Europe (0.127) and the Asia-Pacific region (0.005), whereas BHRs for hedge funds are similar across all regions (ranging from 0.233 to 0.266). A similar picture emerges for differences in log returns between target and matched nontarget firms.

We then group our engagements by the year of investment to analyze the development of two-year BH(A)Rs over time to study Hypothesis H5b. The hypothesis argues that BHARs of target firms decrease over time for hedge fund and non-hedge fund engagements across all regions. The results are summarized in Figure VI. We find that hedge fund targets earn significantly higher two-year BHRs for engagements between 2008 and 2014 (28.6%) than for engagements between 2015 and 2019 (18.4%). This trend also holds for non-hedge fund targets, but the estimated differences are not statistically significant. Non-hedge fund targets earn two-year BHRs of 14% for engagements between 2008 and 2014 and 4.8% for later engagements. The abnormal returns of target firms compared to those of matched nontarget firms support the trend of decreasing activist returns over time. We find an outperformance of hedge fund targets of 10.6 pp for engagements between 2008 and 2014 compared to 7 pp for engagements between 2015 and 2019. Again, targets of non-hedge funds perform worse than hedge fund targets and even underperform matched nontargets by -2.5 pp for engagements between 2008 and 2014 and -13.2 pp for engagements between 2015 and 2019. However, reported differences between target and matched nontarget firms over time are not significant for the hedge fund and non-hedge fund samples.

Place Figure VI about here

We also measure medium-term stock price reactions for different groups of non-hedge fund investors and find that two-year BHRs are lower, but not significantly lower, for private equity than for other non-hedge fund investors (3.2% vs. 13.2%). Targets of private equity and corporate investors also underperform matched nontarget firms by -19.3 pp compared to an underperformance of -1.1 pp for targets of other non-hedge fund investors. Differences in BHARs between both groups are significant at the 10% significance level. Over time, two-year BH(A)Rs decreased for both subsamples. These findings are in line with our hypothesis and paint a picture of decreasing BH(A)Rs over time.

4.3 Target selection

Next, using logit regressions, we analyze how firm characteristics affect the probability of becoming a target company. Thereby, we turn to Hypotheses H3a to H3d. We report the marginal effects in Table VI. We use a set of standard firm characteristics previously used in the literature as explanatory variables. We state our expectations for the coefficients based on prior literature in Column (1) (e.g., Brav et al., 2008; Clifford, 2008; Greenwood and Schor, 2009; Klein and Zur, 2009; Becht et al., 2017).

Place Table VI about here

Panel A reports the results for the hedge fund sample. We find that firm size has a significantly positive impact on the probability of becoming a target by hedge funds across all regions. Our results also show that payout ratio, leverage, and growth rates have a significantly negative impact on the probability of becoming a target. With respect to return on assets, we report a significantly positive coefficient on profitability for our North America sample but a significantly negative coefficient on profitability in the Asia-Pacific region and Europe, thereby extending prior studies and highlighting the importance of analyzing the determinants in a global context. These results contradict Hypothesis H3a, which states that

hedge funds invest in smaller and financially better performing firms than nontarget firms across all regions.

Overall, reported marginal effects for the non-hedge fund sample in Panel B are lower and more often close to zero than those for the hedge fund sample, indicating a more heterogeneous strategy in terms of target selection. We find that size has a significant negative impact on the probability of becoming a non-hedge fund target in North America but a significantly positive impact in the Asia-Pacific region and Europe. The results for payout ratios, leverage, and growth rates indicate a significantly negative impact on the likelihood of becoming a target. Finally, we find a significantly positive impact of firm profitability on the probability of becoming a target in North America, while the reported effect is significant and negative for the Asia-Pacific region and Europe.

In the Appendix, we provide additional evidence in the form of descriptive statistics on the characteristics of target and nontarget firms (see Table A.XI in the Appendix). Overall, the summary statistics support the findings of our regression analyses. The average hedge fund target reports USD 1.94 billion in sales, which is significantly higher than the reported USD 1.48 billion reported by non-hedge fund targets. We find that target firms in Europe have the most sales, which average USD 3.05 billion for hedge fund targets and USD 2.85 billion for non-hedge fund targets. The average nontarget firm reports sales of USD 0.79 billion. We also find that return on assets is significantly lower for non-hedge fund targets than for hedge fund targets. We report an average return on assets of -20.0% for non-hedge fund targets, -3.6% for hedge fund targets, and -16.6% for nontarget firms. Interestingly, the profitability of target firms of hedge funds and non-hedge funds is lowest in North America (-6.2% and -27.6%) but significantly better than the profitability of nontarget firms in North America (-69.7%).

To summarize, the evidence for Hypothesis H3b that non-hedge funds invest in smaller and financially worse-performing firms than nontarget firms across all regions is mixed at best. We do not find consistent evidence across regions, and only in North America do non-hedge funds invest in smaller firms.

The summary statistics also allow us to address Hypothesis H3c, which involves the differences in target selection between hedge funds and non-hedge funds. In line with the hypothesis, we find that hedge funds invest in larger and more profitable firms across all regions.

We briefly discuss Hypothesis H3d, which argues that hedge funds and non-hedge funds use similar target strategies in North America, the Asia-Pacific region, and Europe. While indeed, hedge funds seem to make use of similar strategies – at least as far as observables are concerned – the picture is less obvious for non-hedge funds. Here, we observe clear differences with respect to a target's size across regions. Other observables, however, seem to have a similar impact on the probability of becoming a target.

Our results also reveal interesting trends over time between the hedge fund and non-hedge fund sample, as we split our engagements into two subperiods, from 2008 to 2014 and from 2015 to 2019. We find that hedge funds tend to invest in larger firms with higher profitability and payout ratios over time. This observation explains the differences between our findings and those of the previous literature, which document a preference for smaller firms. At the same time, the leverage and growth rates of target firms remain relatively stable for the two subsamples. This stands in contrast to the non-hedge fund sample, as non-hedge fund investors select firms of a similar size but with lower profitability, growth rates, and payout ratios. Leverage ratios also increase over time for non-hedge fund targets (untabulated).

4.4 Changes to financial and operational performance

Finally, we turn to Hypotheses H4a and H4b and analyze changes in the financial and operational performance of target firms. To this end, we again use a 1:1 matching of target and nontarget firms, measure changes in target and nontarget firms and then turn to a difference-in-differences analysis. We report our results in Table VII.

Panel A reports treatment coefficients for target firms of the hedge fund subsample. Across all regions, target firms significantly decrease their sales level (measured in USD) and significantly increase their profitability, as measured by return on assets. We do not find significant changes in leverage, payout ratios, or current asset ratios in target firms. Nevertheless, there is some variation across regions. Treatment coefficients on sales and profitability are highest and, in each case, significant in North America. In the Asia-Pacific region, only the effects on sales levels are significant and negative, while in Europe, only the effects on profitability are significant and positive.

Panel B reports the results for target firms for the non-hedge fund sample. We do not find significant effects on target firms' sales levels and profitability, as we do for the hedge fund sample. Our results only show a significant decrease in the payout ratios of target firms across all regions and a significant increase in current asset ratios for European target firms.

We next formally test Hypothesis H4a on the differences in improvements in the operating performance of target firms between hedge fund and non-hedge fund engagements across regions. To this end, we turn to our difference-in-difference-in-differences setting with an additional hedge fund dummy. Panel C summarizes the results and shows that changes in hedge fund targets' return on assets are significantly higher compared to those of non-hedge fund targets in Europe, while we find no evidence of significant differences in other regions.

In Panel D, we analyze treatment effects between specific regions for the full sample of hedge fund and non-hedge fund engagements, which allows us to formally test Hypothesis H4b. Our results show that changes in the profitability of target firms in the Asia-Pacific region and Europe are significantly lower than those for target firms in North America, providing support for Hypothesis H4b. We do not find other significant differences across regions.

Place Table VII about here

We also find evidence that the observed treatment effects decrease over time (untabulated). We split our engagements into two subperiods of engagements, from 2008 to 2014 and from 2015 to 2019. For the hedge fund sample, treatment coefficients are significantly negative for sales and significantly positive for profitability in both subperiods but higher for the earlier subperiod. In contrast, almost all treatment coefficients are not significant for the non-hedge fund sample. We find significant treatment coefficients only for non-hedge fund engagements between 2008 and 2014, for which we estimate a significant negative effect on sales levels for non-hedge fund targets in the Asia-Pacific region and a significant positive effect on current asset ratios of non-hedge fund targets in Europe.

To control for the diversity within the non-hedge fund sample, we again split the sample of non-hedge fund engagements into two subsamples. The structure of the two subsamples is similar to that in Section 4.1, so we compare private equity and corporate investors with other non-hedge fund investors. We do not find evidence that one or both subsamples are able to trigger changes in target firms that are comparable to those of hedge fund targets, as most of the treatment coefficients are not significant. Target firms of private equity and corporate investors in the Asia-Pacific region are, for instance, even subject to a significant decrease in profitability. We report our findings in Table A.XII in the Appendix.

4.5   Discussion

We study the impact of activist engagements on the immediate and intermediate stock returns of target firms. We find significant positive CAARs surrounding activist engagements, which is consistent with the results of prior studies (Brav et al., 2008; Clifford, 2008; Klein and Zur, 2009; Krishnan et al., 2016; Becht et al., 2017). CAARs for the hedge fund sample are at similar levels to CAARs in prior studies, while we observe higher CAARs for the non-hedge fund sample than prior studies do. Importantly, we find an upward trend in CAARs, as they increase over time. These findings are interesting for several reasons. First, our results suggest that market participants believe that hedge fund and non-hedge fund activists are still able to find attractive target companies with value creation potential even though competition among activists has increased over time and spread across new markets (see Section 3.3). Moreover, our results suggest a positive shift in the financial market perceptions of activist engagements, as estimated CAARs increase over time for all investors across all regions. This is (at least partially) contrary to prior studies, as, for instance, Krishnan et al. (2016) show for a sample of hedge fund engagements in the period 2008 to 2014 that increased competition can negatively affect short-term CAARs.

Second, prior studies estimated, on average, lower CAARs for non-hedge fund engagements than for hedge fund engagements (see Brav et al., 2008; Klein and Zur, 2009; Prevost et al., 2012), while our results show that CAARs are at similar levels for both groups. This suggests a shift in the perception of financial market participants that non-hedge fund activists are also able to generate shareholder value for target firms. Our results for single regions reflect the positive perception of non-hedge fund engagements within financial markets. We find that non-hedge fund engagements yield similar CAARs in the [-20, +20] window around engagement announcements in the Asia-Pacific region, Europe, and North America, and these CAARs are higher than or similar to the CAARs of hedge fund

engagements. Similar to Becht et al. (2017), hedge fund engagements yield significantly higher CAARs for engagements in North America than for those in the Asia-Pacific region and Europe.

However, the enthusiasm of financial market participants towards activist engagements may not be warranted. The comparison of the estimated medium-term (two-year) performance of target firms with the performance estimated by prior studies reveals interesting differences between the hedge fund and non-hedge fund samples. Prior studies suggest that both hedge fund and non-hedge fund targets are able to trigger significant changes, such as decreases in sales or total assets and increases in profitability or payout ratios (Clifford, 2008; Greenwood and Schor, 2009; Klein and Zur, 2009; Becht et al., 2010). In our more recent sample, only hedge fund targets decrease significantly in sales and increase their profitability, while changes in non-hedge fund targets are mostly not significantly different from matched nontarget firms across all regions. In addition, differences between hedge fund targets and matched nontarget firms also decline over time in our sample.

The two-year BHARs reflect this relatively weak performance of target companies compared to matched nontarget firms. Overall, abnormal returns of hedge fund targets are at similar levels to those reported in earlier studies, while the estimated abnormal returns of non-hedge fund targets are lower than those in earlier studies. The results of Akhigbe et al. (1997) and Becht et al. (2010) show that non-hedge fund targets achieve significant positive abnormal returns in earlier time periods, while we do not find evidence of such outperformance by non-hedge fund targets in our sample. In addition, we find that the two-year BHARs of hedge fund and non-hedge fund targets decrease over time, which is consistent with the changes in operational and financial measures.

To summarize, our results show that financial markets initially perceive activist engagements very positively, as short-term CAARs are increasing over time within our sample. However, the analysis of the medium-term financial and operational performance of target firms shows that these initial expectations remain unfulfilled. We observe a gap in short-term expectations and medium-term results across all regions that increases over time. In the following, we discuss several changes in market conditions and engagement characteristics that may help to explain the observed gap between expectations and reality.

First, the increased number of activist engagements as well as the entrance of new activist investors has raised a broader awareness of shareholder activism within financial markets. Such engagements may appeal very attractive to investors due to the general market conditions and the fact that, historically, such engagements have offered positive abnormal returns (J.P. Morgan, 2015; PwC, 2018). Thus, investors might engage in "follow-on investments" more frequently after the announcement of engagements even though they might lack experience in the assessment of the prospects of such campaigns. Similar to our findings, Becht et al. (2017) report an expectation gap between short-term CAARs and medium-term performance for hedge fund engagements in Japan between 2000 and 2010. This finding indicates that this gap may also be related to the spread of activism across new regions and activists (see Section 3.3). This is in line with our findings, as engagements in the established North American market still outperform engagements in the relatively young Asia-Pacific and European markets.

Second, we also find differences in the type of activist engagements across regions that may help to explain the relatively weak medium-term performance of activist engagements over time. The share of cross-border deals is higher in the Asia-Pacific region and Europe than in North America, which increases the complexity of an engagement, as cultural or legal differences become more relevant. Such differences might make it harder

for activists to leverage their knowledge and experiences in the context of engagements in new regions. We also find that the share of one-time investors is largest in the Asia-Pacific region, followed by Europe, and higher for non-hedge funds than for hedge funds. One-time investors do not have experience negotiating with target firms and enforcing demands from prior transactions, which might explain why in particular, non-hedge fund targets in the Asia-Pacific region and Europe do not significantly outperform their matched nontarget firms in the medium term. Our results also show that activists become more transparent with regard to their demands as the share of engagements with public demands around the announcement day increases over time. This phenomenon persists across all regions and enables a more transparent assessment of activist engagements by financial markets, which might explain the observed positive trend in CAARs over time.

Finally, we observe changes in the characteristics of target firms of hedge fund and non-hedge fund activists that contrast with prior studies and imply a broadened investment focus. Brav et al. (2008) report average market values of USD 0.7 billion for hedge fund targets in the U.S. from 2001 to 2006 and conclude that hedge fund activists tend to avoid larger firms. In addition, Klein and Zur (2009) conclude – according to their study for the period from 2003 to 2005 – that non-hedge fund investors typically invest in smaller companies than hedge funds and report an average market value of USD 0.7 billion for hedge fund targets and of USD 0.5 billion for non-hedge fund targets. However, our findings show that on average, target firms are large, as hedge funds and non-hedge funds invest in firms with an average market value of USD 1.9 billion and USD 1.5 billion, respectively. The interest in larger firms is also in line with Becht et al. (2017), who reports that hedge funds might be less constrained with regard to investments in larger companies than argued in prior studies. We also find that activists invest in firms with negative profitability ratios on average. This is specifically interesting for hedge funds, as they typically invested in firms

with, e.g., positive return on assets (see Brav et al., 2008; Klein and Zur, 2009; Denes et al., 2017).

The broadened investment focus of investors may be explained by increased competition among activists. Thus, investors may have begun to extend their initial scope and tried to leverage their experience with engagements in, for instance, larger firms or firms with worse operational performance than prior target firms. Investments in larger targets have also become more popular in recent years, as the number of engagements in large-cap firms with a market capitalization above USD 10 billion has increased from only three engagements in 2008 to 28 engagements in 2017. Interestingly, approximately 45% of all large-cap engagements occur in North America, while the remaining engagements occur in the relatively new markets of the Asia-Pacific region (45%) and Europe (10%). The results of our logit regressions for non-hedge fund engagements also support the assumed broadened investment focus, as marginal effects are close to zero or zero in many cases and across regions. Keeping in mind that focused investments provide superior performance (Renneboog and Vansteenkiste, 2019), a broadened investment focus may be a harbinger of falling medium-term returns.

5   Conclusion

Using an international set of hedge fund and non-hedge fund engagements between 2008 and 2019, our analyses provide evidence on the short-term perception of shareholder activism by financial markets and the medium-term performance of target firms. The global increase in hedge fund and non-hedge fund engagements is driven not only by already existing activists but also by new and, in the case of non-hedge fund investors, one-time investors. The share of foreign investors is higher in the Asia-Pacific region and Europe, while the North American market is still dominated by domestic investors.

We estimate significant positive CAARs for hedge fund and non-hedge fund targets surrounding the announcement day of engagements across all regions. Medium-term results are mixed, however, as only hedge funds are able to significantly outperform target companies in the years following an engagement. Non-hedge fund engagements yield similar or even higher short-term CAARs than hedge fund engagements across all regions, while medium-term performance is weaker than for hedge fund engagements across all regions. Short- and medium-term results are stronger in North America than in the Asia-Pacific region and Europe.

Estimated medium-term results decrease over time, which is contrary to the observed increase in short-term CAARs and implies that financial markets have unfulfilled expectations. Although changes in market conditions and engagement characteristics may help to explain the observed expectation gap, it will be interesting to see how short- and medium-term results will develop in the coming years. Will the medium-term performance of target firms improve or will short-term CAARs surrounding engagement announcements decrease as market participants adjust their expectations?

References

Akhigbe, A., Madura, J., Tucker, A.L., 1997. Long-term valuation effects of shareholder activism. Applied Financial Economics 7, 567-573.

Alexandridis, G., Antypas, N., Travlos, N., 2017. Value creation from M&As: New evidence. Journal of Corporate Finance 45, 632-650.

Atanasov, V., Black, B., 2016. Shock-based causal inference in corporate finance and accounting research. Critical Finance Review 5, 207-304.

Bebchuk, L.A., Brav, A., Jiang, W., 2015. The long-term effects of hedge fund activism. Columbia Law Review 115, 1085-1155.

Becht, M., Franks, J., Grant, J., Wagner, H.F., 2017. Returns to Hedge Fund Activism: An International Study. The Review of Financial Studies 30, 2933-2971.

Becht, M., Franks, J., Mayer, C., Rossi, S., 2010. Returns to Shareholder Activism: Evidence from a Clinical Study of the Hermes UK Focus Fund. The Review of Financial Studies 22, 3093-3129.

Bessler, W., Drobetz, W., Holler, J., 2015. The returns to hedge fund activism in Germany. European Financial Management 21, 106-147.

Boehmer, E., Musumeci, J., Poulsen, A.B., 1991. Event-study methodology under conditions of event-induced variance. Journal of Financial Economics 30, 253-272.

Boyson, N.M., Gantchev, N. Shivdasani, A., 2017. Activism mergers. Journal of Financial Economics 126, 54-73.

Boyson, N.M., Mooradian, R.M., 2011. Corporate governance and hedge fund activism. Review of Derivatives Research 14, 169-204.

Brav, A., Jiang, W., Partnoy, F., Thomas, R., 2008. Hedge Fund Activism, Corporate Governance, and Firm Performance. The Journal of Finance 63, 1729-1775.

Bushman, R., Dai, Z., Wang, X., 2010. Risk and CEO turnover. Journal of Financial Economics 96, 381-398.

Business Insider, 2013. A Massive Company Just Rolled over for Carl Icahn and its Stock is Trading up. from: https://www.businessinsider.com/carl-icahn-transocean-2013-11?r=DE&IR=T (downloaded on 31.07.2020).

Campbell, C.J., Cowan, A.R., Salotti, V., 2010. Multi-country event-study methods. Journal of Banking & Finance 34, 3078-3090.

Clifford, C.P., 2008. Value Creation or Destruction? Hedge Funds as Shareholder Activists. Journal of Corporate Finance 14, 323-336.

Cowan, A.R., 1992. Nonparametric event study tests. Review of Quantitative Finance and Accounting 2, 343-358.

Croci, E., 2007. Corporate Raiders, Performance and Governance in Europe. European Financial Management 13, 949-978.

Denes, M.R., Karpoff, J.M., McWilliams, V.B., 2017. Thirty Years of Shareholder Activism: A Survey of Empirical Research. Journal of Corporate Finance 44, 405-424.

Dinc, I.S., 2005. Politicians and banks: Political influences on government-owned banks in emerging markets. Journal of Financial Economics 77, 453-479.

Forbes, 2016. With Big Losses in Energy, Icahn Sells Most of Stake in Transocean. from: https://www.forbes.com/sites/gurufocus/2016/09/30/with-big-losses-in-energy-icahn-sells-most-of-stake-in-transocean/#4f5e03e9afe6 (downloaded on 31.07.2020).

Gantchev, N., Sevilir, M., Shivdasani, A., 2020. Activism and empire building. Journal of Financial Economics 138, 526-548.

Gompers, P., Lerner, J., 2000. Money chasing deals? The impact of fund inflows on private equity valuations. Journal of Financial Economics 55, 281-325.

Graham, B., 1954. The intelligent investor: a book of practical counsel (2nd ed.). Harper & Brothers.

Greenwood, R., Schor, M., 2009. Investor Activism and Takeovers. Journal of Financial Economics 92, 362-375.

Guercio, D. D., Hawkins, J., 1999. The motivation and impact of pension fund activism. Journal of Financial Economics 52, 293-340.

J.P. Morgan, 2015. The Activist Revolution - Understanding and Navigating a New World of Heightened Investor Scrutiny.

Karpoff, J.M., Malatesta, P.H., Walkling, R.A., 1996. Corporate Governance and Shareholder Initiatives: Empirical Evidence. Journal of Financial Economics 42, 365-395.

Klein, A., Zur, E., 2009. Entrepreneurial Shareholder Activism: Hedge Funds and Other Private Investors. The Journal of Finance 64, 187-229.

Krishnan, C.N.V., Partnoy, F., Thomas, R.S., 2016. The second wave of hedge fund activism: The importance of reputation, clout, and expertise. Journal of Corporate Finance 40, 296-314.

Lazard, 2018. Review of Shareholder Activism - 2018 3Q YTD. from: https://www.lazard.com/media/450762/lazards-review-of-shareholder-activism-3q-2018_vfff.pdf (downloaded on 03.01.2019).

Levit, D., 2019. Soft shareholder activism. The Review of Financial Studies 32, 2775-2808.

Li, K., Prabhala, N.R., 2007. Self-selection models in corporate finance. In: Eckbo, B.E., ed. Handbook of Corporate Finance, Vol. 1 (Elsevier, New York), 37-86.

Mietzner, M., Schweizer, D., 2014. Hedge Funds versus Private Equity Funds as Shareholder Activists in Germany - Differences in Value Creation. Journal of Economics and Finance 38, 181-208.

Nelson, J. M., 2006. The "CalPERS effect" revisited again. Journal of Corporate Finance 12, 187-213.

PJ Asset Management, 2018. May 21st Letter to Taishin FHC shareholders From PJ Asset Management. from: http://www.pjam.com.tw/index.php?route=newsblog/article&article_id=18&lang=en-gb (downloaded on 10.03.2020).

PJ Asset Management, 2019. PJAM raised concerns toward Taishin FHC's capital increase and reduction of its subsidiaries. from:

http://www.pjam.com.tw/index.php?route=newsblog/article&article_id=27&lang=en-gb (downloaded on 10.03.2020).

PJ Asset Management, 2020. About Us. from: http://www.pjam.com.tw/index.php?route=information/information&information_id=4&lang=en-gb (downloaded on 11.03.2020).

Pound, J., 1992. Raiders, targets, and politics: The history and future of American corporate control. Journal of Applied Corporate Finance 5, 6-8.

Prevost, A.K., Rao, R.P., 2000. Of what Value are Shareholder Proposals Sponsored by Public Pension Funds. The Journal of Business 73, 177-204.

Prevost, A.K., Rao, R.P., Williams, M.A., 2012. Labor Unions as Shareholder Activists: Champions or Detractors?. The Financial Review 47, 327-349.

PwC, 2018. Rediscovering alternative assets in changing times.

Renneboog, L., Szilagyi, P.G., 2011. The role of shareholder proposals in corporate governance. Journal of Corporate Finance 17, 167-188.

Renneboog, L., Vansteenkiste, C., 2019. Failure and success in mergers and acquisitions. Journal of Corporate Finance 58, 650-699.

Roberts, M.R., Whited, T.M., 2013. Endogeneity in empirical corporate finance. In: Constantinides, G.M., Harris, M., Stulz, R.M., eds. Handbook of the Economics of Finance, Vol. 2 (Elsevier, New York), 493-572.

Rosenbaum, P.R., 1989. Optimal Matching for Observational Studies. Journal of the American Statistical Association 84, 1024-1032.

Rosenbaum, P.R., Rubin, D.B., 1983. The central role of the propensity-score in observational studies for causal effects. Biometrika 70, 41-55.

Strickland, D., Kenneth, W. W., Zenner, M., 1996. A requiem for the USA Is small shareholder monitoring effective?. Journal of Financial Economics 40, 319-338.

Transocean Ltd., 2013. Transocean Ltd. Notified Under Swiss Stock Exchange Act and Hart-Scott-Rodino Act. from: https://investor.deepwater.com/news-releases/news-release-details/transocean-ltd-notified-under-swiss-stock-exchange-act-and-hart (downloaded on 01.08.2020).

United States Securities and Exchange Commission (SEC), 2018. Securities exchange act of 1934 (enacted March 23, 2018).

Venkiteshwaran, V., Iyer, S., Rao, R.P., 2010. Is Carl Icahn Good for Long-Term Shareholders? A Case Study in Shareholder Activism. Journal of Applied Corporate Finance 22, 45-57.

Wong, Y.T.F, 2020. Wolves at the Door: A Closer Look at Hedge Fund Activism. Management Science 66, 2347-2371.

Table I: Sample description

Panel I provides an overview of the engagement sample with regard to distribution across regions and different types of investors. The panel also reports the share of engagements for which investors raise public demands and the share of domestic investors. Panel II reports the acquired stake as a percentage and the amount of invested capital in million USD as well as information on quantiles for different regions and different groups of investors. Panel III reports all public demands made by investors in the samples for different regions. Demands are clustered according to *Activist Insight*. Fields with *"–"* indicate no observation. We classify a demand as successful (success) if the demand is completely or partially met by the target firm or other shareholders and as unsuccessful (failure) if the demand is withdrawn by the activist or not met by the target firm or other shareholders. Panel IV reports the number and frequency of different exit types by investors as well as details on average holding periods for different regions and investors. The holding period statistics are restricted to completed engagements. *Taken private* classifies exits when a company goes private as part of a merger or an acquisition. *Delisting* classifies exits when a company is removed from a stock exchange, e.g., due to voluntarily delisting or for not adhering to listing requirements. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix.

Panel I – Sample composition

	Panel A: Hedge funds				Panel B: Non-hedge funds			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Global	Asia-Pacific	Europe	North America	Global	Asia-Pacific	Europe	North America
Number of engagements	1,655	301	430	924	1,034	328	250	456
Current engagements	840	242	249	349	715	266	166	283
Exited engagements	815	59	181	575	319	62	84	173
Engagements with public demands	54%	29%	45%	66%	78%	78%	81%	76%
Engagements by domestic investors	69%	50%	34%	92%	76%	78%	53%	88%
Unique activists	427	61	102	323	682	252	171	274
Unique targets	1,457	285	369	803	913	286	209	418
Average investor activity	1.7	1.9	1.8	1.5	1.2	1.1	1.1	1.3

Panel II – Average engagement size

	Panel A: Hedge funds				Panel B: Non-hedge funds			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Global	Asia-Pacific	Europe	North America	Global	Asia-Pacific	Europe	North America
Average acquired stake								
Mean	7.4%	6.3%	6.1%	8.3%	10.5%	10.8%	10.3%	10.5%
5% quantile	1.0%	1.0%	1.0%	1.0%	0.9%	0.9%	1.1%	0.5%
25% quantile	5.0%	5.0%	3.1%	5.2%	5.1%	5.1%	4.6%	5.2%
50% quantile	5.5%	5.1%	5.0%	6.2%	7.1%	6.9%	6.5%	7.4%
75% quantile	8.5%	5.9%	6.9%	9.6%	12.8%	12.9%	12.6%	12.6%
95% quantile	18.7%	14.9%	17.0%	22.0%	30.5%	32.8%	29.9%	30.5%
Average invested capital								
Mean	135.2	109.6	149.7	137.1	138.8	107.7	206.9	123.9
5% quantile	0.9	0.6	1.5	0.8	0.2	0.1	0.2	0.3
25% quantile	5.3	3.6	9.3	5.0	1.8	1.1	2.8	2.1
50% quantile	19.1	15.5	29.8	16.7	8.5	6.0	17.8	7.4
75% quantile	81.0	55.9	101.3	80.1	48.8	30.4	88.8	40.0
95% quantile	545.0	235.9	678.6	538.9	780.9	444.9	1,389	734.2

Panel III – Public demands and success rates

	Panel A: Hedge funds				Panel B: Non-hedge funds			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Number	Success	Failure	Ongoing	Number	Success	Failure	Ongoing
Global targets								
Board-related activism	860	66%	27%	7%	1,034	51%	44%	5%
M&A activism	359	38%	48%	14%	208	38%	46%	15%
Balance sheet activism	257	40%	43%	17%	130	35%	48%	17%
Business strategy	157	53%	29%	18%	73	41%	40%	19%
Other governance	113	35%	53%	12%	115	38%	50%	12%
Remuneration	59	29%	49%	22%	46	43%	46%	11%
Other	13	31%	69%	–	15	47%	40%	13%
Total	1,818	52%	36%	12%	1,621	47%	45%	9%
Asia-Pacific targets								
Board-related activism	61	56%	41%	3%	403	44%	53%	3%
M&A activism	28	21%	64%	14%	31	61%	26%	13%
Balance sheet activism	70	19%	73%	9%	32	22%	66%	13%
Business strategy	9	33%	67%	–	13	23%	69%	8%
Other governance	21	5%	86%	10%	26	31%	54%	15%
Remuneration	5	–	100%	–	12	42%	58%	–
Other	3	33%	67%	–	2	–	100%	–
Total	197	29%	63%	7%	519	42%	53%	5%
European targets								
Board-related activism	175	67%	29%	5%	256	57%	38%	5%
M&A activism	83	43%	35%	22%	38	39%	39%	21%
Balance sheet activism	44	32%	36%	32%	33	42%	45%	12%
Business strategy	33	45%	33%	21%	12	33%	42%	25%
Other governance	12	33%	58%	8%	29	31%	62%	7%
Remuneration	20	40%	30%	30%	14	50%	43%	7%
Other	2	–	100%	–	7	57%	43%	–
Total	369	53%	33%	15%	389	51%	41%	8%
North American targets								
Board-related activism	624	67%	25%	8%	375	56%	37%	7%
M&A activism	248	38%	50%	12%	139	33%	53%	14%
Balance sheet activism	143	54%	30%	16%	65	37%	42%	22%
Business strategy	115	57%	25%	18%	48	48%	31%	21%
Other governance	80	43%	44%	14%	60	45%	42%	13%
Remuneration	34	26%	53%	21%	20	40%	40%	20%
Other	8	38%	63%	–	6	50%	17%	33%
Total	1,252	56%	33%	12%	713	48%	40%	12%

Panel IV – Exit types and holding periods

	Panel A: Hedge funds				Panel B: Non-hedge funds			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Global	Asia-Pacific	Europe	North America	Global	Asia-Pacific	Europe	North America
Exit types								
Sold shares	49.6%	59.3%	38.7%	52.0%	31.3%	46.8%	23.8%	29.5%
Purchased by listed company	24.8%	22.0%	34.8%	21.9%	21.6%	11.3%	20.2%	26.0%
Purchased by private equity	6.7%	–	5.0%	8.0%	3.8%	–	–	6.9%
Purchased by private company	6.4%	8.5%	7.7%	5.7%	9.4%	6.5%	11.9%	9.2%
Merger	3.9%	3.4%	1.7%	4.7%	5.0%	1.6%	2.4%	7.5%
Delisted	2.0%	3.4%	2.8%	1.6%	11.6%	24.2%	22.6%	1.7%
Taken private	1.3%	1.7%	1.7%	1.2%	0.9%	–	1.2%	1.2%
Bankruptcy	1.2%	–	–	1.7%	1.6%	–	–	2.9%
Company liquidated	1.1%	–	2.8%	0.7%	3.1%	3.2%	4.8%	2.3%
Purchased by activist	1.1%	–	1.7%	1.0%	4.1%	–	3.6%	5.8%
Company entered administration	0.7%	–	1.7%	0.5%	1.9%	1.6%	4.8%	0.6%
Acquired the company	0.6%	–	0.6%	0.7%	4.4%	4.8%	3.6%	4.6%
Wound down	0.4%	1.7%	0.6%	0.2%	–	–	–	–
Stock buyback	0.1%	–	0.6%	–	0.9%	–	–	1.7%
Demerger	–	–	–	–	0.3%	–	1.2%	–
Total number of exits	*815*	*59*	*181*	*575*	*319*	*62*	*84*	*173*
Average holding period (completed engagements)								
less than 1 year	35.5%	37.3%	37.0%	34.8%	25.4%	21.0%	28.6%	25.4%
1 to 2 years	24.9%	28.8%	23.8%	24.9%	22.9%	22.6%	17.9%	25.4%
2 to 3 years	15.1%	11.9%	9.9%	17.0%	15.7%	16.1%	15.5%	15.6%
3 to 4 years	10.3%	10.2%	13.3%	9.4%	14.1%	19.4%	20.2%	9.2%
4 to 5 years	5.6%	5.1%	6.6%	5.4%	7.5%	6.5%	3.6%	9.8%
5 to 6 years	3.6%	3.4%	1.7%	4.2%	5.6%	6.5%	3.6%	6.4%
6 to 7 years	2.8%	1.7%	2.8%	3.0%	2.8%	3.2%	4.8%	1.7%
more than 7 years	2.2%	1.7%	5.0%	1.4%	6.0%	4.8%	6.0%	6.4%
Total number of exits	*815*	*59*	*181*	*575*	*319*	*62*	*84*	*173*

Table II: Market overview and engagement details by year

This table presents information on the development of shareholder activism and the characteristics of engagements over time and for different regions. Column (1) reports the number of unique investors in a given year, and column (2) reports the number of transactions in a given year. Column (3) reports the mean acquired stake as a percentage, and column (4) reports the mean invested capital in million USD. Column (5) reports the average number of transactions of an activist in the two years prior to an engagement. Column (6) reports the share of activists that are hedge funds, column (7) reports the share of activists that reside in the same country as the target firm, and column (8) reports the share of engagements in which activists raise public demands. Fields with *"–"* indicate no observation. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	# Investors	*# Deals*	*%-Acquired*	*$-Invested*	*Experience*	*Share HF*	*Share domestic*	*Share demand*
Global								
2008	50	80	8.4%	144	–	71%	70%	46%
2009	49	62	10.8%	117	–	65%	63%	63%
2010	114	181	10.2%	237	4.2	62%	82%	56%
2011	146	237	9.2%	130	5.2	66%	79%	60%
2012	147	231	8.7%	83	5.9	61%	78%	64%
2013	183	261	7.1%	127	5.4	66%	74%	62%
2014	213	298	8.2%	129	4.6	61%	73%	69%
2015	277	380	8.8%	157	5.0	55%	69%	68%
2016	254	338	8.4%	72	5.1	58%	70%	67%
2017	202	299	8.6%	199	8.4	62%	66%	61%
2018	174	243	7.3%	134	7.0	64%	63%	59%
2019	67	79	8.1%	98	6.4	62%	70%	66%
Total		2,689	8.5%	137	5.7	62%	72%	63%
Asia-Pacific								
2008	8	8	5.5%	16	–	50%	38%	88%
2009	6	6	7.9%	29	–	17%	33%	100%
2010	12	12	11.8%	34	1.1	25%	67%	83%
2011	24	39	9.9%	145	3.2	51%	64%	46%
2012	35	52	9.4%	67	5.0	25%	65%	52%
2013	49	71	8.0%	87	6.7	38%	68%	59%
2014	52	75	9.2%	97	5.1	40%	69%	61%
2015	63	91	9.9%	166	6.6	41%	70%	55%
2016	62	93	7.2%	36	6.9	56%	68%	58%
2017	46	82	7.9%	225	12.8	66%	65%	45%
2018	43	75	7.4%	95	8.7	60%	51%	39%
2019	20	25	7.9%	41	5.6	60%	60%	60%
Total		629	8.5%	109	7.1	48%	64%	54%
Europe								
2008	16	32	7.8%	36	–	81%	59%	28%
2009	20	27	11.1%	225	–	70%	33%	56%
2010	27	33	10.5%	228	3.2	42%	42%	52%
2011	29	44	9.7%	95	5.2	57%	45%	50%
2012	32	48	7.8%	131	5.5	63%	40%	63%
2013	47	71	6.3%	105	5.7	72%	45%	51%
2014	45	57	8.1%	215	5.0	67%	32%	61%
2015	81	119	7.5%	167	4.8	52%	46%	70%
2016	59	91	6.5%	113	6.6	64%	47%	69%
2017	47	83	7.5%	280	11.0	60%	33%	55%
2018	34	57	5.7%	246	12.9	79%	30%	60%
2019	13	18	8.2%	206	14.9	67%	39%	44%
Total		680	7.6%	171	7.0	63%	41%	59%
North America								
2008	26	40	9.4%	16	–	68%	85%	53%
2009	23	29	11.2%	29	–	69%	97%	62%
2010	75	136	10.0%	34	4.8	70%	93%	54%
2011	93	154	8.8%	145	5.8	72%	93%	66%
2012	80	131	8.7%	67	6.4	75%	97%	69%
2013	87	119	7.1%	87	4.4	79%	94%	71%
2014	116	166	7.7%	97	4.2	69%	90%	76%
2015	133	170	9.1%	166	4.2	65%	85%	75%
2016	133	154	10.3%	36	3.1	56%	86%	70%
2017	109	134	9.8%	225	4.1	60%	88%	75%
2018	97	111	8.0%	95	2.8	59%	89%	73%
2019	34	36	8.1%	41	2.7	61%	92%	81%
Total		1,380	8.9%	133	4.4	67%	90%	70%

Table III: Summary of cumulative average abnormal returns by region

This table reports the CAARs estimated over several event windows for different regions. In Panel A, the sample comprises 1,655 engagements, while in Panel B, it comprises 1,034 engagements. Information on the panel composition is given in Table A.IV in the Appendix. Statistical significance is based on the cross-sectional *t*-test, the standardized cross-sectional test specified by Boehmer et al. (1991), and the generalized sign test specified by Cowan (1992). Differences between hedge fund investors and non-hedge fund investors and between regions are tested using a cross-sectional *t*-test and rank sum test. ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Hedge funds							
Global targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	6.8%	5.5%	4.7%	3.5%	2.7%	1.1%	0.9%
t-test	11.72***	12.83***	14.37***	15.19***	14.54***	9.85***	9.27***
Standardized cross-sectional test	12.77***	13.98***	15.03***	15.24***	14.43***	10.05***	9.58***
Generalized sign test	11.91***	12.60***	14.57***	15.01***	14.03***	9.10***	7.28***
Asia-Pacific targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	5.3%	3.7%	3.4%	3.2%	2.5%	1.0%	1.0%
t-test	4.28***	4.05***	5.02***	6.20***	5.73***	3.90***	4.85***
Standardized cross-sectional test	4.81***	4.36***	5.19***	6.31***	6.04***	4.37***	5.31***
Generalized sign test	3.24***	3.01***	4.97***	5.55***	5.43***	4.28***	4.16***
European targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	3.6%	3.5%	3.4%	2.7%	2.4%	1.1%	0.6%
t-test	3.85***	4.68***	5.74***	6.60***	7.11***	5.43***	4.26***
Standardized cross-sectional test	4.46***	5.61***	6.95***	7.27***	7.38***	5.40***	4.28***
Generalized sign test	5.15***	5.73***	6.41***	6.99***	6.70***	4.77***	2.45**
North American targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	8.7%	7.0%	5.6%	4.0%	2.9%	1.2%	1.0%
t-test	10.36***	11.45***	12.33***	12.23***	11.33***	7.32***	6.83***
Standardized cross-sectional test	11.40***	12.57***	12.44***	11.91***	10.87***	7.34***	6.89***
Generalized sign test	10.57***	11.23***	12.29***	12.15***	11.10***	6.49***	5.70***
Significance tests between regions							
Asia-Pacific vs. Europe							
t-test	1.08	0.19	0.04	0.81	0.26	-0.32	1.47
Rank sum test	-0.38	-1.38	-1.12	-0.13	-0.86	-0.41	1.29
Asia-Pacific vs. North America							
t-test	-2.28**	-3.05***	-2.68***	-1.22	-0.66	-0.76	0.16
Rank sum test	-2.99***	-3.81***	-3.56***	-2.01**	-2.04**	-0.67	0.41
Europe vs. North America							
t-test	-4.03***	-3.70***	-2.99***	-2.47**	-1.14	-0.49	-1.63
Rank sum test	-2.94***	-2.81***	-2.70***	-2.24**	-1.40	-0.14	-1.00

Panel B: Non-hedge funds							
Global targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	8.5%	7.3%	5.5%	4.0%	3.4%	1.4%	1.1%
t-test	8.24***	9.79***	9.82***	9.73***	9.73***	6.92***	5.96***
Standardized cross-sectional test	-0.58	1.37***	10.86***	10.39***	10.50***	8.21***	5.83***
Generalized sign test	7.91***	10.22***	10.10***	8.16***	8.60***	6.67***	4.36***
Asia-Pacific targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	8.9%	6.8%	5.1%	4.0%	3.1%	1.3%	0.9%
t-test	4.60***	5.29***	4.98***	5.16***	4.58***	3.35***	2.60***
Standardized cross-sectional test	-0.86	1.10	5.35***	5.23***	4.74***	3.74***	1.69*
Generalized sign test	3.73***	5.51***	4.29***	2.95***	3.51***	1.84*	2.40**
European targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	7.4%	6.0%	5.3%	5.1%	4.2%	1.6%	1.6%
t-test	3.68***	4.13***	4.57***	5.56***	5.62***	3.90***	4.17***
Standardized cross-sectional test	3.70***	4.40***	4.94***	5.83***	5.61***	4.74***	3.77***
Generalized sign test	2.59***	3.22***	4.36***	4.24***	4.74***	3.35***	1.71*
North American targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	8.9%	8.3%	5.8%	3.3%	3.1%	1.3%	1.0%
t-test	5.78***	7.17***	7.22***	6.18***	6.76***	4.78***	3.69***
Standardized cross-sectional test	5.81***	7.85***	8.29***	6.89***	7.70***	5.74***	4.37***
Generalized sign test	6.83***	8.34***	8.34***	6.65***	6.46***	5.99***	3.27***
Significance tests between regions							
Asia-Pacific vs. *Europe*							
t-test	0.56	0.44	-0.17	-0.86	-1.10	-0.43	-1.37
Rank sum test	0.07	0.89	-0.43	-1.77*	-2.32**	-1.70*	-1.34
Asia-Pacific vs. *North America*							
t-test	0.02	-0.82	-0.58	0.75	-0.03	-0.03	-0.19
Rank sum test	-1.03	-1.21	-2.12**	-1.46	-1.92*	-2.21**	-1.15
Europe vs. *North America*							
t-test	-0.60	-1.23	-0.34	1.65*	1.23	0.46	1.34
Rank sum test	-1.12	-1.99**	-1.51	0.43	0.50	-0.27	0.40

Panel C: Significance tests – Panel A (Hedge funds) vs. Panel B (Non-hedge funds)							
Global							
t-test	1.45	2.05**	1.26	1.04	1.80*	1.17	0.96
Rank sum test	-0.11	1.39	-0.36	-1.81*	-1.17	-0.57	-2.10**
Asia-Pacific							
t-test	1.56	1.99**	1.34	0.88	0.71	0.77	-0.32
Rank sum test	0.28	2.12**	0.05	-1.69*	-1.51	-1.57	-2.67***
Europe							
t-test	1.68*	1.54	1.48	2.40**	2.23**	1.11	2.33***
Rank sum test	0.33	0.18	0.01	0.67	0.83	0.22	0.03
North America							
t-test	0.07	0.93	0.20	-1.00	0.51	0.45	-0.02
Rank sum test	-0.20	0.94	0.14	-1.39	-0.60	0.49	-1.01

Table IV: Multivariate analysis of cumulative abnormal returns

This table reports the results from an ordinary least squares regression analysis on the [-20, +20] cumulative abnormal returns. Explanatory variables include the following dummy variables: *dummy hedge fund* takes a value of one if the activist is a hedge fund and zero otherwise; *dummy demands* takes a value of one if a public demand is raised within 10 days after the investment and zero otherwise; *dummy country* takes a value of one if the activist is from the same country as the target firm and zero otherwise; *dummy Asia* takes a value of one if the target country is in the Asia-Pacific region and zero otherwise; *dummy Europe* takes a value of one if the target country is in Europe and zero otherwise; and *dummy North America* takes a value of one if the target country is in North America and zero otherwise. The definitions of the remaining explanatory variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix. Independent variables are lagged by one year. Standard errors are reported in parentheses, and ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

	Panel A: All engagements				Panel B: Hedge funds			Panel C: Non-hedge funds		
	Global	Asia-Pacific	Europe	North America	Asia-Pacific	Europe	North America	Asia-Pacific	Europe	North America
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dummy hedge funds	0.000	0.022	-0.001	-0.032						
	(0.014)	(0.016)	(0.016)	(0.021)						
Dummy demands	0.041***	0.038***	0.042***	0.035**	0.071**	0.025	0.017	0.078	0.078	0.032
	(0.014)	(0.014)	(0.014)	(0.014)	(0.035)	(0.024)	(0.021)	(0.078)	(0.077)	(0.043)
Dummy origin	-0.000	0.008	0.001	-0.003	-0.014	0.077***	0.013	-0.033	-0.044	0.006
	(0.016)	(0.015)	(0.016)	(0.016)	(0.032)	(0.027)	(0.038)	(0.059)	(0.055)	(0.054)
Dummy Asia Pacific	-0.004	0.048**								
	(0.018)	(0.023)								
Dummy Europe	-0.035*		-0.039							
	(0.019)		(0.025)							
Dummy North America				-0.012						
				(0.022)						
DVHF x Asia Pacific		-0.071**								
		(0.030)								
DVHF x Europe			0.009							
			(0.032)							
DVHF x North America				0.057**						
				(0.028)						
Dummy stake	0.012	0.019	0.013	0.014	0.066	0.015	0.004	-0.133*	0.075	0.036
	(0.016)	(0.016)	(0.016)	(0.016)	(0.043)	(0.025)	(0.027)	(0.078)	(0.062)	(0.047)
Investor experience	0.002*	0.001*	0.001	0.002**	0.001	0.001	0.003*	0.003	0.009	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.007)	(0.012)	(0.005)
Invested capital	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	-0.000	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Stock performance	-0.048***	-0.048***	-0.048***	-0.048***	-0.092***	0.022	-0.036***	-0.046	-0.107**	-0.091***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.030)	(0.027)	(0.012)	(0.030)	(0.047)	(0.029)
Company size	-0.015***	-0.014***	-0.014***	-0.015***	-0.007	0.017*	-0.017***	-0.024	-0.017	-0.011

	(0.004)	(0.004)	(0.004)	(0.004)	(0.010)	(0.009)	(0.006)	(0.016)	(0.014)	(0.010)
Market-to-book ratio	-0.002	-0.002	-0.002	-0.001	-0.002	0.012	-0.007	-0.007	0.004	0.016
	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)	(0.008)	(0.007)	(0.018)	(0.012)	(0.016)
Leverage	-0.024	-0.026	-0.024	-0.029	-0.116	0.010	-0.014	-0.112*	0.051	-0.010
	(0.023)	(0.023)	(0.023)	(0.023)	(0.087)	(0.049)	(0.036)	(0.059)	(0.100)	(0.072)
Return on assets	-0.041*	-0.043*	-0.041*	-0.043*	0.104*	-0.108	-0.087**	-0.041	0.370**	-0.065
	(0.023)	(0.023)	(0.023)	(0.023)	(0.060)	(0.085)	(0.036)	(0.081)	(0.146)	(0.051)
Payout ratio	0.008	-0.002	0.005	0.016	0.021	0.056	0.028	-0.096	-0.068	0.102
	(0.032)	(0.031)	(0.031)	(0.032)	(0.059)	(0.047)	(0.064)	(0.125)	(0.107)	(0.128)
Capital expenditure	0.003	0.002	0.003	0.003	0.009	0.005	-0.006	0.000	0.009	-0.010
	(0.003)	(0.003)	(0.003)	(0.003)	(0.007)	(0.008)	(0.008)	(0.006)	(0.017)	(0.016)
Constant	0.327***	0.290***	0.321***	0.343***	0.130	-0.386**	0.374***	0.677**	0.264	0.219
	(0.078)	(0.076)	(0.074)	(0.076)	(0.216)	(0.174)	(0.122)	(0.316)	(0.297)	(0.202)
Observations	1,794	1,794	1,794	1,794	236	241	652	217	159	289
Adj. R^2	0.040	0.041	0.040	0.041	0.038	0.035	0.027	0.043	0.053	0.038

Table V: Summary statistics of two-year BHRs

This table reports average two-year BHRs for target firms and differences in log returns between target and matched nontarget firms over a two-year period. Statistical significance is based on a cross-sectional *t*-test. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

	Panel A: Hedge funds							
	Global		Asia-Pacific		Europe		North America	
	2-year BHRs	Difference log returns	2-year BHRs	Difference log returns	2-year BHRs	Difference log returns	2-year BHRs	Difference log returns
N	1,309	1,309	237	237	336	336	736	736
Mean	0.242	0.090	0.266	0.142	0.233	0.082	0.238	0.077
Std. dev.	0.773	1.281	0.775	0.988	0.679	0.901	0.812	1.495
Skewness	2.012	0.198	2.782	-0.521	1.333	-0.472	1.954	0.331
Kurtosis	10.430	9.521	14.050	10.76	6.940	6.840	9.920	8.080
Minimum	-0.994	-6.584	-0.994	-6.153	-0.994	-4.413	-0.994	-6.584
5th percentile	-0.826	-1.631	-0.541	-1.436	-0.753	-1.320	-0.883	-2.104
25th percentile	-0.160	-0.401	-0.124	-0.313	-0.159	-0.371	-0.179	-0.474
Median	0.158	0.045	0.137	0.0877	0.167	0.080	0.164	0.017
57th percentile	0.500	0.569	0.436	0.569	0.518	0.519	0.501	0.581
95th percentile	1.574	2.026	1.500	1.885	1.360	1.471	1.636	2.439
Maximum	4.412	6.764	4.412	4.09	3.780	3.707	4.412	6.764
t-test	11.33***	2.55**	5.28***	2.22**	6.28***	1.68*	7.96***	1.40

	Panel B: Non-hedge funds							
	Global		Asia-Pacific		Europe		North America	
	2-year BHRs	Difference log returns	2-year BHRs	Difference log returns	2-year BHRs		2-year BHRs	Difference log returns
N	790	790	245	245	203	203	342	342
Mean	0.098	-0.075	0.005	-0.113	0.127	-0.109	0.146	-0.027
Std. dev.	0.884	1.264	0.790	1.286	0.946	1.030	0.907	1.371
Skewness	2.458	-0.375	2.305	-0.175	2.516	-0.052	2.434	-0.591
Kurtosis	11.500	6.603	11.500	6.722	10.870	4.652	11.370	6.513
Minimum	-0.994	-5.415	-0.994	-5.357	-0.990	-4.365	-0.994	-5.415
5th percentile	-0.895	-1.872	-0.900	-1.758	-0.822	-1.486	-0.941	-2.366
25th percentile	-0.402	-0.662	-0.500	-0.749	-0.383	-0.736	-0.333	-0.525
Median	-0.039	-0.048	-0.083	-0.121	-0.104	-0.104	-0.004	0.027
57th percentile	0.339	0.538	0.256	0.538	0.362	0.467	0.352	0.570
95th percentile	1.629	1.874	1.427	1.872	1.663	1.620	1.637	2.046
Maximum	4.412	5.232	4.412	4.849	4.412	2.909	4.412	5.232
t-test	3.10***	-1.66*	0.09	-1.37	1.92*	-1.51	2.98***	-0.36
t-test (panel A vs. panel B)	-3.80***	-2.88***	-3.66***	-2.45**	-1.39	-2.19**	-1.60	-1.12

Table VI: Probabilities of activist engagements by region

This table reports marginal effects from logit regressions. The dependent variable in Panel A takes a value of one for target firms of hedge fund activists and zero for nontarget firms. The dependent variable in Panel B takes a value of one for target firms of non-hedge fund activists and zero for nontarget firms. Economic significance is estimated by multiplying marginal effects by one standard deviation of the respective variable. We lag all dependent variables by one year with regard to the year of the engagement. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix. Standard errors are reported in parentheses, and ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. Predictions are based on Brav et al. (2008), Clifford (2008), Greenwood and Schor (2009), Klein and Zur (2009), and Becht et al. (2017).

			Panel A: Hedge funds							
	(1)		(2)		(3)		(4)		(5)	
			Global		Asia-Pacific		Europe		North America	
			Coefficient	Economic	Coefficient	Economic	Coefficient	Economic	Coefficient	Economic
Company size	−	HF > NHF	0.001***	0.003	0.001***	0.001	0.001***	0.003	0.001***	0.003
			(0.000)		(0.000)		(0.000)		(0.000)	
Asset turnover	+	HF > NHF	0.002***	0.001	-0.000	0.000	0.002	0.001	0.001	0.001
			(0.000)		(0.000)		(0.001)		(0.001)	
Current asset ratio	+	HF > NHF	0.000	0.000	0.000	0.000	-0.007*	-0.001	0.004	0.001
			(0.001)		(0.001)		(0.004)		(0.005)	
Payout ratio	−	HF < NHF	-0.010***	-0.002	-0.000	0.000	0.002	0.001	-0.034***	-0.006
			(0.002)		(0.001)		(0.003)		(0.009)	
Leverage	−	HF < NHF	-0.005***	-0.002	-0.007***	-0.002	-0.008	-0.002	-0.009***	-0.006
			(0.002)		(0.002)		(0.005)		(0.003)	
Return on assets	+	HF > NHF	-0.001	0.000	-0.001**	0.000	-0.005**	-0.001	0.006**	0.006
			(0.000)		(0.000)		(0.002)		(0.003)	
Market-to-book ratio	−	HF > NHF	-0.000**	-0.001	-0.000	0.000	-0.001	-0.001	-0.001***	-0.003
			(0.000)		(0.000)		(0.001)		(0.000)	
Capital expenditure	+	HF > NHF	-0.000	0.000	-0.004	-0.004	0.001*	0.001	-0.001	-0.001
			(0.000)		(0.004)		(0.000)		(0.001)	
R&D investments	+/−	HF > NHF	0.000	0.000	-0.014***	-0.013	-0.000	-0.001	-0.000	0.000
			(0.000)		(0.005)		(0.001)		(0.000)	
Revenue growth	−	HF < NHF	-0.004***	-0.001	-0.002	0.000	-0.000	0.000	-0.014***	-0.004
			(0.001)		(0.001)		(0.004)		(0.004)	
Country governance	+	HF > NHF	0.008***	0.005	0.003***	0.002	0.014***	0.007		
			(0.001)		(0.000)		(0.004)			
Observations			101,255		63,927		14,418		22,910	
Pseudo R²			0.055		0.077		0.059		0.023	

	(1)		(2) Global		(3) Asia-Pacific		(4) Europe		(5) North America	
Panel B: Non-hedge funds										
			Coefficient	Economic	Coefficient	Economic	Coefficient	Economic	Coefficient	Economic
Company size	−	HF > NHF	0.000*	0.000	0.000*	0.000	0.001**	0.001	-0.001**	-0.001
			(0.000)		(0.000)		(0.000)		(0.000)	
Asset turnover	+	HF > NHF	0.000	0.000	-0.000	0.000	-0.000	0.000	0.000	0.000
			(0.000)		(0.000)		(0.001)		(0.001)	
Current asset ratio	+	HF > NHF	0.001	0.000	0.001	0.000	-0.001	0.000	0.004	0.001
			(0.001)		(0.001)		(0.004)		(0.003)	
Payout ratio	−	HF < NHF	-0.006***	-0.001	-0.002**	-0.001	-0.004	-0.001	-0.008	-0.002
			(0.001)		(0.001)		(0.003)		(0.005)	
Leverage	−	HF < NHF	-0.002***	-0.001	-0.001	-0.001	-0.002	-0.001	-0.005***	-0.003
			(0.001)		(0.001)		(0.003)		(0.002)	
Return on assets	+	HF > NHF	-0.000	0.000	-0.000*	0.000	-0.002**	0.000	0.002*	0.002
			(0.000)		(0.000)		(0.001)		(0.001)	
Market-to-book ratio	−	HF > NHF	-0.000**	0.000	-0.000*	0.000	-0.000	0.000	-0.001***	-0.002
			(0.000)		(0.000)		(0.000)		(0.000)	
Capital expenditure	+	HF > NHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
			(0.000)		(0.000)		(0.000)		(0.000)	
R&D investments	+/−	HF > NHF	-0.000	0.000	-0.000	0.000	-0.000	0.000	-0.000	0.000
			(0.000)		(0.000)		(0.000)		(0.000)	
Revenue growth	−	HF < NHF	-0.001*	0.000	-0.002*	0.000	0.000	0.000	-0.003	-0.001
			(0.001)		(0.001)		(0.002)		(0.002)	
Country governance	+	HF > NHF	0.003***	0.002	0.001***	0.002	0.001	0.001		
			(0.000)		(0.000)		(0.001)			
Observations			100,912		63,862		14,364		22,686	
Pseudo R^2			0.041		0.055		0.017		0.026	

Table VII: Analysis of activists' impact on firm characteristics

This table reports the results from a difference-in-differences (Panel C: difference-in-difference-in-differences) regression analysis on the characteristics of target and matched nontarget firms for hedge fund and non-hedge fund activists. Firm characteristics are from two years after an engagement and one year prior to an engagement. The dummy variable *post* takes a value of one for the period after an engagement and zero prior to an engagement. The dummy variable *treat* takes a value of one for target companies and zero for nontarget firms. The dummy variable *HF Dummy* takes a value of one for hedge fund targets and matched nontarget firms and zero for non-hedge fund targets and matched nontarget firms. The dummy variable *Asia-Pacific* takes a value of one for firms in the Asia-Pacific region and zero otherwise. The dummy variable *Europe* takes a value of one for firms in Europe and zero for firms in North America. We report *t*-statistics in parentheses. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

	Panel A – Difference-in-differences analysis, hedge funds				
	(1)	(2)	(3)	(4)	(5)
	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Global					
treat x post	-0.169***	-0.010	0.094***	0.000	-0.014
	(-2.88)	(-0.51)	(3.62)	(0.01)	(-1.48)
Observations	2,684	1,980	2,792	348	2,428
Adj. R2	0.97	0.47	0.43	0.49	0.79
Asia-Pacific					
treat x post	-0.133*	0.007	0.007	-0.026	-0.024
	(-1.77)	(0.16)	(0.26)	(-0.57)	(-1.29)
Observations	644	472	644	168	576
Adj. R2	0.98	0.37	0.33	0.56	0.76
Europe					
treat x post	-0.067	-0.002	0.073*	0.040	-0.031*
	(-0.52)	(-0.10)	(1.85)	(0.50)	(-1.86)
Observations	696	572	740	88	624
Adj. R2	0.97	0.55	0.26	0.22	0.82
North America					
treat x post	-0.239***	-0.024	0.145***	0.012	-0.001
	(-2.70)	(-0.70)	(3.23)	(0.20)	(-0.09)
Observations	1,344	936	1,408	92	1,228
Adj. R2	0.95	0.47	0.47	0.60	0.78

	(1)	(2)	(3)	(4)	(5)
Panel B – Difference-in-differences analysis, non-hedge funds					
	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Global					
treat x post	-0.010	-0.003	0.031	-0.081*	0.020
	(-0.15)	(-0.10)	(0.77)	(-1.77)	(1.41)
Observations	1,872	1,300	2,004	252	1,856
Adj. R^2	0.97	0.34	0.38	0.34	0.69
Asia-Pacific					
treat x post	0.029	0.007	-0.001	-0.050	0.037
	(0.27)	(0.12)	(-0.02)	(-0.78)	(1.54)
Observations	740	464	780	132	732
Adj. R^2	0.93	0.36	0.37	0.28	0.64
Europe					
treat x post	-0.091	0.005	-0.027	-0.105	0.054**
	(-1.28)	(0.24)	(-0.90)	(-1.43)	(2.14)
Observations	488	420	500	96	436
Adj. R^2	1.00	0.73	0.49	0.37	0.73
North America					
treat x post	0.008	-0.023	0.105	-0.152	-0.019
	(0.06)	(-0.32)	(1.27)	(-0.96)	(-0.82)
Observations	644	416	724	24	688
Adj. R^2	0.96	0.17	0.36	0.18	0.72

	(1)	(2)	(3)	(4)	(5)
Panel C – Difference-in-difference-in-differences analysis, types of investors					
	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Global					
treat x post x HF Dummy	-0.159*	-0.007	0.064	0.081	-0.034**
	(-1.75)	(-0.20)	(1.41)	(1.46)	(-2.08)
Observations	4,556	3,280	4,796	600	4,284
Adj. R^2	0.97	0.42	0.42	0.43	0.75
Asia-Pacific					
treat x post x HF Dummy	-0.162	0.000	0.009	0.024	-0.060*
	(-1.21)	(-0.00)	(0.11)	(0.31)	(-1.92)
Observations	1,384	936	1,424	300	1,308
Adj. R^2	0.96	0.37	0.37	0.44	0.69
Europe					
treat x post x HF Dummy	0.024	-0.008	0.100*	0.145	-0.085***
	(0.15)	(-0.23)	(1.86)	(1.34)	(-2.88)
Observations	1,184	992	1,240	184	1,060
Adj. R^2	0.98	0.63	0.32	0.30	0.77
North America					
treat x post x HF Dummy	-0.247	0.000	0.040	0.164	0.018
	(-1.48)	(-0.01)	(0.47)	(1.20)	(0.69)
Observations	1,988	1,352	2,132	116	1,916
Adj. R^2	0.95	0.38	0.45	0.52	0.77

Panel D – Difference-in-difference-in-differences analysis, full sample					
	(1)	(2)	(3)	(4)	(5)
	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Asia-Pacific vs. North America					
treat x post x Asia-Pacific	0.112	0.030	-0.129**	-0.015	0.018
	(1.03)	(0.62)	(-2.21)	(-0.21)	(0.90)
Observations	3,372	2,288	3,556	416	3,224
Adj. R2	0.96	0.39	0.43	0.47	0.74
Asia-Pacific vs. Europe					
treat x post x Asia-Pacific	0.030	0.006	-0.030	-0.001	0.006
	(0.29)	(0.15)	(-0.63)	(-0.02)	(0.78)
Observations	2,568	1,928	2,664	484	2,368
Adj. R2	0.98	0.46	0.37	0.40	0.73
Europe vs. North America					
treat x post x Europe	0.082	0.025	-0.099*	-0.013	0.012
	(0.49)	(0.54)	(-1.76)	(-0.16)	(0.59)
Observations	3,172	2,344	3,372	300	2,976
Adj. R2	0.97	0.44	0.44	0.39	0.77
All panels	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes

Figure I: Development of the number of activist engagements
This figure reports the number of activist engagements for different regions for a given year in our initial sample. Information on the panel composition is given in Table A.IV in the Appendix.
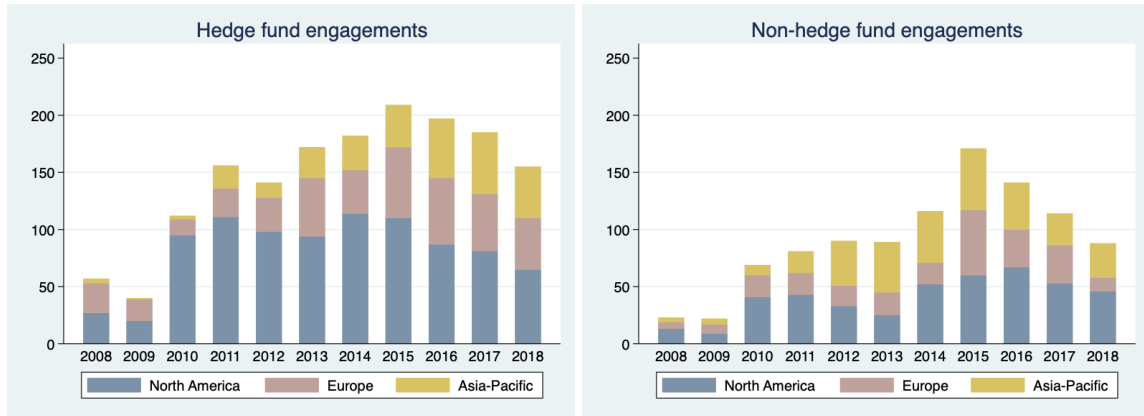
Figure II: Holding periods of activist engagements
This figure reports Kaplan-Meier survival estimates on holding periods for the global sample of hedge fund and non-hedge fund engagements together with 95% confidence intervals. We split the engagements into two subsamples based on the year of investment, 2008-2014 and 2015-2019. Information on the panel composition is given in Table A.IV in the Appendix.
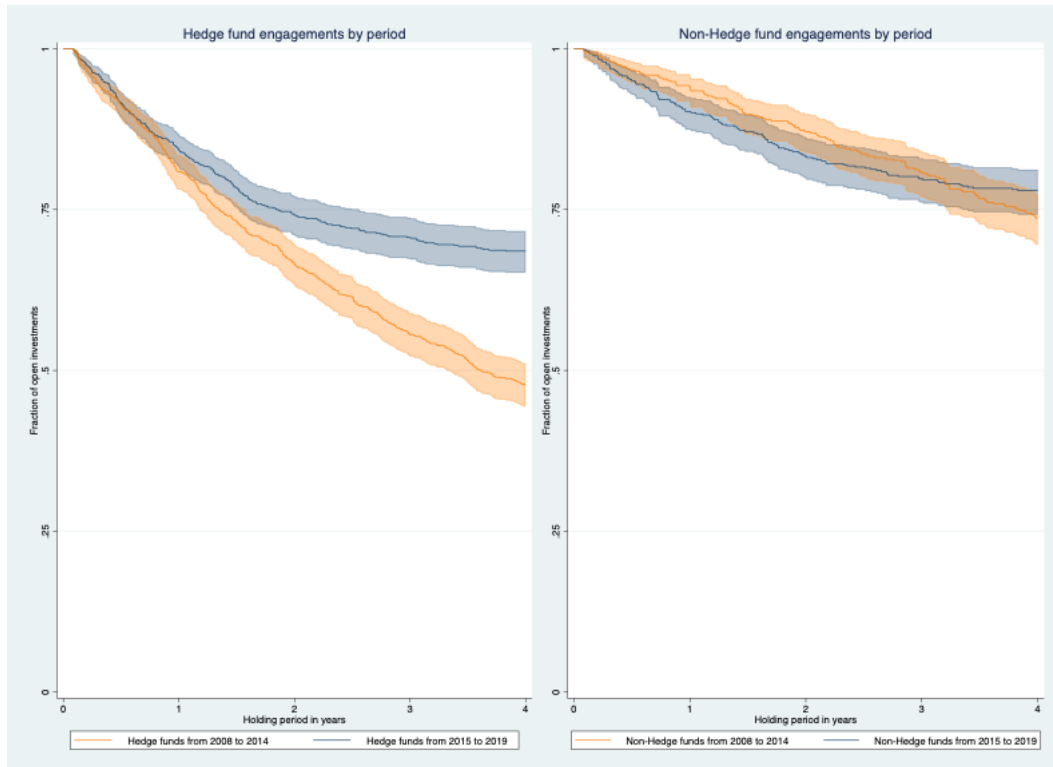
Figure III: CAARs and abnormal trading volume around engagement announcements

This figure reports the development of CAARs and abnormal trading volume (ATV) in the [-20, +20] window in different regions together with 95% confidence intervals. The analysis covers 2,166 engagements globally, including 440 engagements in the Asia-Pacific region, 543 engagements in Europe, and 1,183 engagements in North America. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix.
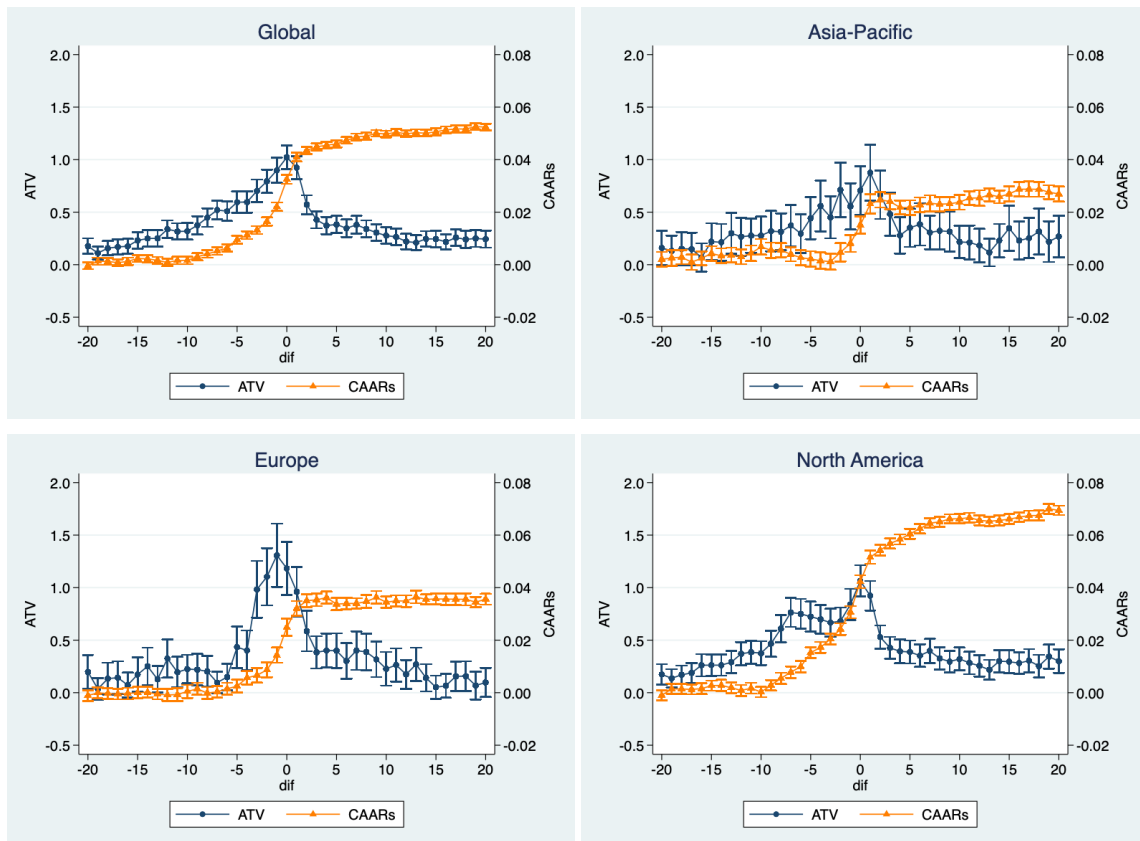
Figure IV: Development of CAARs over time

This figure reports the development of CAARs in the [-20, 20] window over time for different regions in our sample together with 95% confidence intervals. Information on the panel composition is given in Table A.IV in the Appendix.
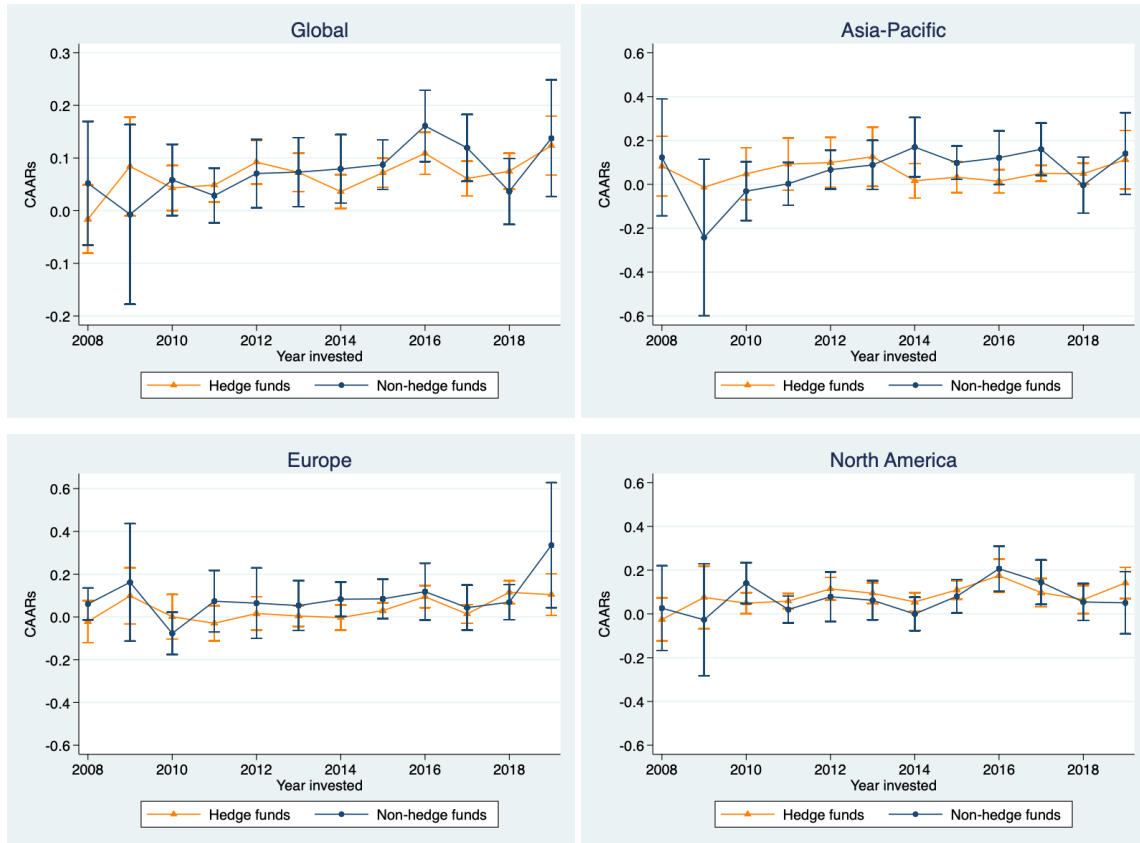
Figure V: Distribution of two-year BHARs

This figure reports the distribution of differences in two-year BHARs for target and matched nontarget firms for hedge fund and non-hedge fund engagements. The difference is equal to the difference in respective log returns for target and matched nontarget firms. Information on the panel composition is given in Table A.IV in the Appendix.
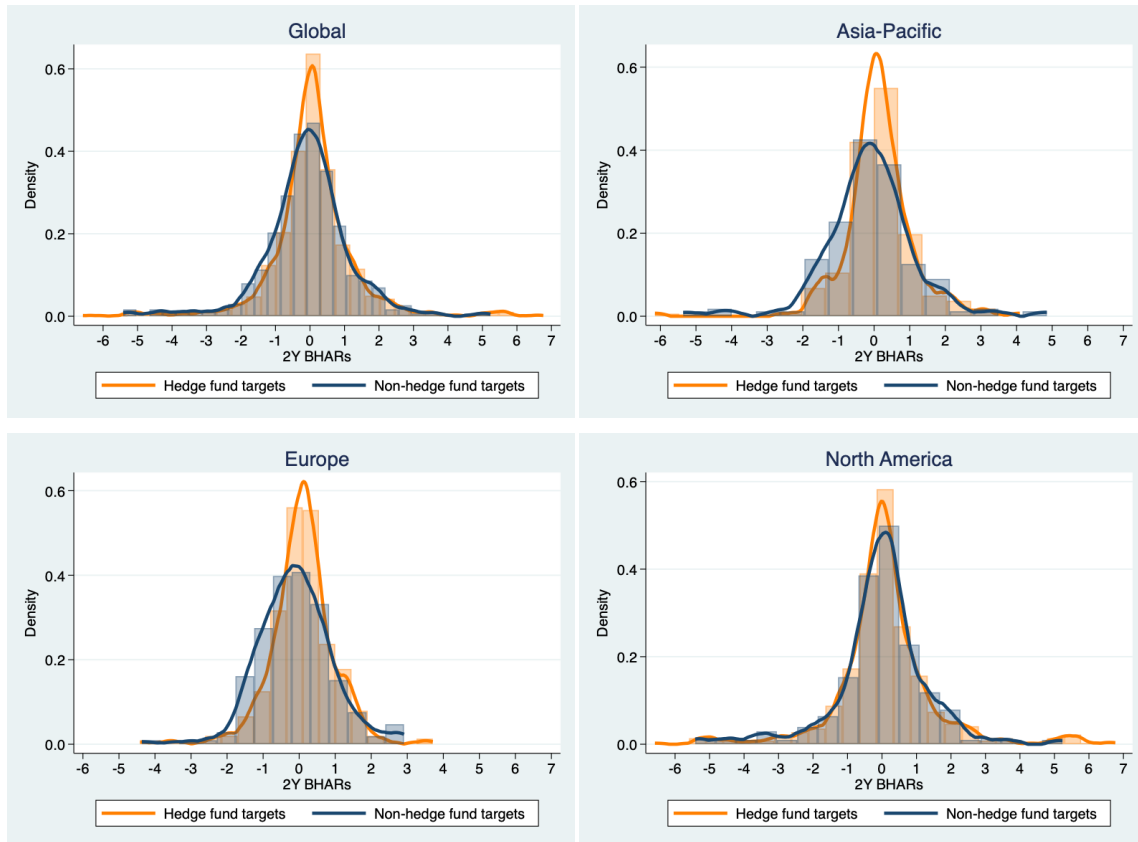
Figure VI: Development of two-year BHARs over time

This figure reports the development of two-year BHARs over time for different regions in our sample together with 95% confidence intervals. Information on the panel composition is given in Table A.IV in the Appendix.
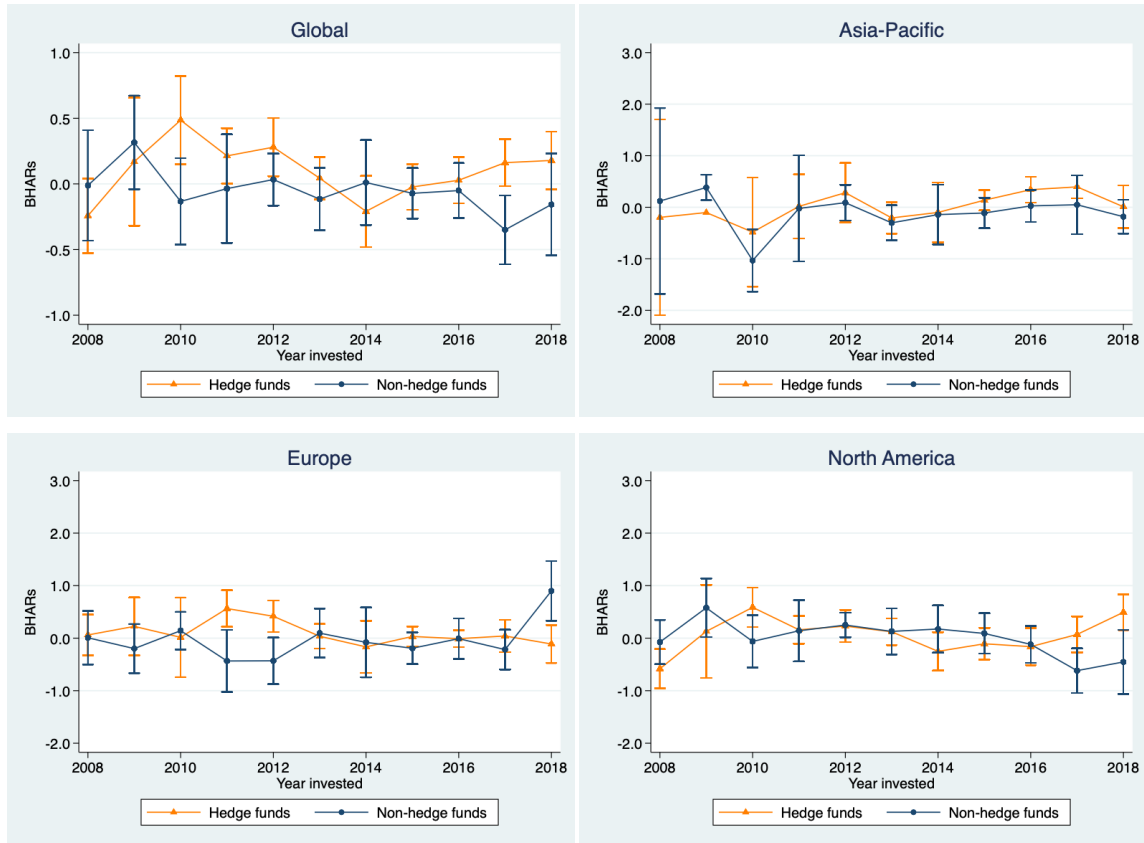
Appendix

## A.I: Overview of selected prior research on shareholder activism

This table provides an overview of prior literature on shareholder activism with regard to the research period, regional focus, covered groups of investors, sample size and short- and medium-term abnormal stock returns, if available. Fields with *"–"* indicate no observation. The classification of investors uses the following acronyms: HF for hedge funds, LU for labor unions, NHF for non-hedge funds, PE for private equity, and PF for pension funds.

Published	Author(s)	Journal	Research period	Region	Investors	# Campaigns	Short-term stock returns		Medium-term stock returns	
							Event window	*CAARs*	*Holding period*	*BHARs*
1996	Strickland et al.	Journal of Financial Economics	1986 - 1993	U.S.	NHF	53	[-1, 0]	0.9%	–	–
1997	Akhigbe	Applied Financial Economics	1985 - 1992	U.S.	HF, NHF	144	–	–	2y	17.5%
1999	Guercio and Hawkins	Journal of Financial Economics	1987 - 1993	U.S.	PF	266	[-1, 0]	-0.0%	3y	-0.0%
2000	Prevost and Rao	The Journal of Business	1988 - 1994	U.S.	PF	73	[-20, +20]	-10.3%	–	–
2006	Nelson	Journal of Corporate Finance	1990 – 2003	U.S.	PF	91	[-2, +2]	1.1%	–	–
2007	Croci	European Financial Management	1990 - 2001	Europe	HF, NHF	136	[-30, +30]	9.3%	1y	11.8%
2008	Brav et al.	Journal of Finance	2001 - 2006	U.S.	HF	1,059	[-20, +20]	7.2%	–	–
2008	Clifford	Journal of Corporate Finance	1998 - 2005	U.S.	HF	1,902	[-2, +2]	3.4%	1y	22.2%
2009	Greenwood and Schor	Journal of Financial Economics	1993 - 2006	U.S.	HF, NHF	980	[-10, +5]	3.6%	1.5y	10.3%
2009	Klein and Zur	Journal of Finance	2003 - 2005	U.S.	HF, NHF	305	[-30, +30]	7.2% (HF) 1.9% (NHF)	1y	11.4% (HF) 17.8% (NHF)
2010	Becht et al.	The Review of Financial Studies	1998 - 2004	Global	PF	41	[-5, +5]	-1.9%	–	–
2010	Venkiteshwaran et al.	Journal of Applied Corporate Finance	1995 - 2007	Global	HF	33	[-10, +10]	13.7%	1.6y	35.7%
2011	Boyson and Mooradian	Review of Derivatives Research	1994 - 2005	Global	HF	456	[-10, +10]	8.7%	–	–
2012	Prevost et al.	The Financial Review	1988 - 2002	U.S.	LU	481	[-1, +10]	0.9%	3y	4.4%
2014	Mietzner and Schweizer	Journal of Economics and Finance	1993 - 2007	Germany	HF, PE	226	[-20, +20]	6.2% (HF) 3.6% (PE)	1y	-21.5% (HF) -2.5% (PE)
2015	Bebchuk et al.	Columbia Law Review	1994 - 2007	U.S.	HF	2,000	[-20, +20]	5.9%	3y	7.2%
2015	Bessler et al.	European Financial Management	2000 - 2006	Germany	HF	231	[-15, +15]	4.4%	1y	11.2%
2016	Krishnan et al.	Journal of Corporate Finance	2008 - 2014	Global	HF	1,003	[-10, +10]	6.0%	–	–
2017	Becht et al.	The Review of Financial Studies	2000 -2010	Global	HF	1,740	[-20, +20]	6.4%	–	–
2017	Boyson et al.	Journal of Financial Economics	2000 - 2012	U.S.	HF	467	[-1, +1]	3.9%	2y	9.8%

A.II: Construction of the sample of activist engagements

This table reports all applied filters and the number of excluded engagements to identify our sample. For a description of exemplary activist engagements, see Table A.XIII in the Appendix.

# Engagements	Filter criteria
9,829	Initial dataset
- 228	Engagements outside the Asia-Pacific region, North America and Europe
- 218	Reinvestments by activists
- 55	Holding period of at least 30 days
- 2,379	No information on acquired stake
- 550	No classification of activists' business background
- 504	Investments in funds
- 2,587	Late announcements of acquired stake
- 230	Multiple investments on the same date
- 389	No price or financial statement data available
2,689	Final sample

A.III: Variable descriptions

All continuous variables are winsorized at the 1st and 99th percentiles.

Variable	Description	Source	Worldscope items
Acquired stake	Acquired stake of total outstanding shares as a percentage	Activist Insight	
Asset turnover	Net sales or revenues/Total assets	Worldscope, own calc.	item01001/item02999
Board size	Number of persons on a firm's board	Datastream Asset 4	
Capital expenditure	Capital expenditure/Net sales or revenues	Worldscope	item08421
Country governance	"Regulatory Quality Estimate" for the target company's country of residence in a given year	World Bank	
Current asset ratio	Current assets (total)/Total assets	Worldscope, own calc.	item02201/item02999
Current ratio	Current assets (total)/Current liabilities (total)	Worldscope	item08106
Dividend per share growth	Dividends per share – 5-Year annual growth	Worldscope	item08615
Dummy Asia-Pacific	Dummy variable equal to one if target country is located in the Asia-Pacific region and zero otherwise	Activist Insight, own calc.	
Dummy Europe	Dummy variable equal to one if target country is located in Europe and zero otherwise	Activist Insight, own calc.	
Dummy North America	Dummy variable equal to one if target country is located in North America and zero otherwise	Activist Insight, own calc.	
Dummy demands	Dummy variable equal to one for a particular demand and zero otherwise	Activist Insight, own calc.	
Dummy hedge funds	Dummy variable equal to one for hedge fund engagements and zero otherwise	Activist Insight, own calc.	
Dummy investor origin	Dummy variable equal to one if the investor and target firm are from the same country and zero otherwise	Activist Insight, own calc.	
Dummy stake	Dummy variable equal to one if the acquired stake is above 5% and zero otherwise	Activist Insight, own calc.	
Ebitda margin	Ebitda/Net sales or revenues	Worldscope, own calc.	item18198/item01001
ESG score		Datastream Asset 4	
Investor experience	Number of executed transactions in the two years prior to an engagement	Activist Insight, own calc.	
Leverage	Total Debt % Total Assets	Worldscope	item08236
Market capitalization	Market capitalization	Worldscope	item07210
Market-to-book ratio	Market capitalization/(Total assets - Total assets * Total debt % total assets)	Worldscope, own calc.	item07210/(item07230 – item07230*item08236)
Payout ratio	Dividend payout (% earnings)	Worldscope, own calc.	item8256
R&D investments	Research & Development/Sales	Worldscope	item08341
Return on assets	Return on assets	Worldscope	item08326
Revenue growth	Net sales/revenues – 5-Year annual growth	Worldscope	item08635
Size	ln of market capitalization	Worldscope	item07210
(Prior) stock performance	Last twelve months stock performance	Datastream, own calc.	
Total asset growth	Total assets – 5-Year annual growth	Worldscope	item08625

A.IV: Panel description

Category	Description
Asia-Pacific	Activist engagements in the Asia-Pacific region take place in the following countries: Australia, China, Hong Kong, India, Japan, South Korea, Malaysia, New Zealand, Papua New Guinea, Singapore, Taiwan, and Thailand
Europe	Activist engagements in Europe take place in the following countries: Austria, Belgium, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Gibraltar, Greece, Guernsey, Iceland, Ireland, Isle of Man, Italy, Jersey, Latvia, Luxembourg, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, Ukraine, and the United Kingdom
North America	Activist engagements in North America take place in the following countries: Canada and the U.S.
Hedge fund investors	Hedge funds
Non-hedge fund investors	Asset managers, institutional, family offices, listed companies, private companies, anonymous shareholders, current/former directors, individual investors, private equity investors, government organizations, cause-oriented investors, short-focused investors
Panel PE and corporates	Listed companies, private companies, private equity investors
Panel other NHF	Asset managers, institutional investors, family offices, anonymous shareholders, current/former directors, individual investors, government organizations, cause-oriented investors, short-focused investors
Benchmark index for the Asia-Pacific region	MSCI Pacific, MSCI Japan
Benchmark index for Europe	MSCI Europe
Benchmark index for North America	MSCI Canada, MSCI USA

A.V: Descriptive statistics for target and matched nontarget firms

This table provides descriptive statistics for the characteristics of both target and matched nontarget firms. The variables are lagged by one year. The statistical significance of the differences between target and matched nontarget firms is based on a cross-sectional *t*-test. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix.

	Control group		Target firms		
Global	Mean	SD	Mean	SD	*t*-test
Total assets (in billion USD)	2.87	9.42	3.13	9.26	-0.98
Market-to-book ratio	0.37	2.03	0.32	1.58	0.99
Return on assets	-0.07	0.54	-0.07	0.45	0.06
Asia-Pacific	Mean	SD	Mean	SD	*t*-test
Total assets (in billion USD)	2.12	8.53	2.38	8.19	-0.52
Market-to-book ratio	0.40	2.49	0.45	1.89	-0.42
Return on assets	-0.07	0.52	-0.09	0.49	0.67
Europe	Mean	SD	Mean	SD	*t*-test
Total assets (in billion USD)	4.46	12.32	5.24	12.53	-1.09
Market-to-book ratio	0.23	1.64	0.18	1.49	0.52
Return on assets	0.02	0.18	0.00	0.18	1.28
North America	Mean	SD	Mean	SD	*t*-test
Total assets (in billion USD)	2.43	7.97	2.44	7.52	-0.05
Market-to-book ratio	0.43	1.97	0.33	1.45	1.49
Return on assets	-0.11	0.65	-0.10	0.51	-0.60

A.VI: Propensity-score matching assessment

This figure reports the distribution of forecast errors to assess the quality of the matching procedure of target and matched nontarget firms. For further information on the characteristics of target and matched nontarget firms, see Table A.XIV in the Appendix.
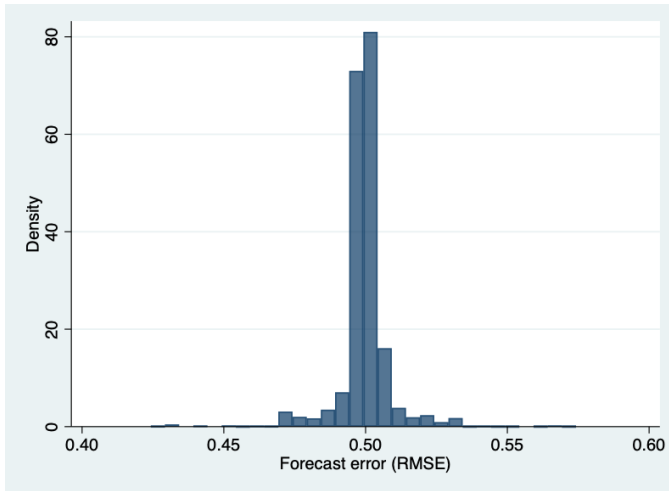
A.VII: Overview of demand types by region

This table provides an overview of different types of demands for different regions. Fields with *"–"* indicate no observation of a specific demand in the respective region. We also report the percentage of demands that investors successfully enforce and fail to enforce. The remaining share of 100% comprises ongoing demands. We classify a demand as successful (success) if the demand is completely or partially met by a target firm or other shareholders and as unsuccessful (failure) if a demand is withdrawn by an activist or not met by the target firm or other shareholders. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix.

| | **Global** | | | **Asia-Pacific** | | | **Europe** | | | **North America** | | |
	No.	*Success*	*Failure*	*No.*	*Success*	*Failure*	*No.*	*Success*	*Failure*	*No.*	*Success*	*Failure*
Board-related activisms												
Gain board representation	1,200	64%	32%	240	45%	52%	260	68%	29%	700	69%	26%
Remove CEO or other board member	485	47%	47%	209	47%	51%	126	52%	42%	150	43%	44%
Change board composition	120	53%	30%	12	33%	42%	32	56%	31%	76	55%	28%
Eliminate staggered board	36	50%	31%	–	–	–	1	–	100%	35	51%	29%
Board independence	28	39%	46%	2	50%	50%	9	22%	56%	17	47%	41%
Separate chairman & CEO	25	48%	52%	1	–	100%	3	33%	67%	21	52%	48%
Total	*1,894*	*58%*	*36%*	*464*	*46%*	*52%*	*431*	*61%*	*34%*	*999*	*62%*	*30%*
M&A activism												
Push for sale of company to third party	187	34%	47%	7	43%	57%	21	19%	43%	159	36%	47%
Take over company	100	35%	53%	18	22%	56%	15	60%	20%	67	33%	60%
Oppose takeover terms	90	49%	43%	17	59%	35%	35	51%	37%	38	42%	53%
Spin-off/dale of business division	71	42%	28%	5	20%	40%	20	40%	25%	46	46%	28%
Push for merger of company with third party	40	28%	65%	2	50%	–	6	–	83%	32	31%	66%
Oppose acquisition of third party	25	48%	44%	3	67%	33%	7	86%	14%	15	27%	60%
Oppose merger	19	32%	63%	3	33%	67%	5	40%	40%	11	27%	73%
Oppose terms of merger	19	47%	47%	2	100%	–	5	40%	60%	12	42%	50%
Push for company division	9	22%	56%	2	50%	50%	6	17%	50%	1	–	100%
Push for acquisition of third party	7	43%	57%	–	–	–	1	100%	–	6	33%	67%
Total	*567*	*38%*	*47%*	*59*	*42%*	*44%*	*121*	*42%*	*36%*	*387*	*36%*	*51%*
Balance sheet activism												
Share repurchase	111	49%	38%	24	17%	71%	15	47%	33%	72	60%	28%
Dividends	86	28%	62%	39	18%	74%	18	50%	50%	29	28%	52%
Sell/retain assets	81	27%	44%	19	11%	79%	21	14%	38%	41	41%	32%
Oppose equity issuance	38	39%	45%	11	45%	45%	8	25%	38%	19	42%	47%
Return cash to shareholders	22	55%	32%	6	33%	67%	3	–	100%	13	77%	–
Restructure debt	15	53%	33%	–	–	–	5	80%	20%	10	40%	40%
Excess cash	11	45%	9%	1	–	–	1	–	–	9	56%	11%
Equity issuance	12	42%	42%	2	–	100%	4	75%	–	6	33%	50%
Recapitalization	8	38%	63%	–	–	–	2	–	100%	6	50%	50%
Under leverage	3	33%	67%	–	–	–	–	–	–	3	33%	67%
Total	*387*	*39%*	*45%*	*102*	*20%*	*71%*	*77*	*36%*	*40%*	*208*	*49%*	*34%*

Business strategy

Business focus	59	54%	32%	7	29%	71%	10	40%	30%	42	62%	26%
General cost cutting	48	46%	25%	3	33%	67%	11	45%	27%	34	47%	21%
Operational efficiency	31	48%	35%	1	–	100%	8	38%	38%	22	55%	32%
Replace management	29	45%	41%	4	–	100%	6	50%	33%	19	53%	32%
Business restructuring	28	61%	32%	4	50%	50%	6	50%	50%	18	67%	22%
Focus on growth strategies	25	44%	32%	3	33%	33%	3	–	67%	19	53%	26%
REIT/MLP conversion	6	33%	33%	–	–	–	–	–	–	6	33%	33%
Closure of business unit	4	25%	50%	–	–	–	1	100%	–	3	–	67%
Total	*230*	*49%*	*33%*	*22*	*27%*	*68%*	*45*	*42%*	*36%*	*163*	*54%*	*27%*

Other governance

Amend Bylaw	85	39%	54%	25	12%	84%	22	55%	45%	38	47%	39%
Lack of/inaccurate information from company	82	30%	52%	19	16%	58%	12	8%	75%	51	41%	45%
Redemption/amendment of poison pill	39	38%	49%	–	–	–	2	–	100%	37	41%	46%
Adopt majority vote standard	12	58%	25%	–	–	–	–	–	–	12	58%	25%
Replace auditor	7	43%	57%	3	100%	–	4	–	100%	–	–	–
Use universal ballot	2	–	100%	–	–	–	–	–	–	2	–	100%
Succession planning	1	–	–	–	–	–	1	–	–	–	–	–
Total	*228*	*36%*	*51%*	*47*	*19%*	*68%*	*41*	*32%*	*61%*	*140*	*44%*	*43%*

Remuneration

Remuneration	105	35%	48%	17	29%	71%	34	44%	35%	54	31%	48%
Total	*105*	*35%*	*48%*	*17*	*29%*	*71%*	*34*	*44%*	*35%*	*54*	*31%*	*48%*

Other

Push for/oppose merging of shares	12	50%	42%	–	–	–	2	50%	50%	10	50%	40%
Transfer listing	8	38%	63%	2	–	100%	5	60%	40%	1	–	100%
Cancel contract	8	25%	63%	3	33%	67%	2	–	100%	3	33%	33%
Total	*28*	*39%*	*54%*	*5*	*20%*	*80%*	*9*	*44%*	*56%*	*14*	*43%*	*43%*

A.VIII: Abnormal returns by various investment details in the [-20, +20] window

This table reports CAARs in the [-20, +20] window for different types of engagements in different regions. The section "Demand type" reports CAARs for different demand categories. We consider an engagement multiples times if an investor raises multiple demands of different categories within one engagement. The sample of top ten investors considers the ten most active investors in our sample period, measured by the number of executed transactions. The assessment of the statistical significance of CAARs is based on the cross-sectional *t*-test, the standardized cross-sectional test (SCST) specified by Boehmer et al. (1991), and the generalized sign test (GST) specified by Cowan (1992). ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

	Panel A: Asia-Pacific					Panel B: Europe					Panel C: North America				
Engagement type	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST
Engagements of hedge funds	301	5.3%	4.28***	4.81***	3.24***	430	3.6%	3.85***	4.46***	5.15***	924	8.7%	10.36***	11.40***	10.57***
Engagement of non-hedge funds	328	8.9%	4.60***	-0.86	3.73***	250	7.4%	3.68***	3.70***	2.59***	456	8.9%	5.78***	5.81***	6.83***
Engagements with demands	78	8.8%	1.93	1.94*	-0.03	76	3.4%	1.26	1.06	0.58	321	9.9%	6.15***	7.51***	5.99***
Engagements without demands	288	3.5%	3.22***	3.86***	2.53**	282	4.1%	2.93***	3.44***	3.60***	419	7.1%	4.93***	5.17***	4.91***
Domestic engagements	405	7.3%	4.74***	5.85***	4.11***	280	5.7%	3.51***	3.58***	4.02***	1,246	8.5%	10.94***	12.00***	12.36***
Foreign engagements	224	7.1%	3.94***	-0.90	2.74***	400	4.5%	3.94***	4.57***	4.03***	134	11.3%	3.83***	3.88***	2.69***
Acquired stake >=5%	547	6.9%	5.54***	-0.78	4.71***	402	5.5%	3.89***	4.47***	4.95***	1,148	9.1%	10.63***	11.27***	11.62***
Acquired stake <5%	82	9.2%	2.63***	2.94***	1.51	278	4.3%	3.87***	3.69***	2.91***	232	7.1%	4.65***	5.78***	4.83***
Demand types	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST
Board related activism	59	9.5%	1.64	1.33	-0.01	43	4.7%	1.65*	1.50	1.13	190	8.6%	3.83***	4.78***	4.27***
M&A activism	15	8.0%	0.97	1.28	-0.25	20	4.4%	0.83	0.91	0.38	96	11.3%	5.04***	5.65***	3.84***
Balance sheet activism	10	2.8%	0.65	0.74	0.21	6	10.9%	0.76	0.02	0.03	43	11.7%	2.59***	3.31***	3.21***
Business strategy	3	27.8%	1.05	1.34	0.40	3	11.8%	0.97	0.23	0.65	32	-2.6%	-0.62	0.18	-0.19
Other governance	5	-6.2%	-1.79*	-2.21**	-0.92	2	6.5%	0.38	0.23	-0.12	27	9.5%	1.64	1.54	1.43
Remuneration	3	-1.3%	-0.24	-0.10	0.59	3	1.6%	0.18	0.41	0.69	10	2.2%	0.45	0.41	0.49
Other						5	-29.9%	-2.32**	-2.14**	-1.74**	3	20.0%	0.76	0.44	-0.35
Top ten investors	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST
Hedge fund and non-hedge funds	252	3.8%	3.57***	4.00***	2.73***	236	5.8%	4.19***	4.66***	4.19***	239	7.3%	5.25***	5.18***	6.22***
only hedge funds	220	5.0%	4.00***	4.39***	2.72***	226	5.6%	4.17***	4.42***	4.01***	203	6.6%	4.57***	5.25***	5.18***
only non-hedge funds	80	6.7%	2.95***	3.36***	2.85***	73	6.4%	2.12**	2.23**	1.31	132	8.3%	3.73***	3.37***	4.16***
Year of investment	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST	N	CAAR	*t*-test	SCST	GST
2008	8	10.3%	1.45	1.60	0.78	32	-0.6%	-0.15	-0.16	0.11	40	-0.9%	-0.19	-0.52	-0.05
2009	6	-20.4%	-1.33	-0.50	0.71	27	11.7%	1.91*	2.09**	1.60	29	4.4%	0.68	0.04	0.50
2010	12	-1.1%	-0.22	-0.63	-1.40	33	-4.4%	-1.19	-1.46	-0.63	136	7.7%	3.41***	4.21***	4.24***
2011	39	4.9%	1.23	1.94*	1.22	44	1.5%	0.38	0.93	1.05	154	4.8%	3.09***	3.76***	3.99***
2012	52	7.5%	2.04**	2.26**	1.30	48	3.4%	0.86	0.47	1.34	131	10.5%	4.29***	4.72***	3.63***
2013	71	10.3%	2.35**	2.66***	1.39	71	1.8%	0.75	1.55	2.26**	119	8.8%	4.15***	4.57***	4.53***
2014	75	10.8%	2.41**	-0.96	2.22**	57	2.6%	1.04	0.68	0.63	166	3.8%	1.95*	3.12***	3.49***
2015	91	7.2%	2.63**	2.91***	2.13**	119	5.6%	2.28**	2.16**	3.36***	170	9.9%	5.09***	6.14***	4.90***
2016	93	6.1%	1.94*	1.17	0.89	91	10.3%	3.50***	4.06***	2.81***	154	18.9%	6.04***	6.37***	5.48***
2017	82	8.8%	3.56***	3.97***	2.77***	83	2.6%	1.02	0.81	0.69	134	11.6%	4.07***	3.56***	4.10***
2018	75	2.8%	0.93	2.21**	1.62	57	10.6%	4.51***	4.87***	2.88***	111	6.1%	2.34**	2.48**	2.80***
2019	25	12.4%	2.27**	2.35**	1.74*	18	18.1%	2.89***	2.64***	2.60***	36	10.6%	2.95***	3.68***	3.55***

A.IX: Non-hedge fund split of CAARs

This table reports the CAARs estimated over several event windows for different regions. The sample in Panel A comprises 356 engagements, while that in Panel B comprises 678 engagements. Information on the panel composition is given in Table A.IV in the Appendix. The assessment of statistical significance is based on the cross-sectional *t*-test, the standardized cross-sectional test specified by Boehmer et al. (1991), and the generalized sign test specified by Cowan (1992). Differences between groups of non-hedge fund investors are tested with a cross-sectional *t*-test and a rank sum test. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Panel A: Private equity & Corporate investors							
Global targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	11.8%	9.8%	7.5%	4.9%	4.2%	1.5%	1.4%
t-test	6.24***	7.03***	7.05***	6.21***	6.37***	3.98***	4.05***
Standardized cross-sectional test	6.45***	7.69***	7.88***	6.90***	7.16***	4.97***	3.97***
Generalized sign test	4.90***	7.13***	7.34***	5.11***	5.22***	4.37***	2.67***
Asia-Pacific targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	13.8%	10.3%	8.7%	6.8%	5.9%	1.6%	1.8%
t-test	4.21***	4.66***	4.60***	4.55***	4.56***	2.24**	2.75***
Standardized cross-sectional test	3.95***	4.62***	4.75***	4.69***	4.66***	2.43**	2.33**
Generalized sign test	2.26**	4.05***	3.87***	3.15***	3.51***	1.72*	2.62***
European targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	8.6%	7.0%	5.4%	4.9%	3.6%	1.7%	1.3%
t-test	2.37**	2.59***	2.59***	2.81***	2.67***	2.33**	2.08**
Standardized cross-sectional test	2.35**	3.22***	3.28***	3.52***	3.44***	3.34***	2.17**
Generalized sign test	1.16	2.50**	3.18***	2.06**	2.73***	2.95***	0.49
North American targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	11.8%	10.8%	7.6%	3.3%	3.2%	1.4%	1.1%
t-test	3.97***	4.67***	4.69***	3.23***	3.59***	2.40***	2.17**
Standardized cross-sectional test	4.61***	5.25***	5.36***	3.72***	4.21***	2.99***	2.43**
Generalized sign test	4.63***	5.44***	5.44***	3.48***	2.83***	2.99***	1.36

Panel B: Other non-hedge fund investors							
Global targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	6.8%	5.9%	4.4%	3.5%	2.9%	1.3%	0.9%
t-test	5.58***	6.91***	6.91***	7.51***	7.37***	5.71***	4.38***
Standardized cross-sectional test	-0.77	1.21	7.71***	7.84***	7.83***	6.54***	4.41***
Generalized sign test	6.22***	7.45***	7.15***	6.38***	6.84***	5.07***	3.45***
Asia-Pacific targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	5.9%	4.7%	2.8%	2.4%	1.4%	1.2%	0.3%
t-test	2.49**	2.99***	2.49**	2.77***	1.90*	2.49**	0.90
Standardized cross-sectional test	-0.93	1.05	3.00***	2.85***	2.15**	2.85***	0.14
Generalized sign test	2.97***	3.82***	2.41**	1.28	1.70*	1.00	1.00
European targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	6.8%	5.5%	5.3%	5.2%	4.5%	1.5%	1.7%
t-test	2.82***	3.21***	3.76***	4.83***	4.98***	3.12***	3.61***
Standardized cross-sectional test	2.88***	3.23***	3.83***	4.69***	4.55***	3.46***	3.18***
Generalized sign test	2.35**	2.19**	3.11***	3.73***	3.88***	2.04**	1.73*
North American targets							
Day	[-20, +20]	[-10, +10]	[-5, +5]	[-2, +2]	[-1, +1]	[-1, 0]	[0, +1]
CAAR	7.4%	7.0%	4.9%	3.3%	3.1%	1.3%	0.9%
t-test	4.22***	5.45***	5.50***	5.34***	5.79***	4.28***	2.99***
Standardized cross-sectional test	3.77***	5.86***	6.34***	5.80***	6.45***	5.12***	3.63***
Generalized sign test	5.10***	6.36***	6.36***	5.68***	5.91***	5.22***	3.04***

Panel C: Significance tests							
Global							
t-test	-2.21**	-2.33**	-2.49**	-1.49	-1.68*	-0.46	-1.10
Rank sum test	-2.04**	-2.34**	-2.47**	-1.23	-0.98	-0.65	-0.04
Asia-Pacific							
t-test	2.99***	2.99***	-2.67***	-2.57**	-3.03***	-0.49	-1.92*
Rank sum test	-1.41	-1.78*	-2.01**	-2.13**	-2.65***	-0.92	-1.56
Europe							
t-test	-0.42	-0.45	-0.02	-0.17	,5665	-0.28	0.46
Rank sum test	-0.85	-1.03	-0.94	-0.06	-0.02	-1.37	0.20
North America							
t-test	-1.27	-1.42	-1.43	0.02	-0.11	-0.07	-0.29
Rank sum test	-1.20	-1.33	-1.44	-0.14	0.75	0.49	0.99

A.X: Summary statistics for holding period BHRs

This table reports average BHRs over the duration of a completed engagement for target firms and differences in log returns between target and matched nontarget firms over the duration of a completed engagement. Statistical significance is based on the cross-sectional *t*-test. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Panel A: Hedge funds								
	Global		Asia-Pacific		Europe		North America	
	Exit BHRs	Difference log returns	Exit BHRs	Difference log returns	Exit BHRs	Difference log returns	Exit BHRs	Difference log returns
N	684	684	52	52	152	152	480	480
Mean	0.319	0.009	0.534	0.190	0.323	-0.009	0.295	-0.005
Std. dev.	0.926	1.454	1.139	1.500	0.891	1.416	0.911	1.462
Skewness	2.317	0.252	2.387	0.437	1.605	-1.381	2.469	0.696
Kurtosis	11.320	12.800	9.664	5.388	6.426	10.360	12.690	14.340
Minimum	-1.000	-6.858	-0.993	-3.956	-0.999	-6.573	-1.000	-6.858
5th percentile	-0.900	-2.347	-0.905	-2.267	-0.908	-3.143	-0.898	-2.388
25th percentile	-0.081	-0.373	-0.016	-0.402	-0.073	-0.202	-0.098	-0.439
Median	0.185	0.052	0.314	0.100	0.121	0.075	0.192	0.032
57th percentile	0.530	0.458	0.569	0.632	0.623	0.485	0.490	0.417
95th percentile	2.017	1.966	2.723	2.943	2.591	1.476	1.855	1.940
Maximum	5.331	10.970	5.331	4.917	3.586	5.617	5.331	10.970
t-test	9.01***	0.16	3.38***	0.92	4.47***	-0.08	7.09***	-0.07

Panel B: Non-hedge funds								
	Global		Asia-Pacific		Europe		North America	
	Exit BHRs	Difference log returns	Exit BHRs	Difference log returns	Exit BHRs	Difference log returns	Exit BHRs	Difference log returns
N	255	255	49	49	68	68	138	138
Mean	0.330	-0.024	0.171	-0.040	0.404	-0.223	0.349	0.080
Std. dev.	1.169	1.613	1.096	1.919	1.452	1.359	1.035	1.613
Skewness	2.391	-0.484	2.648	-0.698	2.084	-0.888	2.423	-0.280
Kurtosis	10.150	7.507	12.030	5.900	7.248	4.202	11.500	8.733
Minimum	-0.998	-7.127	-0.998	-7.127	-0.990	-4.083	-0.997	-6.253
5th percentile	-0.956	-3.094	-0.964	-2.715	-0.979	-3.326	-0.941	-3.041
25th percentile	-0.266	-0.430	-0.333	-0.776	-0.464	-0.584	-0.152	-0.288
Median	0.115	0.046	0.044	0	0.068	0	0.180	0.082
57th percentile	0.531	0.592	0.250	0.824	0.659	0.384	0.531	0.591
95th percentile	2.636	2.288	2.571	3.306	4.037	1.729	2.463	2.699
Maximum	5.331	7.313	5.331	4.233	5.331	2.887	5.331	7.313
t-test	4.50***	-0.24	1.09	-0.15	2.29**	-1.35	3.96***	0.58
t-test (panel A vs. panel B)	0.13	-0.29	-1.63	-0.67	0.42	-1.06	0.56	0.55

A.XI: Descriptive statistics for target and unmatched nontarget firms

This table provides descriptive statistics for the characteristics of target and unmatched nontarget firms and reports mean values. Variables are lagged by one year. Information on the panel composition is given in Table A.IV in the Appendix.

	Panel A: Hedge funds															
	Panel I: Global				Panel II: Asia-Pacific				Panel III: Europe				Panel IV: North America			
	Non-Targets		Targets		Non-Targets		Targets		Non-Targets		Targets		Non-Targets		Targets	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Revenue	485,775	0.79	1,586	1.94	267,012	0.61	298	1.73	110,795	1.02	412	3.05	107,968	1.00	876	1.49
Market capitalization	441,089	1.04	1,634	1.93	241,200	0.76	300	1.28	98,316	1.24	427	3.08	101,573	1.50	907	1.60
Market-to-book ratio	403,668	0.51	1,557	0.28	227,920	0.37	293	0.48	88,436	0.38	408	0.14	87,312	1.02	856	0.29
Leverage	456,762	0.28	1,562	0.21	255,683	0.24	293	0.15	103,336	0.24	410	0.22	97,743	0.43	859	0.23
Current ratio	423,727	3.39	1,410	2.97	244,476	3.15	270	3.60	89,825	3.22	360	2.06	89,426	4.20	780	3.18
Current asset ratio	424,238	0.53	1,410	0.50	244,730	0.55	270	0.58	90,437	0.49	359	0.43	89,071	0.51	781	0.50
Payout	409,855	0.15	1,364	0.15	223,378	0.19	264	0.25	90,295	0.14	313	0.25	96,182	0.08	787	0.07
Asset turnover	478,626	0.78	1,578	0.91	265,068	0.83	298	0.88	108,802	0.78	410	0.85	104,756	0.64	870	0.95
Ebitda margin	411,382	-0.01	1,478	-0.01	246,176	-0.01	278	-0.00	92,948	-0.01	387	-0.01	72,258	-0.03	813	-0.01
Return on assets	456,645	-0.17	1,567	-0.04	252,886	-0.01	295	-0.02	104,312	-0.03	407	0.01	99,447	-0.70	865	-0.06
Capital expenditure	404,794	0.39	1,432	0.26	248,928	0.40	277	0.35	88,843	0.27	379	0.24	67,023	0.53	776	0.24
R&D investments	160,982	0.40	776	0.38	105,261	0.15	171	0.03	20,893	0.53	158	0.20	34,828	1.08	447	0.58
Revenue growth	347,293	0.07	1,414	0.06	195,837	0.08	280	0.06	79,198	0.06	359	0.06	72,258	0.06	775	0.07
Total asset growth	351,062	0.11	1,416	0.09	196,478	0.11	279	0.08	80,461	0.09	364	0.09	74,123	0.14	773	0.09
Dividend per share growth	306,240	-0.07	1,299	-0.06	169,105	-0.08	245	-0.01	65,756	-0.09	315	-0.09	71,379	-0.02	739	-0.06
Board size	42,199	10.03	481	9.63	15,265	9.91	71	9.17	11,223	10.62	189	9.73	15,711	9.73	221	9.69
ESG score	42,199	50.57	481	52.59	15,265	48.32	71	48.16	11,223	56.84	189	58.24	15,711	48.27	221	49.19
Country governance	525,721	0.97	1,632	1.45	280,582	0.65	301	1.36	119,696	1.13	407	1.62	125,443	1.51	924	1.41

	Panel B: Non-hedge funds															
	Panel I: Global				Panel II: Asia-Pacific				Panel III: Europe				Panel IV: North America			
	Non-Targets		Targets		Non-Targets		Targets		Non-Targets		Targets		Non-Targets		Targets	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Revenue	485,775	0.79	994	1.48	267,012	0.61	319	0.83	110,795	1.02	244	2.85	107,968	1.00	431	1.18
Market capitalization	441,089	1.04	1,012	1.46	241,200	0.76	321	0.69	98,316	1.24	247	2.85	101,573	1.50	444	1.24
Market-to-book ratio	403,668	0.51	925	0.36	227,920	0.37	287	0.47	88,436	0.38	234	0.20	87,312	1.02	404	0.37
Leverage	456,762	0.28	929	0.24	255,683	0.24	290	0.21	103,336	0.24	234	0.25	97,743	0.43	405	0.26
Current ratio	423,727	3.39	919	3.67	244,476	3.15	303	4.35	89,825	3.22	216	2.70	89,426	4.20	400	3.68
Current asset ratio	424,238	0.53	919	0.50	244,730	0.55	304	0.50	90,437	0.49	215	0.45	89,071	0.51	400	0.52
Payout	409,855	0.15	872	0.10	223,378	0.19	278	0.12	90,295	0.14	212	0.16	96,182	0.08	382	0.05
Asset turnover	478,626	0.78	990	0.79	265,068	0.83	319	0.59	108,802	0.78	243	0.77	104,756	0.64	428	0.96
Ebitda margin	411,382	-0.01	867	-0.03	246,176	-0.01	286	-0.07	92,948	-0.01	215	-0.01	72,258	-0.03	366	-0.01
Return on assets	456,645	-0.17	974	-0.20	252,886	-0.01	313	-0.23	104,312	-0.03	236	-0.03	99,447	-0.70	425	-0.28
Capital expenditure	404,794	0.39	861	0.76	248,928	0.40	297	1.79	88,843	0.27	210	0.20	67,023	0.53	354	0.22
R&D investments	160,982	0.40	345	0.49	105,261	0.15	96	0.25	20,893	0.53	65	0.57	34,828	1.08	184	0.59
Revenue growth	347,293	0.07	864	0.07	195,837	0.08	273	0.03	79,198	0.06	212	0.11	72,258	0.06	379	0.08
Total asset growth	351,062	0.11	885	0.10	196,478	0.11	278	0.07	80,461	0.09	218	0.12	74,123	0.14	389	0.10
Dividend per share growth	306,240	-0.07	810	-0.09	169,105	-0.08	261	-0.09	65,756	-0.09	191	-0.18	71,379	-0.02	358	-0.05
Board size	42,199	10.03	210	9.41	15,265	9.91	52	8.12	11,223	10.62	77	10.42	15,711	9.73	81	9.28
ESG score	42,199	50.57	210	50.40	15,265	48.32	52	46.02	11,223	56.84	77	57.56	15,711	48.27	81	46.41
Country governance	525,721	0.97	1,022	1.48	280,582	0.65	328	1.52	119,696	1.13	238	1.48	125,443	1.51	456	1.45

A.XII: Analysis of activists' impact on firm characteristics for the non-hedge fund subsample

This table reports the results of a difference-in-differences regression analysis on the characteristics of target and matched nontarget firms for two subsamples of non-hedge fund investors. Firm characteristics are from two years after an engagement and one year prior to an engagement. The dummy variable *post* takes a value of one for the period after an engagement and zero for the year prior to an engagement. The dummy variable *treat* takes a value of one for target companies and zero for nontarget firms. We report *t*-statistics in parentheses. The definitions of the variables and their data sources as well as the panel composition are given in Tables A.III and A.IV in the Appendix. ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

	Panel A: Private equity & corporate investors				
	(1)	(2)	(3)	(4)	(5)
	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Global					
treat x post	-0.101**	0.084	-0.097*	-0.205*	0.024
	(-2.31)	(1.03)	(-1.57)	(-1.86)	(0.92)
Observations	600	380	660	52	616
Adj. R2	0.99	0.20	0.45	0.26	0.66
Asia-Pacific					
treat x post	-0.039*	0.134	-0.195*	-0.229	0.014
	(-1.83)	(0.77)	(-1.67)	(-1.33)	(0.34)
Observations	276	140	296	28	280
Adj. R2	0.97	0.17	0.33	0.17	0.61
Europe					
treat x post	-0.197	-0.024	-0.084	-0.176	0.053
	(-1.42)	(-0.50)	(-1.16)	(-1.33)	(1.19)
Observations	152	128	168	24	144
Adj. R2	0.99	0.67	0.46	0.42	0.73
North America					
treat x post	-0.115	0.144	0.038	-	0.017
	(-1.38)	(0.90)	(0.41)	-	(0.37)
Observations	172	112	196	-	192
Adj. R2	0.94	0.11	0.64	-	0.70

	(1)	(2)	(3)	(4)	(5)
	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Global					
treat x post	0.033	-0.039	0.094*	-0.048	0.018
	(0.34)	(-1.30)	(1.82)	(-0.97)	(1.06)
Observations	1,272	920	1,344	200	1,240
Adj. R^2	0.97	0.45	0.34	0.37	0.70
Asia-Pacific					
treat x post	0.069	-0.048	0.117	-0.002	0.050*
	(0.40)	(-1.25)	(1.51)	(-0.03)	(1.80)
Observations	464	324	484	104	452
Adj. R^2	0.92	0.65	0.39	0.36	0.64
Europe					
treat x post	-0.043	0.019	0.002	-0.081	0.054*
	(-0.51)	(0.76)	(0.06)	(-0.90)	(1.76)
Observations	336	292	332	72	292
Adj. R^2	1.00	0.75	0.49	0.32	0.72
North America					
treat x post	0.052	-0.085	0.130	-0.152	-0.033
	(0.28)	(-1.09)	(1.19)	(-0.96)	(-1.20)
Observations	472	304	528	24	496
Adj. R^2	0.96	0.22	0.29	0.18	0.73
All panels	Sales	Leverage	Return on assets	Payout ratio	Current assets ratio
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes

Panel B: Other non-hedge fund investors

A.XIII: Exemplary activist engagements
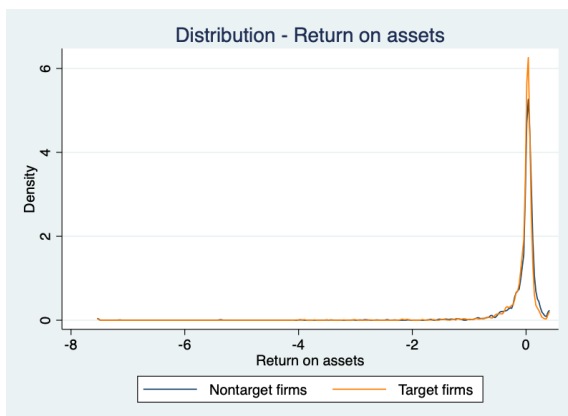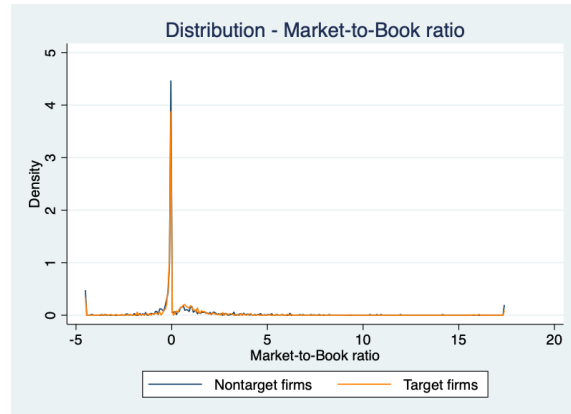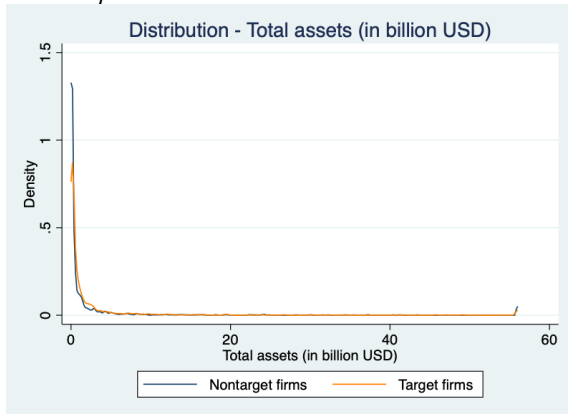
Transocean Ltd. – Carl Icahn

In 2013, U.S. based investor Carl Icahn acquired a 1.6% stake in Suisse-based Transocean Ltd., one of the world's largest offshore drilling companies, and took a position in synthetic options to acquire an additional 1.7% of outstanding shares. Immediately afterwards, Icahn publicly requested board representation, a reduction in the total number of board seats from fourteen to eleven, and a dividend payment of USD 4 per share while the stock traded around USD 45 (Business Insider, 2013; Transocean Ltd., 2013). Shareholders earned abnormal stock returns of 18.6% in a [-20, +20] window, which indicated investors' anticipation of positive changes triggered by Carl Icahn's investment. In the course of the year, Carl Icahn successfully reached most of his initial goals, as the number of board seats was reduced from fourteen to eleven, two of his proposed directors were elected to the board, and shareholders agreed on dividend payment of USD 3 per share (Business Insider, 2013). However, two-year BHRs after the announcement amount to -58.9% compared to +164.6% for a matched control firm over the same period. Although Carl Icahn achieved most of his initially stated goals, he sold most of its share in Transocean Ltd. in 2016, realizing a loss of approximately 80% in his investment and recognizing the losses for tax planning purposes (Forbes, 2016).

Taishin Financial Holding – PJ Asset Management

An example of a non-hedge fund investor that is relatively new to shareholder activism is Taiwan-based family office PJ Asset Management, which was founded in 2017 and has a focus on corporate governance and board effectiveness (PJ Asset Management, 2020). In 2018, PJ Asset Management acquired a 9.9% stake in the Taiwan-based financial services firm Taishin Financial Holding Co., Ltd. Shareholders earned abnormal returns of 1.8% in a [-20, +20] window surrounding the announcement day. Following the investment, PJ Asset Management issued multiple publicly available letters to shareholders and successfully requested changes in board composition and remuneration policies. PJ Asset Management also requested three board seats and criticized the information flow from the company but to date has neither gained board representation nor achieved changes to information flow between investors and corporate managers (PJ Asset Management, 2018; PJ Asset Management, 2019). Two-year BHRs reflect these mixed results, as shareholders experienced losses of -12.6%, which is, however, better than the stock price decrease of -52.3% for a matched control firm.

A.XIV: Characteristics of target and matched nontarget firms

Full sample

Detailed