The Long-Term Efficacy of Activist Directors

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Abstract

Over the past two decades, hedge fund activism has emerged as a new mechanism of corporate governance that brings about operational, financial and governance reforms to a corporation. Many prominent business executives and legal scholars are convinced that the entire American economy will suffer unless hedge fund activism with its perceived short-termism agenda is significantly restricted. Shareholder activists and their proponents claim they function as a disciplinary mechanism to monitor management and are instrumental in mitigating the agency conflict between managers and shareholders.

My expansive, hand-collected dataset and unique empirical research design methodology with respect to *board representation* fills an important void in the literature regarding the long-term efficacy of hedge fund activists serving as a disciplinary mechanism on Target Firms by actively seeking *board representation* to monitor management and reduce agency cost. Moreover, my findings have important policy implications related to the ongoing debate on corporate governance and the rights and roles of shareholders.

I find statistically meaningful empirical evidence to suggest that hedge fund activism generates substantial long-term value for Target Firms and its long-term shareholders when they function as a shareholder advocate to monitor management through active *board engagement*. Furthermore, contrary to conventional wisdom and extant literature, hedge fund activists that seek *board representation* are focused on long-term corporate initiatives to increase shareholder value rather than a perceived short-term agenda. It is very common for hedge fund activists to seek replacement of the incumbent management team to accomplish the activist's strategic plan as opposed to forcing a "sale of the company" ex post the board seat grant date.

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Chapter 1

Introduction

For society as a whole, further empowering [hedge funds] with short-term holding periods subjects Americans to lower long-term growth and job creation... due to excessive risk taking... when corporations maximize short-term profits.

Leo Strine, Chief Justice of the Delaware Supreme Court
Columbia Law Review, March 2014

Leo Strine, the Chief Justice of the Delaware Supreme Court, the country's most important arbiter of corporate law authored a 54-page article in the Columbia Law Review with respect to his views about hedge funds and his belief that short-term investors are detrimental to the long-term interests of American corporations, its long-term shareholders and to society as a whole. Chief Justice Strine, many prominent business executives and legal scholars are convinced that the American economy will suffer unless hedge fund activism with its perceived short-termism agenda is significantly restricted. Shareholder activists and their proponents claim they function as a disciplinary mechanism to monitor management and are instrumental in mitigating the agency conflict between managers and shareholders.

In May 2014, the Delaware Court of Chancery denied Third Point, a well-known activist hedge fund, the ability to increase its ownership above 10% in Sotheby's. Third Point, the company's largest shareholder, sent a letter to Sotheby's CEO

in October 2013 expressing concerns regarding the company's strategic direction, shareholder misalignment and recommended replacing the CEO. In response, Sotheby's adopted a unique two-tier shareholder rights plan[1] (a poison pill) that purposely discriminated and severely punished any shareholder that might have an agenda that conflicts with incumbent management[2]. Although the court viewed the two-tier trigger structure as "discriminatory" — differentiating between activist and passive investors — the court found that Sotheby's had a reasonable basis to believe that Third Point posed a threat of exercising disproportionate control and influence over major decisions. The court reached its decision notwithstanding the support from other large shareholders for Third Point and despite the fact that Sotheby's management and board owned less than 1% of the company. Ironically and inexplicably, the court's decision de facto authorized the incumbent CEO and the board disproportionate control and influence over major decisions, notwithstanding the objections of its shareholders.

Vice Chancellor Donald Parsons, Jr. stated in his opinion "... it's important not to overstate the way in which shareholders that file Schedule 13Ds differ from those who file Schedule 13Gs." The rationale for this decision coupled with the recent remarks by Chief Justice Strine raise important policy questions about the value of hedge fund activism and its disciplinary role as an active monitor of a firm's management. In this paper, I suggest and empirically test the following hypothesis: hedge fund activism generates substantial long-term value for Target Firms and its long-term shareholders

[1]A shareholder rights plan, also known as a "poison pill", is one of the most effective defense tactics available to publicly traded corporations. A poison pill is designed to make a potential transaction extremely unattractive to a hostile party from an economic perspective, compelling a suitor to negotiate with the target's Board of Directors. A poison pill is effective because it dilutes the economic interest of the hostile suitor in the target, making the transaction both economically unattractive and impractical if pursued on a hostile basis.

[2]The two-tier structure provided for a 10 percent trigger threshold for shareholders filing a Schedule 13D (for "active" investors) and a 20 percent trigger for shareholders filing a Schedule 13G (available to "passive" investors). The rights plan also contained a "qualifying offer" exception, which provided that the plan would not apply to an offer for all of Sotheby's shares and expires in one year unless it is approved by a shareholder vote.

when they function as a shareholder advocate to monitor management through active *board engagement.*

Agency conflict in publicly traded corporations with dispersed ownership is at the heart of corporate governance literature, which focuses on mechanisms to discipline incumbent management. One possible solution to mitigate agency cost is for shareholders to actively monitor the firm's management. However, while monitoring may reduce agency and improve firm value, this effort is not without cost, and the benefits from monitoring are enjoyed by all shareholders (Grossman & Hart, 1980).

Shareholders who serve as active monitors of firm management to provide a disciplinary mechanism is not a new concept. Earlier studies have shown that when institutional investors, particularly mutual funds and pension funds, follow an activist agenda, they do not achieve significant benefits for shareholders (Black, 1998; Gillan & Starks, 2007; Karpoff, 2001; Romano 2001). Nevertheless, hedge funds have increasingly engaged in shareholder activism, and monitoring that differs fundamentally from previous activist efforts by other institutional investors. Unlike mutual funds and pension funds, hedge funds are able to influence corporate boards and managements due to key differences arising from their organizational form and incentive structures.

Hedge funds employ highly incentivized managers who control large, unregulated pools of capital. Because they are not subject to regulation that governs mutual funds and pension funds, hedge funds can hold highly concentrated positions in a small number of companies and use leverage and derivatives to extend their reach. In addition, hedge fund managers do not experience conflicts of interest because they are not beholden to the management of the firms whose shares they hold. Consequently, hedge funds are better positioned to act as informed monitors than other institutional investors.

This manuscript addresses the fundamental question with respect to hedge fund

activism: *Do hedge fund activists create long-term value for Target Firms and their long-term shareholders?* My research fills an important void in the literature regarding the long-term efficacy of hedge fund activists serving as a disciplinary mechanism on Target Firms by actively seeking *board representation* to monitor management and reduce agency cost.

Since shareholder activism has evolved significantly over the past 25 years, it is imperative to ensure that the extant literature properly reflects the changing financial markets. First, most meaningful academic research with respect to shareholder activism is predicated on data that use very small sample sizes, usually fewer than 200 Target Firms or activist interventions. Additionally, most datasets have limited time series and nearly all of the research is based on data prior to 2005. The most comprehensive dataset was used by Brav, Jiang, and Kim (2015) who used approximately 2,000 activist interventions from 1994-2007. Since 2007, shareholder activism has increased significantly, particularly by hedge funds. To be sure, approximately 60% of activist interventions have occurred since 2007, and approximately 75% of those events were instigated by hedge funds.

Second, Judge, Gaur, and Muller-Kahle (2010) noted that there are two types of shareholder activism: *governance-focused* activists and *economically-motivated* activists. Previous studies have not clearly delineated between these investment styles. In this study, I define *governance-focused* activism as dissident shareholders who submit shareholder resolutions to effectuate a change to the governance structure of a company (i.e., change from a plurality voting system to a majority voting standard with respect to director elections) or to make recommendations with respect to executive compensation.

A large portion of proxy resolutions are focused on corporate social responsibility initiatives. Furthermore, some pension funds put pressure on Target Firms to improve their corporate social responsibility practices. Thus, researchers attempting

to measure financially related effects of shareholder activism may not find any impact on the financial performance or corporate governance measures due to the presence of socially driven shareholder activism.

Economically-motivated activism differs from *governance-focused* activism with respect to strategic objectives and the tactics used during a campaign. *Economically motivated* activists are focused on changing the strategic direction of the corporation and/or the capital structure via returning excess cash to the shareholders. *Governance-focused* activism facilitated the proliferation for the *economically-motivated* activist to launch successful campaigns. During the mid-1990s, labor union pension funds and hedge funds became more active in *economically-motivated* activism (Gillan & Starks, 2007). Accordingly, this research is focused exclusively on *economically-motivated* activists (i.e., hedge funds) and has not conflated *governance-focused* activist agendas.

Third, the vast majority of activist interventions studies is primarily constructed from Schedule 13D filings, the mandatory federal securities law filings under Section 13(d) of the 1934 Exchange Act. That law states that investors must file with the SEC within 10 days of acquiring more than 5% of any class of securities of a publicly traded company if they have an interest in influencing the management of the company. The presumption is a shareholder who files a 13D is unequivocally motivated to change the strategic direction of the company. However, I claim that this motivation is not always the case. As previously noted, some activist campaigns are centered on corporate governance reforms (i.e., board declassification, removal of shareholder rights plan, etc.) and not on meaningful long-term strategic changes to the Target Firm. I contend that any shareholder with sincere conviction to challenge the current strategic direction of a firm would, ultimately, seek *board representation* if their suggestions or demands were not supported by the firm's incumbent management. I view *board representation* as a signal of an activist's long-term commitment to the firm.

In this study, I start with a much more expansive sample of activist interventions. Figure 5.1 illustrates my comprehensive dataset of shareholder activist events, which includes 5,728 interventions from 1984-2014. Of those, 4,295 75% filed a 13D. However, approximately 27% of all activist interventions were focused on board engagement, either through a proxy contest (1,293) or through a nonproxy contest dissident campaign that resulted in *board representation* via private negotiations with the target management team and its board of directors (239). To be sure, nearly three-quarters of activist interventions did not seek *board representation* to actively monitor management. Moreover, GAMCO Asset Management, a hedge fund founded by Mario Gabeli, has filed 493 13Ds since 1996. However, it has launched only 18 proxy fights 4% and won *board representation* only 10 times 2% to date. In contrast, Carl Icahn has launched proxy fights and won *board representation* at eBay, Genzyme, Time Warner, and Yahoo! without filing a 13D.

Accordingly, I claim that there are numerous 13D filings of activist interventions that otherwise include good performing companies with strong management in which a dissident was not compelled to seek *board representation* to actively monitor management and function as a disciplinary mechanism. Additionally, there are over 90 activist interventions that led to *board representation* without filing a 13D. Therefore, I assert that the optimal dataset to test empirically the long-term efficacy of hedge fund activism should be based on *board representation* of Target Firms by a shareholder activist and not merely the fact that a shareholder crossed 5% ownership and might seek (not will seek) to influence strategic change at the Target Firm. To be sure, an activist willing to incur significant financial cost not borne by all shareholders, which Gantchev (2013) estimated is approximately $10 million per proxy contest, has genuine conviction that the Target Firm requires strategic change that management is unwilling to execute without shareholder interference.

Fourth, the results of examining the effects of shareholder activism are also largely

equivocal. The bulk of researchers have concentrated on measuring short-term, market-based performance effects upon the announcement of an activism effort. There are few studies on the longer term impact of shareholder activism using accounting and market-based measures, and their results are mixed. More studies are needed to measure the longer term impact of shareholder activism on firm performance measures.

Fifth, there may be methodological problems that are clouding results of shareholder activism studies. For example, many of the empirical studies on this topic are descriptive in nature. More sophisticated statistical models would add much to the validity and reliability of the results. Therefore, a more comprehensive approach to the study of shareholder activism is warranted. Additionally, some studies suffer from methodological problems. For example, many studies that calculated cumulative abnormal returns ($CARs$) used vastly different empirical methods to calculate return. Nelson (2006) argued that four prior studies examining shareholder returns around the release of the CalPERS focus list had methodology problems that severely impacted their results. Accordingly, this suggests the need for more refined measurement models of shareholder and hedge fund activism.

My expansive, hand-collected dataset and unique empirical research design methodology with respect to *board representation* fills an important gap in the literature regarding the long-term efficacy of hedge fund activists serving as a disciplinary mechanism on Target Firms by actively seeking *board representation* to monitor management and reduce agency cost. Moreover, my findings have important policy implications related to the ongoing debate on corporate governance and the rights and roles of shareholders.

I find statistically meaningful empirical evidence to suggest that hedge fund activism generates substantial long-term value for Target Firms and its long-term shareholders when they function as a shareholder advocate to monitor management

through active *board engagement*. Furthermore, contrary to conventional wisdom and extant literature, hedge fund activists that seek *board representation* are focused on long-term corporate initiatives to increase shareholder value rather than a perceived short-term agenda. It is very common for hedge fund activists to seek replacement of the incumbent management team to accomplish the activist's strategic plan as opposed to forcing a "sale of the company" ex post the board seat grant date.

Accordingly, my manuscript is organized into several chapters. First, in Chapter 2, I discuss the theoretical foundation and history of shareholder activism and provide a thorough review of the extant literature relating to the causes and effects of shareholder activism. In Chapter 3, I present my hypotheses to argue that hedge fund activism generates substantial long-term value for Target Firms and their long-term shareholders when those activist hedge funds function as a shareholder advocate to monitor management through active board engagement. Chapter 4 addresses the most important and pervasive econometric issues confronting studies in empirical corporate finance, primarily endogeneity and selection bias. In Chapter 5, I present a comprehensive, empirical overview of shareholder activism with my expansive, manually constructed dataset of 5,728 activist interventions from 1984-2014. Lastly, in Chapter 6, I provide concluding remarks to address the critical question with respect to the long-term efficacy of hedge fund activists serving as a disciplinary mechanism on the Target Firm by actively seeking *board representation* to monitor management and reduce agency cost.

Chapter 2

Review of Literature

In this chapter, the theoretical foundation and history of shareholder activism is briefly outlined, and a thorough review of the literature relating to the causes and effects of shareholder activism is conducted. The following literature review is divided into several sections. First, I discuss the underlying theoretical basis of shareholder activism. Second, I provide an extensive review of how shareholder activism has evolved over time. Third, the extant literature with respect to the determinants of shareholder activism ex ante an intervention is reviewed. Fourth, a review of the prior literature with respect to active monitoring by shareholders to mitigate agency cost is studied. Lastly, the short and long-term efficacy of shareholder activism (ex post intervention) on both Target Firms and shareholders is investigated. Research gaps are identified that can be used to contribute to shareholder activism and hedge fund literature.

2.1 Theoretical Foundations of Shareholder Activism

The underlying theoretical foundation in the study of shareholder activism is agency theory. The central tenet of agency theory is an overarching concern with the divergence of interests between principals and agents (Berle & Means, 1932; Jensen & Meckling, 1976). Berle and Means (1932) laid the foundations for future work in agency theory when they identified the problems that could occur when ownership of the firm is separated from the control of the firm. Berle and Means traced the growth of the American corporation from a single proprietorship to a public corporation and suggested that this new structure was likely to give rise to problems of ownership and control. In that transition, control of the corporation is placed in the hands of professional managers who have little or no ownership interest. As a result, there is the fear that managers may be acting in their own self-interest instead of in the interests of the corporation. Thus, opportunistic managerial decision-making could adversely impact company performance.

The presumption of opportunistic behavior by managers gave rise to agency theory, which was further enhanced by Jensen and Meckling (1976) and Fama and Jensen (1983) who posited that managers may misuse corporate assets for their own personal benefit at the expense of shareholders, causing principal-agent issues. Thus, agency costs can diminish corporate performance. As a result, agency theory logic would suggest that shareholder activism is one external control option for owners who are dissatisfied with the management of their assets.

The first line of defense against managerial opportunism is a board of directors who closely monitor the activities of the executive management team. The rise of shareholder activism may be in part due to the failure of the board of directors to monitor and discipline the management team. The board of directors also has

the responsibility of hiring and firing the management team and overseeing the strategic direction of the firm. Moreover, boards are the legal representatives of the corporation's owners, although the legal responsibility of directors to shareholders can vary by state and by country (Huse & Rindova, 2001).

Some have argued that the board of directors has not done a good job in their role as monitor and failed to remove underperforming executives (Lorsch & Maciver, 1989; Mace, 1986; Weisbach, 1988). In addition, Jensen and Smith (1985) argued that managers are more likely to minimize risk and engage in short-term investments and employee growth strategies to increase their compensation as well as their job security. Thus, the lack of internal control mechanisms may lead to the rise of nontraditional external control mechanisms like shareholder activism. As such, shareholder activism can serve as a "substitute" governance mechanism for internal controls.

If the board of directors cannot monitor the management team effectively, shareholders will be dissatisfied with both management and, perhaps, the board as well. Shareholders have three options: (a) Sell their shares, (b) passively continue to hold their shares in the hope that performance will improve over time, or (c) continue to hold their shares and attempt to influence the firm. Clearly, the third option is the path chosen by shareholder activists in economies where capital markets are relatively liquid. However, activism is not costless, and only shareholders with the knowledge and resources can attempt to "voice" their displeasure with underperforming corporations (Admati, Pfleiderer, & Zechner 1994; Shleifer & Vishny, 1986).

While agency theory is the theoretical basis for almost all of the previous research on shareholder activism, its explanatory power is increasingly being challenged by self-interested legal practitioners and judicial scholars. However, their assertions are primary based on anecdotes and not supported rigorous econometric

examination. Firms may be faced with not only principal-agent problems but also principal-principal problems. Critics claim *economically-motivated* shareholder activists may have different objectives for their Target Firms than other shareholders. However, active board engagement is supported and endorsed by other shareholders because an activist would need the voting support of the majority of shareholders.

2.2 History of Shareholder Activism

Shareholder activism has evolved over time. Gillan and Starks (2007) and Marens (2002) traced the history of shareholder activism in the United States. Gillan and Starks (2007) noted that U.S. financial institutions were the primary outside monitors of U.S. firms in the early 1900s. With the crash of 1929, the government began to limit the role of financial institutions in corporate governance. Gillan and Starks stated that laws and regulations passed by the U.S. government at that time led to a widening gap between shareholders and control. In 1942, the Securities and Exchange Commission first allowed proxy resolutions[3]. Typically, shareholder proposals fall roughly into two main groups:

1. Corporate social responsibility proposals, which include proposals relating to product safety, employment discrimination, affirmative action, environmental pollution, nuclear power, et cetera. Other social responsibility proposals have been suggested to tobacco companies to promote anti-smoking agendas, non-participation in the Arab boycott of Israel, cessation of operation in South Africa during the apartheid era, and divestment from Northern Ireland; and

2. Corporate governance proposals are related to traditional issues such as cumulative voting, antitakeover features, selection of auditors, location of shareholder meetings, and executive compensation.

[3]Since 1942, the Securities and Exchange Commission, under rule 14a-8, has required corporate management to include shareholder proposals in its solicitation materials.

Pursuant to SEC 14a-8 rules, the proponent of a proposal to be printed and circulated in a corporate management's proxy statement must have been a record or a beneficial owner of shares for at least one year. The market value of shares owned by the proponent must exceed $2,000 or, if less, must equal at least 1% of the shares entitled to vote on the proposal. Given the de minimis requirements to submit a proposal, most shareholder activism at this time was conducted by individual investors. This situation led to the emergence of the so-called gadflies who attended annual shareholder meetings to voice their disapproval on issues of governance, labor, and corporate social responsibility. Marens (2002) wrote that these gadflies included individual investors and union leadership. Some of the more well-known gadflies included Lewis and John Gilbert, who are regarded as two of the early proxy resolution pioneers, and Wilma Soss, who founded the Federation of Women Shareholders. Lewis Gilbert began six decades of activism with his attendance of the 1932 shareholder meeting of Consolidated Gas Company (Talner, 1983). Marens (2002) noted that these early shareholder activists were able to garner attention for future discussions on expanding ownership rights. Table I provides an overview of the shareholder activism literature.

In the 1980s, shareholder activism occurred mostly in response to the emergence of corporate raiders and management teams who were paying greenmail to fend off takeovers (Gillan & Starks, 2007; Marens, 2002). Among the most notable corporate raiders of the 1980s were Carl Icahn, Nelson Peltz, Robert M. Bass, T. Boone Pickens, and Sir James Goldsmith. The term "corporate raider" was used to describe an investor who buys a large percentage of shares in a perceived undervalued corporation. The large ownership position provided the corporate raider significant voting rights, which could then be used to push for change within the company's management and board of directors. These investors used a number of the same tactics and targeted the same type of companies as more traditional leveraged buyouts

and in many ways could be considered as forerunners of the later private equity firms. The 1980s were also the first time institutional investors began their involvement in shareholder activism. At this time, CalPERS became more active in shareholder activism. Empirical work on shareholder activism was also in its infancy.

In the 1990s, U.S. regulatory changes brought increased levels of activism [4]. There was a movement away from full takeovers to a more politically based type of shareholder activism (Black, 1992; Pound, 1992). In 1992, the SEC changed its regulations on proxy resolutions, making it easier to put a proxy resolution on the ballot to be voted on during an annual shareholder meeting.

Before the proxy reforms, any oral or written communication intended to affect the proxy voting decision of more than 10 shareholders was considered a proxy solicitation, which was defined broadly as any communication that was "reasonably calculated to result in the procurement, withholding, or revocation of a proxy, or were part of a continuous plan that (would) end in solicitation and (was) calculated to pave the way for a proposal's success" (Sharara & Hoke-Witherspoon, 1992). Prior to making a solicitation, a formal proxy statement approved by the SEC was required, which was then mailed to all shareholders. Choi (1997) related public filings with the SEC delayed shareholder communications, imposed filing and direct mailing costs on proxy solicitors, and discouraged potential solicitors desiring anonymity from communicating their views.

In their study of U.S. proxy resolutions from 1988 to 1998, Graves, Rehbein, and Waddock (2001) reported that governance-related resolutions did not appear on proxy resolutions until 1993 but have grown steadily since then. They also reported that compensation-related activism via proxy resolutions did

[4]The new proxy-reform regulations have facilitated shareholder monitoring of management by reducing the costs and the regulatory barriers to collective shareholder action. Specifically, restrictions on shareholder communication were loosened, access to proxy information and nominating candidates for board of director elections was liberalized, and public announcements about proxy voting issues were permitted.

not start until 1995. This *governance-focused* activism facilitated the proliferation of *economically-motivated* activists, who in turn launched successful campaigns. Economically motivated activism differs from *governance-focused* activism with respect to strategic objectives and the tactics used during a campaign. Economically motivated activists are focused on changing the strategic direction of the corporation and /or the financial position via returning capital to the shareholders. During this time, labor union pension funds and hedge funds became more active in *economically-motivated* activism, while takeover activity by corporate raiders slowed down (Gillan & Starks, 2007).

During the last 15 years, three major changes have impacted shareholder activism. The first change is the continued growth of institutional investor ownership. Gillan and Starks (2007) noted that institutional investor ownership in the United States was approximately 10% in 1953 and reached to over 60% by 2005. Institutional ownership in 2014 was estimated at 70%, which is consistent with my findings. The second change is the increased use of proxy resolutions by all types of investors. The number of proxy resolutions can change from year to year depending upon the nature of the campaign. In some years organizations will experience an increase in takeover defense repeals (i.e., board declassification, shareholder rights plans, etc.), while other years will be much more focused on executive compensation.

The third change is the tremendous growth of the hedge fund industry in the last decade. As of 2014, there were over 10,000 hedge funds with approximately $2.5 trillion of assets under management (HedgeFund Monitor, 2014). Kahan and Rock (2006) reported that hedge funds are different from other types of shareholder activists because of their structure, operations, and objectives. They do not operate under the same regulatory and political constraints that affect the other types of activists. Hedge funds have few conflicts of interest, and their managers are extremely well compensated. However, they have been criticized for being too short-term focused at

the expense of the long-term value creation of their Target Firms.

2.2.1 Board of Director Characteristics

I have focused my study on the characteristics of directors for several reasons. First, boards of directors have the purview and influence over dividend policy and help mitigate agency conflicts between management and shareholders (Easterbrook, 1984). Dividend policy is an area in which conflicts between management and shareholders may occur (Easterbrook, 1984; Jensen, 1986), and the board is the ultimate internal governance mechanism charged with protecting shareholders' interests. Second, prior research has yet to unequivocally demonstrate the empirical association between greater board independence and shareholder protection generally (Clark, 2005; Finkelstein & Hambrick, 1995; Zahra & Pearce, 1989). To be sure, the board of directors serves as a disciplinary mechanism to mitigate agency conflicts between management and shareholders.

Researchers of only a handful of studies have found empirical evidence of links between board of director characteristics and shareholder activism. These studies examined board composition (i.e., the make-up of insiders versus outsiders serving on the board), CEO duality, and board of director size. Only three studies examined how board structure may be a cause of shareholder activism, and the empirical results find support that shareholder activists Target Firms with a higher percentage of insiders. First, Wahal (1996) found that the nine largest U.S. pension funds Target Firms with high percentages of insiders on the board of directors. Second, Akyol and Carroll (2006) determined that U.S. firms targeted for poison-pill removal were more likely to act when the board of directors had a higher percentage of outsiders. Third, in their study of US and U.K. shareholder proposals, Buchanan and Yang (2009) U.K. presented contradictory findings and found that activists Target Firms with high percentages of outsiders on the board.

Wu (2004) found evidence that board of director size is a characteristic of shareholder activism by the CalPERS pension fund. He found that CalPERS was more likely to include a firm on its focus list if the total number of board members was under 5 or over 15. Buchanan and Yang (2009) showed a positive relationship between board size and activism in their sample of U.K. and U.S. shareholder proposals.

Finally, Wahal (1996) and Buchanan and Yang (2009) also looked at the issue of CEO duality, which occurs when the CEO also holds the Chairperson of the Board position. Wahal (1996) found that U.S. pension funds were more likely to Target Firms that had CEO duality, and Buchanan and Yang (2009) identified similar results in their sample of U.S. and U.K. shareholder proposals. In conclusion, only a limited number of studies examined whether board structure or other board of director characteristics may be causing firms to be targeted by shareholder activists. However, there is a void in the literature with respect to hedge fund activism and board structure. In the next section, evidence of ownership characteristics and shareholder activism are examined.

2.3 Active Monitoring by Shareholders

In this section, I review the extant literature with respect to active monitoring by shareholders. As noted in Section **??**, the dramatic increase in the ownership of these large investors has raised interest in their role in monitoring management. Demsetz (1983) and Shleifer and Vishny (1986) argued that owners of large blocks of shares have greater incentives to monitor managers. Jarrell and Poulsen (1987), in a similar vein, argued that sophisticated, well-informed shareholders such as institutions are likely to vote more consistently in accordance with their economic interests than are less informed shareholders. Agrawal and Mandelker (1990) referred to this tendency as the "active monitoring hypothesis." On the other hand, it is often claimed that

many large investors are passive voters (Pound, 1988). They either always vote with management, follow the "Wall Street Rule" of abstaining from voting, or sell their shares to avoid voting. This tendency is referred to as the *"passive voting hypothesis."*

Shareholders' serving as active monitors of firm management to provide a disciplinary mechanism is not a new concept. Gillan and Starks (2007) defined shareholder activists as "investors who, dissatisfied with some aspect of a company's management or operations, try to bring about change within the company without a change in control". Tirole (2006) provided the following definition: "Active monitoring consists in interfering with management in order to increase the value of the investors' claims". Examples of active monitoring include, among others, proposing corporate governance changes, requesting to meet with management to discuss the strategic direction of the corporation, demanding (both privately and publicly) operational changes and capital distribution policy modifications, and seeking *board representation.*

However, hedge funds have increasingly engaged in shareholder activism and monitoring that differs fundamentally from previous activist efforts by other institutional investors. Earlier studies have shown that when institutional investors, particularly mutual funds and pension funds, follow an activist agenda, they do not achieve significant benefits for shareholders (Black, 1998; Gillan & Starks, 2007; Karpoff, 2001; Romano, 2001). Unlike mutual funds and pension funds, hedge funds are able to influence corporate boards and managements due to key differences arising from their organizational form and incentive structures.

An implicit assumption of using institutional ownership as a proxy for institutional monitoring is that large shareholders have more incentives to monitor. However, as pointed out by Shleifer and Vishny (1986) and Admati et al. (1994), free-riding by small shareholders may deter the costly monitoring of large institutional investors. Maug (1998) and Kahn and Winton (1998) argued that liquidity concerns

and the information environment may also affect institutional investors' choice between trading and monitoring. Parrino, Sias, and Starks (2003) provided evidence that certain institutional investors "vote with their feet" rather than monitor.

Even if large shareholders do monitor, Burkart, Gromb and Panunzi (1997) demonstrated that firm value may be compromised if tight control results in a loss of managerial discretion that causes the holdup problem. As such, another strand of literature investigates the effect of institutional monitoring through shareholder activism. As noted in Gillan and Starks (2007), there was a rise of institutional activism during the 1990s as the market for corporate control declined. Karpoff et al. (1996) found that shareholder proposals have negligible effects on share values or operating returns. Smith (1996) focused on firms targeted by CalPERS and found institutional activism is ineffective in improving the Target Firms' operating performance.

Carleton, Nelson, and Weisbach (1998) concluded that institutional activism does not result in large operational changes. The advantage of shareholder activism approach is that in such events institutional investors directly signal their effort to monitor. Nevertheless, as noted in Carleton et al. and Becht, Franks, Mayer, and Rossi (2010), public activism does not occur frequently, and it is often the last resort for institutional investors. It is a common practice that institutional investors try to influence their Target Firms through private negotiations. As a result, this absence of publicly available information may potentially explain the general insignificant results in the literature.

As advisors, the directors provide expertise and counsel to the CEO and the management. As monitors, they prevent the CEO and the management from engaging in activities that harm shareholders. (See, for example, Boone, Field, Karpoff, & Raheja, 2007; Coles, Daniel, Naveen, 2008; Linck, Netter, & Yang, 2008). Based on detailed data on allocation of board meeting minutes, Schwartz-Ziv and

Weisbach (2013) suggested that boards can be characterized as active monitors. In his framework of corporate governance, Gillan (2006) placed the board of directors at the apex of internal governance.

Jiang and Liu (2014) found that large firms and firms with poor prior performance are more likely to have institutional directors. Further, firms with large boards and high board independence are more likely have institutional directors on their boards. These findings are largely consistent with what other researchers in the literature have discussed about the targets of institutional monitoring. Additionally, Jiang and Liu found that monitoring by institutional directors has a generally negative but rather weak effect on corporate governance and informational efficiency. Moreover, institutional directors are negatively related to future firm performance and this negative relation is statistically significant over 1-year to 5-year horizons.

Although Jiang and Liu's (2014) findings cast doubt on the effectiveness of institutional monitoring, I suggest there are several potential explanations. For example, heterogeneity of institutional directors may give rise to differences in monitoring incentives by different types of institutional investors. As such, the negative impact of institutional directors may be driven by particular types of institutional investors with motives unaligned with other shareholders. It is also possible that institutional board seats epitomize the empowerment of institutional investors compared to other minority shareholders, which creates conflict of interest within shareholder groups.

Hedge funds employ highly incentivized managers who control large, unregulated pools of capital. Because they are not subject to regulation that governs mutual funds and pension funds, hedge funds can hold highly concentrated positions in a small number of companies and use leverage and derivatives to extend their reach. In addition, hedge fund managers do not experience conflicts of interest because they are not beholden to the management of the firms whose shares they hold. In summary,

hedge funds are better positioned to act as informed monitors than other institutional investors.

Theory predicts that large shareholders should be effective monitors of the managers of publicly listed firms, reducing the free-rider problem (Grossman & Hart, 1980; Shleifer & Vishny, 1986). Yet the evidence that large shareholders increase shareholder value is mixed. In two recent surveys, Karpoff (2001) and Romano (2001) conclude that activism conducted by large institutional shareholders (i.e., pension funds and mutual funds) has had little impact on firm performance. Additionally, Karpoff et al. (1996), Wahal (1996), and Gillan and Starks (2000) report no persuasive evidence that shareholder proposals increase firm values, improve operating performance or even influence firm policies. Therefore, hedge funds are the best positioned funds to function as a shareholder advocates to monitor management through active board engagement.

When shareholders are dissatisfied with the performance of a corporation and its board of directors, they can intervene via a proxy contest. The proxy contest process is a meticulously regulated election mechanism that can be invoked when "one group, referred to as 'dissidents' or 'insurgents' attempt to obtain seats on the firm's board of directors currently in the hands of another group, referred to as 'incumbents' or 'management'" (Dodd & Warner, 1983). The objective is to displace incumbents with the dissidents' preferred candidates to bring about an overall improvement in enterprise financial performance and shareholder value. Although dissident shareholders do not always obtain a majority of board seats, they manage in many cases to capture some seats. Notwithstanding proxy contest outcome, there is evidence that share price performance is positively and significantly associated with the proxy contest process (Dodd & Warner, 1983).

Within three years of a proxy contest event, many publicly held firms experience major changes, including resignations of top management within one year

of the contest followed by sale or liquidation of the firm. Proxy contest shareholder gains derive largely from the dissident linked sale of the corporation (DeAngelo & DeAngelo, 1989). Mulherin and Poulsen (1998) determined that "on average, proxy contests create value". Research has confirmed that the bulk of shareholder wealth gains arise from firms acquired in the period surrounding the contest. In contrast, management turnover in firms that are not acquired results in a significant and positive effect on stock owners' value proposition because organizations engaged in management changes are more inclined to restructure following a proxy contest event.

The rate of management turnover for proxy contest challenged firms is much higher compared to organizations not involved in proxy contest activity and is directly proportional to the share of seats at the board won by proxy contenders. When the majority of seats are won by proxy contesters, the highest management turnover is observed, reflecting the importance of intangible issues such as job security (Yen & Chen, 2005).

2.4 Efficacy of Shareholder Activism

In this section, I review the literature concerning the effects of shareholder activism. The bulk of the studies on shareholder activism have examined the impact of shareholder activism on firm performance announcement effects. Prior literature has also examined effects such as turnover in the executive management team and board of director ranks, acquisition of board seats, changes to board composition or size, executive compensation, and strategic changes such as acquisitions or divestments and changes to the company's handling of excess cash via dividend payouts and/or stock repurchases.

2.4.1 Impact on Firm Performance

Tables A.2 and A.3 provide an overview of the extant literature with efficacy of shareholder activism. The activism literature shows equivocal results of shareholder activism's impact on short-term or long-term financial results using either market-based or accounting-based measures. Short-term, market-based returns focus on cumulative abnormal returns ($CARs$) around the announcement window after an activist "goes public" with his or her dissatisfaction or after an activist files a schedule 13D with the SEC indicating that the activist has purchased at least a 5% equity stake. Typically, short-term, market-based performance measures changes in market-based performance up to 90 days after the announcement. Measures of long-term performance typically report returns one year or more after the activist announcement of proxy resolution or an equity purchase using accounting-based and/or market-based measures.

Many of the earlier researchers found no impact on firm performance. Three literature reviews conducted by Black (1998), Romano (2001), and Karpoff (2001) reported insignificant effects on firm performance. Black (1998) examined shareholder activism by institutional investors, Romano (2001) reviewed nine studies of pension funds and investment groups, and Karpoff (2001) reviewed 25 studies from 1994 to 2001.

2.4.2 Short-term Market-based Firm Performance

Many researchers have used event studies and attempt to capture $CARs$ around the announcement of a proxy resolution, the filing of a 13D, or a particular firm's placement on a pension fund's focus list. Regarding shareholder activism by activist blockholders, short-term returns are largely positive. Faulkener et al. (1990) found short-term $CARs$ of 2.8% after the announcement and 81 day returns of 11.74%.

Bethel et al. (1998) reported short-term stock gains upon the announcement of the purchase of 5% or greater equity stake. Finally, Croci's (2007) study of blockholder activists in Europe identified positive $CARs$ upon announcement of acquisition by a blockholder activist. Short-term return results are mixed for two studies that concerned investor groups. While Strickland et al. (1996) acknowledged positive $CARs$ for firms targeted by the US Shareholders Association, Caton et al. (2001) reported negative $CARs$ upon the announcement of being placed on a Council of Institutional Investor target list.

Examining the research on pension funds, the impact on short-term returns is equivocal. Wahal (1996), Carleton et al. (1998), and Nelson (2005) found no evidence of $CARs$. Other researchers measuring $CARs$ upon the announcement of being placed on a CalPERS focus list find positive returns (Anson et al., 2003; , Barber, 2006; English et al., 2004). Nelson (2005) argued that the Anson et al. (2003) study contained many methodological flaws and that Anson et al. were also CalPERS employees and could have conflict of interest.

Generally, hedge funds achieve positive $CARs$ upon the announcement of the 13D filing signifying an equity purchase of 5% or more. Klein and Zur (2006) reported a CAR of 10.3% after a 13D filing. Bratton (2007) noted positive $CARs$ in the first 3 days around the announcement of a block purchase. Brav et al. (2008) showed large positive average abnormal returns between 5% and 7% during the announcement window. Finally, Clifford (2008) found excess returns of 3.39% after announcement of the 13D filing.

Mixed results also emerge when examining other studies of proxy resolutions filed by multiple types of activists. Renneboog and Szilagyi's (2006) study of 2,800 proxy resolutions and Del Guercio et al.'s (2008) "just vote no" proxy resolution study both found small positive $CARs$ upon announcement that a proxy resolution had been filed. However, Prevost, Rao, and Williams (2009) identified no short-term

returns upon announcement of a proxy filing by labor unions.

2.4.3 Long-term Market-based Firm Performance

Regarding the studies that concern market-based performance of a year or longer, again the findings are largely equivocal. Three studies of the impact of shareholder resolutions by all types of investors generally found no impact on stock price. Karpoff et al. (1996) and Thomas et al. (2005) both noted no change in shareholder returns as a result of proxy resolutions issued. While Gillan and Starks (2000) found no short-term impact on stock price, they reported positive 1-year share returns as result of proxy resolutions issued. Their sample consisted of 2,042 proxy resolutions submitted at 451 U.S. companies from 1987 to 1994. Buchanan and Yang (2009) reported positive 1-year stock returns for their U.S. sample of proxy resolutions.

Few academic studies have examined market-based performance over longer periods. Opler and Sobokin (1998) examined shareholder activism efforts of the Council of Institutional Investors and found that they were able to generate positive 1-year average share returns of 11.6%. The results of pension fund studies are again equivocal. Four studies reported no evidence of changes in shareholder value in either the short- or the long-term (Del Guercio & Hawkins, 1999; Faccio & Lasfer, 2000; Smith, 1996; Wahal, 1996).

An examination of the studies on the CalPERS pension fund shows the findings are mixed. Smith (1996) found no impact on shareholder value in the short- or the long-term based on his sample of 51 firms targeted by CalPERS from 1987 to 1993. Yet, other researchers focusing on the CalPERS pension fund reported positive gains in shareholder value. Nesbitt (1994) examined 42 investments made by CalPERS from 1987 to 1992 and found market based performance increases of 41%. In addition, Anson et al. (2003) showed significant returns of 59% in the year following the release of the CalPERS list of targeted firms. Their sample included firms placed

on the focus list from 1992 to 2001. More recently, Barber (2006) examined a sample of 115 firms from 1990 to 2005 that were placed on the CalPERS target list, and his results demonstrated both short-term and long-term market-based gains. While short-term gains were small but significant, 5-year gains outperformed the market by 32%.

More recently, Bebchuk, Brav, and Jiang (2013) found that contrary to the claim that hedge fund activists adversely impact the long-term interests of organizations and their shareholders, there is evidence that activist interventions lead to improved operating performance in the five years that follow the interventions. Venkiteshwaran, Iyer, and Rao (2010) conducted a detailed study of hedge fund activist Carl Icahn's 13D filings and subsequent firm performance and found significant share price increases for the target companies (of about 10%) around the time Icahn disclosed his intentions publicly. Additionally, they found a significant number (33%) of Icahn's targets ended up being acquired or taken private within 18 months of his initial investment. The shareholders of those companies earned abnormal returns of almost 25% from the time of Icahn's initial investment through the sale of the company.

2.4.4 Accounting-based Firm Performance

While most researchers in this area have focused on market-based measures of performance, a few have studied accounting-based measures of performance as indicators of the effects of shareholder activism. Typically, accounting-based performance is based on annual figures. Overall, the results are mixed.

In their study of activist blockholders, Bethel et al. (1998) found long-term gains in ROA three years after blockholder activists in the 1980s purchased a 5% or larger equity stake. Two studies concerning pension fund performance reported no evidence of changes in accounting-based performance measures (Del Guercio &

Hawkins, 1999;Wahal 1996). The findings on performance effects of hedge fund activism are also mixed. Klein and Zur (2006) reported declines in both ROA and ROE one year after the 5% equity stake purchase. However, two studies found positive results. First, Brav et al. (2008) found that firms targeted by hedge funds see increases in ROE and ROA. Second, Clifford (2008) reported a large positive increase of 1.22% in ROA in the year following the acquisition.

2.5 Research Opportunities

Based on the review of the literature in this chapter, five important points can be raised. First, most of the prior literature on hedge fund activism has been driven by the finance and legal disciplines. It is important to note that all meaningful academic research with respect to hedge fund activism is predicated on data that use very small sample sizes, usually fewer than 200 Target Firms or activist interventions. Additionally, most datasets have limited time series, and nearly all of the research is based on data prior to 2005. The most comprehensive dataset was used by Brav, Jiang, and Kim (2015) who used approximately 2,000 activist interventions from 1994-2007. Since 2007, shareholder activism, particularly by hedge funds, has increased significantly. To be sure, approximately 60% of activist interventions have occurred since 2007, and approximately 75% of those events were instigated by hedge funds.

Second, Judge et al. (2010) noted that there appear to be two types of shareholder activism: *governance-focused* activists and *economically-motivated* activists. Previous studies have not clearly delineated between these investment styles. A large portion of proxy resolutions are focused on CSR initiatives primarily initiated by pension funds. Thus, studies attempting to measure financially related effects of shareholder activism may not find any impact on the financial performance

or corporate governance measures due to the presence of socially driven shareholder activism. For example, Woidke (2002) determined that privately-owned pension funds are more focused on performance, while publicly owned pension funds are more focused on social issues. It is necessary to delineate clearly between hedge fund activism (*economically-motivated*) and other shareholder sponsored activism (*governance-focused* activist activity by pension funds).

Third, the vast majority of shareholder activism literature is predicated on Schedule 13D filings. However, I assert that the optimal dataset to test empirically the efficacy of shareholder activism should be based on *board representation* of Target Firms by a shareholder activist. Therefore, I started with a much more expansive sample of activist interventions. My comprehensive dataset of shareholder activist events for analysis in this study includes 5,728 interventions from 1984-2014. Of those, 4,295 (75%) filed a 13D. However, approximately 27% of all activist interventions were focused on board engagement, either through a proxy contest (1,293) or a nonproxy contest dissident campaign (239) that resulted in *board representation* via private negotiations with the target management team and its board of directors. To be sure, nearly three-quarters of activist interventions did not seek *board representation* to actively monitor management. Moreover, GAMCO Asset Management, a hedge fund founded by Mario Gabeli, has filed 493 13Ds since 1996; however, it has launched only 18 proxy fights (4%) and won *board representation* only 10 times (2%) to date. In contrast, Carl Icahn has launched proxy fights and won *board representation* at eBay, Genzyme, Time Warner, and Yahoo! without filing a 13D.

Accordingly, I claim that there are numerous 13D filings of activist interventions that otherwise include good performing companies with strong management that a dissident was not compelled to seek *board representation* to actively monitor management and function as a disciplinary mechanism. Additionally, there are over 90 activist interventions that led to *board representation* without filing a

13D. Therefore, I assert that the optimal dataset to analyze empirically the long-term efficacy of hedge fund activism should be based on *board representation* of Target Firms by a shareholder activist and not merely the fact that a shareholder crossed 5% ownership and might (not will) seek to influence strategic change at the Target Firm. To be sure, an activist who is willing to incur significant financial cost not borne by all shareholders, which Gantchev (2012) estimateed is approximately $10 million per proxy contest, has genuine conviction that the Target Firm requires strategic change that management is unwilling to execute without shareholder interference.

Fourth, the results of examining the effects of shareholder activism are also largely equivocal. The bulk of studies concentrate on measuring short-term, market-based performance effects upon the announcement of an activism effort. Few studies of the longer-term impact of shareholder activism use accounting and market-based measures, and their results are mixed. More studies are needed to measure the longer-term impact of shareholder activism on firm performance measures.

Fifth, there may be methodological problems clouding results of shareholder activism studies. For example, many of the empirical studies are descriptive in nature. More sophisticated statistical models would add much to the validity and reliability of the results. A more comprehensive approach to the study of shareholder activism is warranted. Moreover, many other studies that calculate $CARs$ use vastly different empirical methods to calculate return. Nelson (2006) argued that four prior studies examining shareholder returns around the release of the CalPERS focus list had methodology problems that severely impacted their results. This finding suggests the need for more refined measurement models of hedge fund activism.

Chapter 3

Hypthesis Development

In this chapter, I present my hypotheses to argue that hedge fund activism generates substantial long-term value for Target Firms and their long-term shareholders when those activist funds function as a shareholder advocate to monitor management through active board engagement. Earlier studies have shown that when institutional investors, particularly mutual funds and pension funds, follow an activist agenda, they do not achieve significant benefits for shareholders (Black, 1998; Gillan & Starks, 2007; Karpoff, 2001; Romano, 2001). Unlike mutual funds and pension funds, hedge funds are able to influence corporate boards and managements due to key differences arising from their organizational form and the incentive structures.

An implicit assumption of using institutional ownership as a proxy for institutional monitoring is that large shareholders have more incentives to monitor. However, as pointed out by Shleifer and Vishny (1986) and Admati et al. (1994), free-riding by small shareholders may deter the costly monitoring of large institutional investors. Maug (1998) and Kahn and Winton (1998) argued that liquidity concerns and the information environment may also affect institutional investors' choice between trading and monitoring. Parrino, Sias and Starks (2003) provided evidence that certain institutional investors "vote with their feet" rather than monitor.

Hedge funds employ highly incentivized managers who manage large, unregulated pools of capital. Because they are not subject to regulation that governs mutual funds and pension funds, they can hold highly concentrated positions in a small number of companies and use leverage and derivatives to extend their reach. In addition, hedge fund managers do not experience conflicts of interest because they are not beholden to the management of the firms whose shares they hold. As a result, hedge funds are better positioned to act as informed monitors than other institutional investors.

It is important to note the typical chronology with respect to a hedge fund activist campaign: (a) Target Firm identification (ex ante the intervention), (b) the campaign or intervention, and (c) active monitoring (ex post the intervention). First, an activist hedge fund manager will identify and target corporations that he or she believes will benefit from active shareholder engagement. Second, once a Target Firm is identified, the hedge fund will start to build a position (i.e., accumulate stock). Third, the hedge fund manager will initiate a private conversation with either the management team or the board of directors to suggest, and frequently demand, certain strategic changes to the firm. Once the hedge fund exceeds a 5% beneficial ownership position, the manger needs to determine whether to file a 13D (active) or a 13G (passive) to satisfy the SEC requirement. At this point, the hedge fund will determine if it will make its campaign public to solicit support of other shareholders. If the firm refuses to comply with hedge fund's demands, the hedge fund manager will determine if he or she wants to seek *board representation* to make the necessary changes to the firm.

My hypotheses are organized in accordance to the typical sequence of events with respect to a hedge fund activist campaign. First, I focus on two characteristics of Target Firms that are identified by activist hedge funds: prior firm performance and ownership structure. I have a novel approach to examine a Target Firm's vulnerability

with respect to hedge fund activism based on its prior firm performance. My original methodology examines a Target Firm's performance ex ante an intervention using short interest as an instrumented variable, which has not been used in prior literature. Furthermore, my use of a unique dataset and empirical design to test "corporate inside" ownership of Target Firms is not in the extant literature. I define corporate inside ownership as equity securities that are beneficially owned by the company's officers and directors[5]. I exclude any institutions or noncompany officers and directors who are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities.

Second, I address the intervention (i.e., proxy contest) initiated by activist hedge funds. Dissatisfied shareholders can nominate an alternative slate of directors by initiating a proxy contest and, therefore, provide all shareholders with a clear alternative to incumbent nominees. Finally, I address active monitoring by hedge fund activists to provide a disciplinary mechanism on the incumbent management.

3.1 Activist Hedge Fund Intervention – Board Representation (H1)

Shleifer and Vishny (1997) explained that "corporate governance deals with the ways in which the suppliers of finance to corporations assure themselves of getting a return on their investment". The fundamental feature of corporate governance is shareholders' right to elect directors to represent their interests. For corporate governance to be effective, shareholders who are dissatisfied with a board's

[5]Corporate insiders – meaning a company's officers and directors and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. On August 27, 2002, the SEC adopted rules and amendments to Section 16 of the Exchange Act, implementing the provisions of the Sarbanes-Oxley Act of 2002 that accelerated the deadline for filing most insider ownership reports.

performance must have a mechanism for replacing directors. If shareholders' impact on electing and replacing directors is weak, so is the connection between owners and managers.

Shareholders have two main tools for removing poorly performing directors. First, shareholders can use an uncontested election. Prior literature has shown that attempts to remove directors through uncontested elections have not been effective. In regular elections, shareholders cannot technically vote out a director but instead can only withhold their authority to vote in favor of a nominee. Most U.S. firms have plurality voting rules in uncontested elections, and as a result, removing directors in uncontested elections is almost impossible. Specifically, a director can be reelected even if just a few shareholders vote for him or her. Thus, the prospect of shareholders having an effective voice in removing directors in uncontested elections seems limited, and directors do not appear to suffer reputational effects from low votes (Cai, Garner, & Walkling, 2009).

Second, shareholders can discipline directors through proxy contests. Dissatisfied shareholders can nominate an alternative slate of directors by initiating a proxy contest and, therefore, provide all shareholders with a clear alternative to incumbent nominees.

Proxy contests have become more frequent. The number of contests for board seats increased from 270 contests during 1979–1994 (Mulherin & Poulsen, 1998) to 1,294 during my sample covering 1995–2014, indicating a 380% increase in the frequency of proxy contests. Second, the relative importance of the proxy-contest mechanism increased as well. During the 1980s, dissident shareholders more often relied on hostile tender offers to effectuate change at a Target Firm. However, during the last decade, activist shareholders have relied more often on proxy contests. More importantly, hedge fund activists are the primary initiators of proxy contests, launching 812 (63%) of all proxy fights since 1995. Activist hedge funds face limited

regulatory constraints and can be effective in exploiting the proxy-contest mechanism (Brav, Jiang, Partnoy, & Thomas, 2008).

It is important to note that settlement agreements have increased in frequency over the past five years. A settlement agreement between a Target Firm and an activist hedge fund usually entails *board representation* by a representative of the hedge fund but also includes standstill provision and a nondisparagement agreement by the activist for a period of time, usually 18 to 36 months. Target firms will agree to settle with an activist hedge fund to forego a proxy contest that can be both very costly and time-consuming.

There have been many studies with respect to proxy contests, but there is a void in the literature regarding activist hedge fund seeking *board representation* to act as a disciplinary mechanism to monitor management. Therefore, I hypothesize the following:

Hypothesis 1: There is a significant positive correlation between board representation *of an activist hedge fund and nominal "corporate inside" ownership ex post the Board Seat Grant Date.*

3.2 Active Monitoring by Shareholders – Ex Post Intervention

The main premise of my study is that institutional directors represent the interest of institutional investors, and their major role is to monitor the management. As pointed out in Berle and Means (1932) among others, the main purpose of board of directors is to mitigate the agency problem arising from the separation of ownership and control in corporations. The literature on board of directors has further suggested that directors play the dual role of advising and monitoring.

While the topic of shareholder activism is not new, the topic of hedge funds

as activists is rather new. Activist hedge funds have been the most prominent and successful proponents of institutional shareholder activism in recent decades (Gillan & Starks, 2007). Boyson and Mooradian (2011) noted that the idea of hedge funds as activists is in direct contrast with their image as short-term, opportunistic investors. For example, in the early 2000s, prime brokerage operations of investment banks were very frequently the banks' only profitable divisions, due to heavy trading volume among their hedge fund clients. Hence, the thought of hedge funds as long-term investors is somewhat counterintuitive.

It is important to define clearly the activist hedge fund asset class vis-à-vis the hedge fund alternative investment asset complex. Since 1997, hedge funds have experienced hyperbolic growth. According to Hedge Fund Monitor (year), as of 1997 there were fewer than 1,000 hedge funds that had approximately $120 billion of assets under management (AUM). As of 2014, there were over 10,000 hedge funds that had AUM of approximately $2.5 trillion. While hedge funds and AUM have grown over ten-fold and twenty-fold, respectively, the dedicated activist hedge fund has only experienced growth as an asset class recently. As of 2014, there were approximately 100 activist hedge funds that had about $120 billion AUM. Therefore, only a fraction of the hedge fund alternative investment asset complex. Although classified as a hedge fund, the activist hedge fund manager employs a differentiated investment strategy that by design is a longer-term approach as opposed to other opportunistic hedge funds like dedicated short bias, convertible, and merger arbitrage funds.

3.2.1 Short-term Effects of Active Hedge Fund Monitoring (H2)

Theory predicts that large shareholders should be effective monitors of the managers of publicly listed firms, reducing the free-rider problem (Grossman & Hart, 1980; Shleifer & Vishny, 1986). Yet the evidence that large shareholders increase

shareholder value is mixed. In two recent surveys, Karpoff (2001) and Romano (2001) concluded that activism conducted by large institutional shareholders (i.e., pension funds and mutual funds) has had little impact on firm performance. Additionally, Karpoff et al. (1996), Wahal (1996), and Gillan and Starks (2000) reported no persuasive evidence that shareholder proposals increase firm values, improve operating performance, or even influence firm policies.

Brav et al. (2008) produced the only credible study conducted to test empirically the short-term effects of activist hedge funds on Target Firms. Using a data set from 2001 to 2006, the authors concluded that activist hedge funds in the United States proposed strategic, operational, and financial remedies and attained success or partial success in two-thirds of the cases. The abnormal stock return upon announcement of activism is approximately 7%, with no reversal during the subsequent year. Target firms experience increases in payout, operating performance, and higher CEO turnover after activism.

Their dataset, which is consistent with the vast majority activist intervention studies, is primarily constructed from Schedule 13D filings. The presumption is a shareholder that files a 13D is unequivocally motivated to change the strategic direction of the company. However, I claim that is not always the case. As previously noted, some activist campaigns are centered on corporate governance reforms (i.e., board declassification, removal of shareholder rights plan, etc.) and not meaningful long-term strategic changes to the Target Firm. I contend that any shareholder with sincere conviction to challenge the current strategic direction of a firm would, ultimately, seek *board representation* if their demands were not supported by the firm's incumbent management. I view *board representation* as a signal of an activist's long-term commitment to the firm.

Typically, a hedge fund activist will request *board representation* privately to the Target Firm's management. If denied, the hedge fund manager can actively

pursue *board representation* via a proxy contest. There is a significant absence in the literature with respect to hedge funds creating value for the Target Firms by functioning as a disciplinary mechanism to monitor management via *board representation.* Therefore, I hypothesize the following:

Hypothesis 2: There is a significant positive "initial" market reaction on the announcement date that a hedge fund dissident shareholder has been granted board representation *to function as a disciplinary mechanism to monitor management.*

3.2.2 Long-term Effects of Active Hedge Fund Monitoring (H3/H4)

Activist hedge funds have been the most prominent and successful proponents of institutional shareholder activism in recent decades (Gillan & Starks 2007). As noted in Section 3.2.1, few studies have concerned the impact of hedge fund activism and short-term performance of Target Firms. Importantly, there are no credible studies in the finance literature with respect to hedge fund activism and its long-term implications (i.e., greater than one year) for the Target Firms' long-term shareholders and the long-term operating performance of those firms.

Most recently, Bebchuk et al. (2013) found that contrary to the claim that hedge fund activists adversely impact the long-term interests of organizations and their shareholders, there is evidence that activist interventions lead to improved operating performance in the five years that follow the interventions. These findings were published in the Columbia Law Review, not in a highly regarded finance journal.

Consistent with their previous research, Bebchuk et al. (2013) used a dataset primarily constructed from Schedule 13D filings. As previously stated, I contend that any shareholder with sincere conviction to challenge the current strategic direction of a firm would, ultimately, seek *board representation* if their demands were not supported by the firm's incumbent management. I view *board representation* as a signal of an

activist's long-term commitment to the firm. Additionally, *board representation* is a costly endeavor not borne by all shareholders, which further validates the activist's credibility as a long-term shareholder of the firm. Therefore, I hypothesize the following:

Hypothesis 3: Hedge fund activism generates statistically significant long-term value for the Target Firms and its long-term share when they function as a disciplinary mechanism to monitor management via board representation.

Hypothesis 4: Hedge fund activism generates statistically significant improvement in long-term operating performance for the Target Firms and its long-term share when they function as a disciplinary mechanism to monitor management via board representation.

3.3 Research Contribution

My research fills the important void with respect to the shareholder activism initiated by hedge funds. My novel approach to inside ownership and short-interest positions as instrumented variables that predict a Target Firm's vulnerability to hedge fund activism contributes to the literature on the determinants of shareholder activism.

My expansive, hand-collected dataset and unique empirical research design methodology with respect to *board representation* fills the important gap in the literature regarding the long-term efficacy of hedge fund activists serving as a disciplinary mechanism on the firm by actively seeking *board representation* to monitor management. Additionally, I contribute to the literature regarding shareholder activists as self-interested, myopic investors at the expense of the long-term interest of the company and its long-term shareholders. Moreover, my findings have important policy implications related to the ongoing debate on corporate governance and the rights and roles of shareholders. My findings suggest that

hedge fund activism generates substantial long-term value for Target Firms and their long-term shareholders when they function as a shareholder advocate to monitor management through active board engagement.

Chapter 4

Econometric Methodolgy

In this chapter, I address the econometric methodology to test empirically the alternative hypotheses that were discussed in Section 3. To examine the ex post disciplinary effects by dissident shareholders, I examine and measure firm performance and long-term abnormal stock returns up to five years from the board seat grant date. Additionally, I conduct similar tests during the five-year period prior to the intervention. I contrast those results to two *Control Groups* (refer to Chapter 3 for details regarding *Control Groups*) and to similar Matched Firms (the same 4-digit SIC industry code) in the Compustat database.

There are two important econometric issues that need to be addressed: self-selection bias and endogeneity. In Section 4.1, I provide the econometric principle and a detailed analysis of how to address each potential bias.

The structure of my hypothesis testing and empirical analysis is consistent with the typical sequence of events with respect to a hedge fund activist campaign, as discussed in Section 3. The combination of complex decision processes facing firms and limited information available to researchers ensures that endogeneity concerns are present in every study. In this section, I begin by reviewing the sources of endogeneity — omitted variables, simultaneity, and measurement error — and their implications

for inference. I then discuss in detail a number of econometric techniques aimed at addressing endogeneity problems.

4.1 Endogeneity and Selection Bias

According to Roberts and Whited (2012), one of the most important and ubiquitous issues confronting studies in empirical corporate finance is endogeneity, which is essentially a correlation between the explanatory variables and the error term in a regression. Endogeneity leads to biased and inconsistent parameter estimates that make reliable inference virtually impossible. In many cases, endogeneity can be severe enough to reverse even qualitative inference.

There are several potential sources of endogeneity in the study of hedge fund activism. I have addressed many of these through the design of the study. One source of endogeneity is the timing with respect to the announcement of *board representation* by an activist hedge fund. If not handled correctly, this endogeneity can invalidate results concerning the market's short-run reaction. I conducted a search of news events around the announcement date and eliminated confounding news.

A second potential source of endogeneity is in a hedge fund's decision to target a firm. This endogeneity may present a problem for researchers comparing activism targets to firms not targeted by activism because these firms likely differ from each other in observable and unobservable ways. However, my research design reduced this problem in that to appear in my sample, a firm must already have been a target of hedge fund activism. To be sure, my analysis was conditional upon being a hedge fund activist target with respect to the *Control Group I*. Further, I carefully selected a control sample to deal with unobserved heterogeneity in hedge fund manager skill or technique. Similar to propensity score matching methodology, I construct a control group of all hedge fund activist campaigns that did not result

in *board representation* during the same period. Therefore, I examine not only firms that granted at least one board seat to a dissident shareholder and its ex post effects treatment group but also companies that were challenged by dissatisfied shareholders and did not suffer the ex post disciplinary effects by the dissident control group.

An important problem of causal inference is how to estimate treatment effects in observational studies: situations in which a group of units is exposed to a well-defined treatment (i.e., shareholder activism, *board representation*), but no systematic methods of experimental design are used to maintain a control group. It is well recognized that the estimate of a causal effect obtained by comparing a treatment group with a nonexperimental comparison group could be biased because of problems such as self-selection or some systematic judgment by the researcher in selecting units to be assigned to the treatment. Therefore, I used propensity score matching methods to correct for sample selection bias due to observable differences between the treatment and comparison groups.

4.1.1 Research Design

One potential solution to self-selection bias is through the construction of the research design. To address self-selection bias, I construct two *Control Groups* (the "*Control Groups*"). *Control Group I* is Target Firms of all proxy fights campaigns that did not result in *board representation* during the same period. Therefore, I examine not only Target Firms that granted at least one board seat to a dissident shareholder and its ex post effects (the "*Treatment Group*") but also companies that were challenged by dissatisfied shareholders and did not suffer the ex post disciplinary effects by the dissident (the "*Control Group I*"). *Control Group II* is comprised of Target Firms that granted at least one board seat to a Non-hedge Fund dissident shareholder during the same time period. Accordingly, I examine the ex post disciplinary effects on Target Firms by an activist shareholder that is not affiliated with a Hedge Fund.

4.1.2 Matching Methods

Matching methods estimate the counterfactual outcomes of subjects by using the outcomes from a subsample of "similar" subjects from the other group (treatment or control). Perhaps more important is the recognition that matching methods do not rely on a clear source of exogenous variation for identification. This fact is important and distinguishes matching from Instrumental Variables and Regression Discontinuity Design. Matching alleviates some of the concerns associated with linear regression and can mitigate asymptotic biases arising from endogeneity or self-selection. Accordingly, matching can provide a useful robustness test for regression based analysis.

Matching involves pairing treatment and comparison units that are similar in terms of their observable characteristics. When the relevant differences between any two units are captured in the observable (pretreatment) covariates, which occurs when outcomes are independent of assignment to treatment conditional on pretreatment covariates, matching methods can yield an unbiased estimate of the treatment impact. The first generation of matching methods paired observations based on either a single variable or weighting several variables (see, inter alia, Bassi 1984; Cave & Bos, 1995; Czajka, Hirabayashi, Little, & Rubin, 1992; Cochran & Rubin, 1973; Raynor, 1983; Rosenbaum, 1995; Rubin, 1973, 1979; Westat, 1981; studies cited in Barnow, 1987).

4.1.3 Treatment Effects

The first important assumption for the identification of treatment effects (i.e., ATE, ATET, ATU) is referred to as unconfoundedness:

$$(y(0), y(1)) \perp d | X \tag{4.1}$$

This assumption says that the potential outcomes ($y(0)$ and $y(1)$) are statistically inde- pendent ($\perp$) of treatment assignment (d) conditional on the

observable covariates, $X = (x_1, \ . \ \ . \ \ . \ \ , x_k)$ [6]. In other words, assignment to treatment and control groups is as though it were random, conditional on the observable characteristics of the subjects.

This assumption is akin to a stronger version of the orthogonality assumption for regression. Consider the linear regression model assuming a constant treatment effect β_1,

$$y = \beta_0 + \beta_1 d + \beta_2 x_1 + ... + \beta_{k+1} x_k + u \tag{4.2}$$

Unconfoundedness is equivalent to statistical independence of d and u conditional on $(x_1, \ . \ \ . \ \ . \ \ , x_k)$, a stronger assumption than orthogonality or mean independence.

The second identifying assumption is referred to as overlap:

$$0 < Pr(d = 1|X) < 1 \tag{4.3}$$

This assumption says that for each value of the covariates, there is a positive probability of being in the treatment group and in the control group. To see the importance of this assumption, imagine if it did not hold for some value of X, say X'. Specifically, if $Pr(d = 1|X = X') = 1$, then there are no control subjects with a covariate vector equal to X'.

Practically speaking, this means that there are no subjects available in the control group that are similar in terms of covariate values to the treatment subjects with covariates equal to X'. This makes estimation of the counterfactual problematic since there are no comparable control subjects. A similar argument holds when $Pr(d = 1|X = X') = 0$ so that there are no comparable treatment subjects to match with controls at $X = X'$.

[6] This assumption is also referred to as "ignorable treatment assignment" (Rosenbaum and Rubin, 1983),"conditional independence" (Lechner, 1999), and "selection on observables" (Barnow, Cain, and Goldberger, 1980). An equivalent expression of this assumption is that $Pr(d = 1|y(0), y(1), X) = Pr(d = 1|X)$.

Under unconfoundedness and overlap, I use the matched control (treatment) subjects to estimate the unobserved counterfactual and recover the treatment effects of interest. Consider the ATE for a subpopulation with a certain $X = X'$.

$$\begin{aligned} ATE(X') &\equiv E[y(1) - y(0)|X = X'] \\ &= E[y(1) - y(0)|d = d', X = X'] \\ &= E[y|d = 1, X = X'] - E[y|d = 0, X = X'] \end{aligned}$$

The first equality follows from unconfoundedness, and the second from $y = dy(1)+(1-d)y(0)$. To estimate the expectations in the last expression requires data for both treatment and control subjects at $X = X'$. This requirement illustrates the importance of the overlap assumption. To recover the unconditional ATE, one merely need integrate over the covariate distribution X.

4.1.4 Propensity Score Matching

An important result due to Rosenbaum and Rubin (1983) is that if one is willing to assume unconfoundedness, then conditioning on the entire k-dimensional vector X is unnecessary. Instead, one can condition on the one-dimensional propensity score, $ps(x)$, defined as the probability of receiving treatment conditional on the covariates,

$$ps(x) \equiv Pr(d = 1|X) = E(d|X) \tag{4.4}$$

The motivation for focusing on propensity score matching methods is that in many applications of interest, the dimensionality of the observable characteristics is high. With a small number of characteristics (e.g., two binary variables), matching is straightforward. However, when there are many variables, it is difficult to determine along which dimensions to match units or which weighting scheme to adopt. Propensity score matching methods are especially useful under such circumstances

because they provide a natural weighting scheme that yields unbiased estimates of the treatment impact.

First, I start with a sample of observations on outcomes, covariates, and assignment indicators (y_i, X_i, d_i). y and d are univariate random variables representing the outcome and assignment indicator, respectively; X is a k-dimensional vector of random variables assumed to be unaffected by the treatment. I use similar industry (same four digit SIC code), same year, log assets, market value / book value and institutional ownership as variables for matching.

Let $l_m(i)$ be the index such that

$$d_l \neq d_i, \text{ and}$$

$$\sum_{j|d_j \neq d_i} l(||X_j - X_i|| \leq ||X_l - X_i||) = m \tag{4.5}$$

In words, if i is the observation of interest, then $l_m(i)$ is the index of the observation in the group—treatment or control—that i is not in (hence, $d_l \neq d_i$), and that is the m^{th} closest in terms of the distance measure based on the norm $|| \bullet ||$. To clarify this idea, consider the 4^{th} observation ($i = 4$) and assume that it is in the treatment group. The index $l_1(4)$ points to the observation in the control group that is closest ($m = 1$) to the 4^{th} observation in terms of the distance between their covariates. The index $l_2(4)$ points to the observation in the control group that is next closest ($m = 2$) to the 4^{th} observation.

I define $L_M(i) = \{l_1(i), \ . \ . \ . \ , \ l_M(i)\}$ to be the set of indices for the first M matches to unit i. The estimated or imputed potential outcomes for observation i are:

$$\hat{y}_i(0) = \left\{ \frac{1}{M} \sum j \epsilon L_{M(i)_j^y)}^{\ y_i} \right\}_{if d_{i=1}}^{if d_{i=0}} \tag{4.6}$$

$$\hat{y}_i(1) = \left\{ \frac{1}{M} \sum j \epsilon L_{M(i)_j^y)}^{\ y_i} \right\}_{if d_{i=1}}^{if d_{i=0}} \tag{4.7}$$

When observation i is in the treatment group $d_i = 1$, there is no need to impute the potential outcome $y_i(1)$ because I observe this value in y_i. However, I do not observe $y_i(0)$, which I estimate as the average outcome of the M closest matches to observation $i$in the control group. The intuition is similar when observation $i$is in the control group.

With estimates of the potential outcomes, the matching estimator of the average treat- ment effect (ATE) is:

$$\frac{1}{N}\sum_{i=1}^{N}[\hat{y}_i(1) - \hat{y}_i(0)] \tag{4.8}$$

The matching estimator of the average treatment effect for the treated (ATET) is:

$$\frac{1}{N_1}\sum_{i:d_i=1}^{N}[y_i - \hat{y}_i(0)] \tag{4.9}$$

where $N_1$is the number of treated observations. Finally, the matching estimator of the average treatment effect for the untreated (ATU) is:

$$\frac{1}{N_0}\sum_{i:d_i=0}^{N}[\hat{y}_i(1) - y_i] \tag{4.10}$$

where $N_0$is the number of untreated (i.e., control) observations. Thus, the ATET and ATU are simply average differences over the subsample of observations that are treated or untreated, respectively.

Alternatively, instead of matching directly on all of the covariates X, one can just match on the propensity score. In other words, redefine $l_m(i)$ to be the index such that

$$d_l \neq d_i, \text{ and}$$
$$\sum_{j|d_j\neq d_i} l(|\widehat{ps}(X_j) - \widehat{ps}(X_i)| \leq \widehat{ps}(X_l) - \widehat{ps}(X_i)|) = m \tag{4.11}$$

4.1.4.1 Assessing Unconfoundedness and Overlap

The key identifying assumption behind matching, unconfoundedness, is untestable because the counterfactual outcome is not observable. The analogy with regression estimators is immediate; the orthogonality between covariates and errors is untestable because the errors are unobservable. While matching avoids the functional form restrictions imposed by regression, it does require knowledge and measurement of the relevant covariates X, much like regression. As such, if selection occurs on unobservables, then matching falls prey to the same endogeneity problems in regression that arise from omitted variables. From a practical standpoint, matching will not solve a fundamental endogeneity problem. However, it can offer a nice robustness test.

That said, one can conduct a number of falsification tests to help alleviate concerns over violation of the unconfoundedness assumption. Rosenbaum (1987) suggests estimating a treatment effect in a situation where there should not be an effect, a task accomplished in the presence of multiple control groups. These tests and their intuition are exactly analogous to those found in our discussion of natural experiments.

One example can be found in Lemmon and Roberts (2010) who use propensity score matching in conjunction with difference-in-differences estimation to identify the effect of credit supply contractions on corporate behavior. One result they find is that the contraction in borrowing among speculative-grade firms associated with the collapse of the junk bond market and regulatory reform in the early 1990s was greater among those firms located in the northeast portion of the country.

The identification concern is that aggregate demand fell more sharply in the northeast relative to the rest of the country so that the relatively larger contraction in borrowing among speculative grade borrowers was due to declining demand, and not a contraction in supply. To exclude this alternative, the authors re-estimate their

treatment effect on investment-grade firms and unrated firms. If the contraction was due to more rapidly declining investment opportunities in the Northeast, one might expect to see a similar treatment effect among these other firms. The authors find no such effect among these other control groups.

The other identifying assumption is overlap. One way to inspect this assumption is to plot the distributions of covariates by treatment group. In one or two dimensions, this is straightforward. In higher dimensions, one can look at pairs of marginal distributions. However, this comparison may be uninformative about overlap because the assumption is about the joint, not marginal, distribution of the covariates.

For propensity score matching, one can inspect the distribution of propensity scores in treatment and control groups. If estimating the propensity score nonparametrically, then one may wish to undersmooth by choosing a bandwidth smaller than optimal or by including higher-order terms in a series expansion. Doing so may introduce noise but at the benefit of reduced bias.

There are several options for addressing a lack of overlap. One is to simply discard bad matches, or accept only matches with a propensity score difference below a certain threshold.

Likewise, one can drop all matches where individual covariates are severely mismatched. One can also discard all treatment or control observations with estimated propensity scores above or below a certain value. What determines a"bad match" or how to choose the propensity score threshold is ultimately subjective, but requires some justification.

When matching on covariates, there are several options for the distance metric. Abadie and Imbens (2006) suggest using the inverse of the covariates' variances (the Mahalanobis metric):

$$||X_i - X_j|| = \sqrt{(X_i - X_j)' \sum_X^{-1} (X_i - X_j)} \tag{4.12}$$

where Σ_X is the covariance matrix of the covariates, and $({\Sigma_X}^{-1})$ is a diagonal matrix equal to the diagonal elements of $({\Sigma_X}^{-1})$ and zero everywhere else, which will reduce differences in covariates within matched pairs in all directions.

I am interested in estimating the propensity score as precisely as possible to eliminate, or at least mitigate, any selection bias in my estimate of the treatment effect. There are a number of strategies for estimating the propensity score including: ordinary least squares, maximum likelihood (e.g., logit, probit), or a nonparametric approach, such as a kernel estimator, series estimator, sieve estimator, etc.). I use a logit model of maximum likelihood.

Following Dehejia and Wahba (2002) and Smith and Todd (2005), I use the"nearest neighbor" matching methodology. I use the single (i.e., best) match to the Target Firm. This methodology leads to the least biased and most credible estimates. However, it can lead to the least precise estimates. This tension reflects the usual bias-variance tradeoff in estimation. I match firms using the replacement methodology which allows for better matches and less bias. I chose this methodology since the primary objective in empirical corporate finance studies is proper identification.

The choice of covariates is important. I follow the guidelines suggested by Heckman et al.(1998) that in order for matching estimators to have low bias, a rich set of variables related to treatment assignment and outcomes is needed. Identification of the treatment effects turns crucially on the ability to absorb all outcome relevant heterogeneity with observable measures. Accordingly, I use the following covariates for matching affect the likelihood of being assigned into the treated group: Log Market Capitalization, Log Assets, Market Value / Book Value (Tobin's Q), Institutional Ownership and fixed effects for both Industry and Year.

The treatment effect of interest will typically determine for which observations matches are needed. If interest lies in the ATE, then estimates of the counterfactuals for both treatment and control observations are needed. Thus, I need to find matches for both observations in both groups. If I were interested only in the ATET, then I would have only found matches for the treatment observations, and vice versa for the ATU. My primary focus is on the ATET, particularly the ex post effects of the Target Firms that received the disciplinary effect by hedge fund monitoring.

4.2 Panel Data Methods

As previously explained, one of the most common causes of endogeneity in empirical corporate finance is omitted variables, and omitted variables are a problem because of the considerable heterogeneity present in many empirical corporate finance settings. Panel data can sometimes offer a partial, but by no means complete and costless, solution to this problem.

4.2.1 Fixed and Random Effects

I start with a simplified and sample version of Equation **??** that contains only one regressor but in which I explicitly indicate the time and individual subscripts on the variables,

$$y_{it} = \beta_0 + \beta_1 x_{it} + u_{it}, (i = 1, \ldots, N; t = 1, \ldots, T) \tag{4.13}$$

where the error term, u_{it}, can be decomposed as

$$u_{it} = c_i + e_{it}$$

The term c_i can be interpreted as capturing the aggregate effect of all of the unobservable, time-invariant explanatory variables for y_{it}. To focus attention on the

issues specific to panel data, I assume that e_{it} has a zero mean conditional on x_{it} and c_i for all t.

The relevant issue from an estimation perspective is whether c_i and x_{it} are correlated. If they are, then c_i is referred to as a "fixed effect." If they are not, then c_i is referred to as a "random effect." In the former case, endogeneity is obviously a concern since the explanatory variable is correlated with a component of the error term. In the latter, endogeneity is not a concern; however, the computation of standard errors is affected.[7]

Two possible remedies to the endogeneity problem in the case of fixed effects is to run what is called a least squares dummy variable regression, which is simply the inclusion of firm-specific intercepts in Equation (4.13). However, in many moderately large data sets, this approach is infeasible, so the usual and equivalent remedy is to apply OLS to the following deviations-from-individual-means regression:

$$\left(y_{it} - \frac{1}{T}\sum_{t=1}^{T} y_{it}\right) = \beta_1 \left(x_{it} - \frac{1}{T}\sum_{t=1}^{T} x_{it}\right) + \left(e_{it} - \frac{1}{T}\sum_{t=1}^{T} e_{it}\right) \tag{4.14}$$

The regression equation (4.7) does not contain the fixed effect, c_i, because

$$\left(c_i - T^{-1}\sum_{T}^{t=1} c_i\right) = 0,$$

so this transformation solves this particular endogeneity problem. Alternatively, one can remove the fixed effects through differencing and estimating the resulting equation by OLS

$$\Delta y_{it} = \beta_1 \Delta x_{it} + \Delta e_{it}$$

Fixed effects can ameliorate endogeneity concerns, but, as is the case with

[7]Feasible Generalized Least Squares is often employed to estimate parameters in random effects situations.

all econometric techniques, they should be used only after thinking carefully about the economic forces that might cause fixed effects to be an issue in the first place. Relatedly, fixed effects cannot remedy any arbitrary endogeneity problem and are by no means an endogeneity panacea. Indeed, they do nothing to address endogeneity associated with correlation between x_{it} and e_{it}. Accordingly, I used Industry and Year fixed effects in certain empirical tests.

4.3 Event Study Methodology

Long-horizon event studies have an extensive history, including the original stock split event study by Fama, Fisher, Jensen, and Roll (1969). As evidence inconsistent with the efficient markets hypothesis started to accumulate in the late 1970s and early 1980s, interest in long-horizon studies continued. Evidence on the postearnings announcement effect (Ball & Brown, 1968; Jones & Litzenberger, 1970), size effect (Banz, 1981), and earnings yield effect (Basu, 1977, 1983) contributed to skepticism about the CAPM as well as market efficiency. This evidence prompted researchers to develop hypotheses about market inefficiency stemming from investors' information processing biases (DeBondt & Thaler, 1985, 1987) and limits to arbitrage (DeLong, Schleifer, Summers, & Waldmann, 1990a, 1990b; Shleifer & Vishny, 1997).

The "anomalies" literature and the attempts to model the anomalies as market inefficiencies has led to a burgeoning field known as behavioral finance. Research in this field formalizes (and tests) the security pricing implications of investors' information processing biases. Because the behavioral biases might be persistent and arbitrage forces might take a long time to correct the mispricing, a vast body of literature hypothesizes and studies abnormal performance over long horizons of one-to-five years following a wide range of corporate events. The events might be one-time (unpredictable) phenomena like an initial public offering or a seasoned

equity offering, or they may be recurring events such as earnings announcements.

Both cumulative abnormal returns ($CARs$) and buy-and-hold abnormal return ($BHAR$) methods tested the null hypothesis that abnormal performance is equal to zero. The abnormal returns for an event were calculated as follows:

After calculating event $CARs$, I calculated and reported the cumulative average abnormal return ($CAAR$). Where, the $CAAR$ is the arithmetic average of all sample event CARs and is calculated as follows:

Under each method, the abnormal return measured is the same as the returns to a trading rule, which buys sample securities at the beginning of the first period and holds through the end of the last period. $CARs$ and $BHARs$ correspond to security holder wealth changes around an event. Further, when applied to postevent periods, tests using these measures provide information about market efficiency because systematically nonzero abnormal returns following an event are inconsistent with efficiency and imply a profitable trading rule (ignoring trading costs).

While post event, risk-performance measurement is crucial in long-horizon tests, actual measurement is not straightforward. Two main methods for assessing and calibrating postevent, risk-adjusted performance were used in this study: characteristic-based matching approach (also known as $BHAR$) and the Jensen's alpha approach, which is also known as the calendar-time portfolio approach (Fama, 1998; Mitchell & Stafford, 2000). Analysis and comparison of the methods is detailed below.

4.3.1 Empirical models for estimation period

4.3.1.1 Market Model

I assume that security returns follow a single factor market model,

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt},$$

where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the market index. I define the *abnormal return* (or *prediction error*) for the common stock of the j^{th} firm on day t as:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}), \tag{4.15}$$

where the coefficients $\hat{\alpha}_j$ and $\hat{\beta}_j$ are ordinary least squares estimates of α_j and β_j.

The *average abnormal return* (or *average prediction error*) AAR_t is the sample mean:

$$AAR_t = \frac{\sum_{j=1}^{N} A_{jt}}{N}, \tag{4.16}$$

where t is defined in trading days relative to the Event Date (e.g. $t = -60$ means 60 trading days before the event).

Over an interval of two or more trading days beginning with day T_1, and ending with T_2, the *cumulative average abnormal return* is

$$CAAR_{T_1,T_2} = \frac{1}{N} \sum_{j=1}^{N} \sum_{t=T_1}^{T_2} A_{jt} \tag{4.17}$$

Over an interval of two or more trading days beginning with day T_1, and

ending with T_2, the *buy-and-hold abnormal return* is

$$BHAR_{j,T_1,T_2} = \left[\prod_{t=T_1}^{T_2}(1+R_{jt})-1\right] - \left[(1+\hat{\alpha}_j)^{(T_2-T_1+1)}-1\right] - \hat{\beta}_j\left[\prod_{t=T_1}^{T_2}(1+R_{mt})-1\right] \tag{4.18}$$

The *average compounded abnormal return* is is

$$ACAR_{T_1,T_2} = \frac{1}{N}\sum_{j=1}^{N} BHAR_{j,T_1,T_2} \tag{4.19}$$

4.3.1.2 Fama-French Three-Factor Model

The Fama-French (1993) three-factor model for generating returns during the estimation period is:

$$R_{jt} = \alpha + \beta_j R_{mt} + s_j SMB_t + h_j HML_t + \epsilon_{jt}. \tag{4.20}$$

where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. See Fama and French (1993) for a detailed description of SMB_t and HML_t. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity

of R_{jt} to the difference between small and large capitalization stock returns; and h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns.

Define the *abnormal return* (or *prediction error*) for the common stock of the j^{th} firm on day t as:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t), \tag{4.21}$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$ and $\hat{h}_j$ are ordinary least squares estimates of α_j, β_j, s_j and h_j.

The average abnormal return, cumulative abnormal return, buy-and-hold abnormal return and related concepts are analogous to those defined in the market model section above.

4.3.1.3 Fama-French-Momentum Four-Factor Model

The Fama-French (1993) three-factor model can be augmented by the momentum factor as suggested by Carhart (1997), as the return-generating model during the estimation period. The model is:

$$R_{jt} = \alpha + \beta_j R_{mt} + s_j SMB_t + h_j HML_t + u_j UMD_t + \epsilon_{jt}. \tag{4.22}$$

where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable

that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

Define the *abnormal return* (or *prediction error*) for the common stock of the j^{th} firm on day t as:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t) \tag{4.23}$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares estimates of α_j, β_j, s_j h_j and u_j.

The average abnormal return, cumulative abnormal return, buy-and-hold abnormal return and related concepts are analogous to those defined in the market model section above.

4.3.1.4 Market Adjusted Returns Model

Market adjusted returns are computed by subtracting the observed return on the market index for day t, R_{mt}, from the rate of return of the common stock of the j^{th} firm on day t:

$$A_{jt} = R_{jt} - R_{mt}. \tag{4.24}$$

The definitions of the average abnormal return, cumulative average abnormal return and average compounded abnormal return are analogous to those for market model abnormal returns above.

4.3.1.5 Fama-French Calendar Time Portfolio Regressions

The calendar-time portfolio model using Fama-French (1993) factors is:

$$R_{pt} - R_{ft} = \alpha + \beta\,(R_{mt} - R_{ft}) + sSMB_t + hHML_t + \epsilon_{pt},$$

where R_{ft} is the one-month Treasury bill rate and other symbols are as defined above. A portfolio is formed for each date that includes each sample firm having the date in its event period. In an event study using monthly data, portfolios are formed monthly in calendar time. Portfolios can either be equally-weighted or value-weighted. The regression is estimated on portfolio returns. The estimate of the average abnormal return is *alpha* (α). I used ordinary least squares (OLS) to estimate the model and test the null hypothesis $\alpha = 0$. Additionally, I used the Fama-French-Momentum four factor model to test the null hypothesis $\alpha = 0$.

4.3.2 Event Study Test Statistics

The literature refers to the Patell (1976) test as a standardized abnormal return test or a test assuming cross-sectional independence. Many published studies use the Patell test (see, for example, Linn and McConnell, 1983; Schipper and Smith, 1986; and Haw, Pastena and Lilien, 1990).

4.3.2.1 Event Studies Centered on a Single Date

Under the null hypothesis, each A_{jt} has mean zero and variance $\sigma^2_{A_{jt}}$. The maximum likelihood estimate of the variance is,

$$s^2_{A_{jt}} = s^2_{A_j}\left[1 + \frac{1}{M_j} + \frac{(R_{mt} - \overline{R_{mEst}})^2}{\sum_{k=E_1}^{E_2}(R_{mk} - \overline{R_{mEst}})^2}\right]$$

where

$$s^2_{A_j} = \frac{\sum_{k=E_1}^{E_2} A^2_{jk}}{M_j - 2}, \tag{4.25}$$

R_{mt} is the observed return on the market index on day t, $\overline{R_{mEst}}$ is the mean market return over the estimation period and M_j is the number of non-missing trading day returns in the interval E_1 through E_2 used to estimate the parameters for firm j.

I define the *standardized abnormal return* (or *standardized prediction error*) as

$$SAR_{jt} = \frac{A_{jt}}{s_{A_{jt}}}. \tag{4.26}$$

Under the null hypothesis, each SAR_{jt} follows a Student's t distribution with $M_j - 2$ degrees of freedom. Summing the SAR_{jt} across the sample, I obtain

$$TSAR_t = \sum_{j=1}^{N} SAR_{jt}. \tag{4.27}$$

The expected value of $TSAR_t$ is zero. The variance of $TSAR_t$ is

$$Q_t = \sum_{j=1}^{N} \frac{M_j - 2}{M_j - 4}. \tag{4.28}$$

The test statistic for the null hypothesis that $CAAR_{T_1,T_2} = 0$ is

$$Z_{T_1,T_2} = \frac{1}{\sqrt{N}} \sum_{j=1}^{N} Z^j_{T_1,T_2}, \tag{4.29}$$

where

$$Z^j_{T_1,T_2} = \frac{1}{\sqrt{Q^j_{T_1,T_2}}} \sum_{t=T_1}^{T_2} SAR_{jt}, \tag{4.30}$$

and

$$Q^j_{T_1,T_2} = (T_2 - T_1 + 1)\frac{M_j - 2}{M_j - 4} \tag{4.31}$$

Under cross-sectional independence of the $Z^j_{T_1,T_2}$ and other conditions (see Patell, 1976), Z_{T_1,T_2} follows the standard normal distribution under the null hypothesis.

If abnormal returns are serially uncorrelated, the variance of CAR_j is the sum of the variances of the daily abnormal returns:

$$s^2_{CAR_{T_{1j},T_{2j}}} = s^2_{AR_j}\left[L_j + \frac{L_j}{M_j} + \frac{\sum_{t=T_{1j}}^{T_{2j}}\left(R_{mt} - \overline{R_{mEst}}\right)^2}{\sum_{k=1}^{M_j}\left(R_{mk} - \overline{R_{mEst}}\right)^2}\right] \tag{4.32}$$

The precision-weighted average is constructed using the relative weights implied by the definition of Z_{T_1,T_2}. Thus, the precision-weighted average will always have the same sign as the corresponding Z_{T_1,T_2}. The formula for the precision-weighted average is

$$PWCAAR_{T_1,T_2} = \sum_{j=1}^{N}\sum_{t=T_1}^{T_2} w_j A_{jt}, \tag{4.33}$$

where

$$w_j = \frac{\left(\sum_{t=T_1}^{T_2} s^2_{A_{jt}}\right)^{-\frac{1}{2}}}{\sum_{i=1}^{N}\left(\sum_{t=T_1}^{T_2} s^2_{A_{it}}\right)^{-\frac{1}{2}}}$$

The precision-weighted $CAAR$ fulfills the reporting needs for which researchers sometimes report an average standardized cumulative abnormal return (average $SCAR$). The precision-weighted $CAAR$, as a weighted average of the original CARs, preserves the portfolio interpretation that $CAAR$ offers but average $SCAR$ does not.

4.3.2.2 Correction for Correlation of Abnormal Returns

Following Mikkelson and Partch (1988), the corrected test statistic for the null hypothesis that $CAAR = 0$ is

$$z_{CAAR} = N^{-\frac{1}{2}} \sum_{j=1}^{N} \frac{CAR_{T_{1j},T_{2j}}}{s_{CAR_{T_{1j},T_{2j}}}},$$

where

$$s^2_{CAR_{T_{1j},T_{2j}}} = s^2_{AR_j} \left\{ L_j \left[1 + \frac{L_j}{M_j} + \frac{\left(\sum_{t=T_{1j}}^{T_{2j}} R_{mt} - L_j \overline{R_{mEst}} \right)^2}{\sum_{k=1}^{M_j} \left(R_{mk} - \overline{R_{mEst}} \right)^2} \right] \right\} \tag{4.34}$$

For an event study centered on a single Event Date, T_{1j}, T_{2j} (and L_j if there is no missing return) are equal across firms and the subscript j can be dropped from them. The corrected test accounts for the fact that within the window, the abnormal returns for each stock are serially correlated. The serial correlation occurs because all the abnormal returns are functions of the same market model intercept and slope estimators. Applications of the corrected test in addition to Mikkelson and Partch (1988) include Mais, Moore and Rogers (1989), Cowan, Nayar and Singh (1990), Mann and Sicherman (1991) and Lee (1992). Simulation evidence of the properties of the corrected and uncorrected Patell tests appears in Karafiath and Spencer (1991, using Monte Carlo experiments) and Cowan (1993, using sampling experiments with CRSP data). Both papers report that the bias in the uncorrected test is small in event windows shorter than 60 days but serious in event windows longer than 100 days. Mikkelson and Partch (1988) acknowledge Craig Ansley for the original derivation of the corrected test statistic in an event study context. For other derivations and discussion, see Cantrell, Maloney and Mitchell (1989) and Sweeney (1991).

4.3.3 Standardized Cross-Sectional Test

Boehmer, Musumeci and Poulsen (1991) introduce the standardized cross-sectional test for market model abnormal returns and report its empirical properties. The test is the same as the Patell test described above except that there is a final empirical cross-sectional variance adjustment in place of the analytical variance of the total standardized prediction error. For additional discussion of event-date variance increases and related tests, see Sanders and Robins (1991).

For day t in the event period, the test statistic is

$$z_t = \frac{TSAR_t}{N^{\frac{1}{2}}\left(s_{SAR_{\bullet t}}\right)}, \tag{4.35}$$

where

$$s^2_{SAR_{\bullet t}} = \frac{1}{N-1}\sum_{i=1}^{N}\left(SAR_{it} - \frac{1}{N}\sum_{j=1}^{N} SAR_{jt}\right)^2$$

extends the cross-sectional standardized test to multiperiod windows using the correction for serial correlation described above. I define the standardized cumulative abnormal return for stock j as

$$SCAR_{T_{1j},T_{2j}} = \left(CAR_{T_{1j},T_{2j}} / s_{CAR_{T_{1j},T_{2j}}}\right),$$

where $s_{CAR_{T_{1j},T_{2j}}}$ is as defined in equation 4.34. Then the standardized cross-sectional test statistic for the null hypothesis that $CAAR = 0$ is

$$z_t = \frac{\sum_{i=1}^{N} SCAR_{T_{1j},T_{2j}}}{N^{\frac{1}{2}} s_{SCAR_{\bullet t}}},$$

where

$$s^2_{SCAR_{\bullet t}} = \frac{1}{N-1}\sum_{i=1}^{N}\left(SCAR_{T_{1i},T_{2i}} - \frac{1}{N}\sum_{j=1}^{N} SCAR_{T_{1j},T_{2j}}\right)^2$$

4.3.4 Time-series Standard Deviation Test

The time-series standard deviation test, also known as the "crude dependence adjustment" test (Brown and Warner, 1980), uses a single variance estimate for the entire portfolio. Therefore, the time series standard deviation test does not take account of unequal return variances across securities. On the other hand, it avoids the potential problem of cross-sectional correlation of security returns. The estimated variance of AAR_t is

$$\hat{\sigma}^2_{AAR} = \frac{\sum_{t=E_1}^{E_2} (AAR_t - \overline{AAR})^2}{M-2},$$

where the market model parameters are estimated over the estimation period of $M = E_2 - E_1 + 1$ days and

$$\overline{AAR} = \frac{\sum_{t=E_1}^{E_2} AAR_t}{M} \tag{4.36}$$

The portfolio test statistic for day t in event time is

$$\text{t} = \frac{AAR_t}{\hat{\sigma}_{AAR}} \tag{4.37}$$

Assuming time-series independence, the test statistic for $CAAR_{T_1,T_2}$ is

$$\text{t} = \frac{CAAR_t}{(T_2 - T_1 + 1)^{\frac{1}{2}}\,\hat{\sigma}_{AAR}}. \tag{4.38}$$

Many studies use the time series standard deviation test (for example, see Dopuch, Holthausen and Leftwich, 1986 and Brickley, Dark and Weisbach, 1991).

4.3.5 Cross-sectional standard deviation test

I substituted a daily cross-sectional standard deviation for the portfolio time-series standard deviation in the non-standardized tests. The portfolio test statistic for day

t in event time is

$$\mathrm{t} = \frac{AAR_t}{\hat{\sigma}_{AAR_t}/\sqrt{N}}, \tag{4.39}$$

where

$$\hat{\sigma}^2_{AAR_t} = \frac{1}{N-1}\sum_{i=1}^{N}\left(A_{it} - \frac{1}{N}\sum_{j=1}^{N}A_{jt}\right)^2$$

The estimated variance of $CAAR_{T_1,T_2}$ is

$$\hat{\sigma}^2_{CAAR_{T_1,T_2}} = \frac{1}{N-1}\sum_{i=1}^{N}\left(CAR_{i,T_1,T_2} - \frac{1}{N}\sum_{j=1}^{N}CAR_{j,T_1,T_2}\right)^2$$

The test statistic for $CAAR_{T_1,T_2}$ is

$$\mathrm{t}_{CAAR} = \frac{CAAR_{T_1,T_2}}{\hat{\sigma}_{CAAR_{T_1,T_2}}/\sqrt{N}} \tag{4.40}$$

Brown and Warner (1985) report that the cross-sectional test is well-specified for Event Date variance increases but not very powerful. Boehmer, Musumeci and Poulsen (1991) report that the standardized cross-sectional test (see above) is more powerful and equally well specified. Cowan (1992) reports that the generalized sign test (see below) also is well specified for Event Date variance increases and more powerful than the cross-sectional test.

4.3.6 Skewness-adjusted Transformed Normal Test

The transformed normal test (Hall, 1992) can be applied to mean abnormal return and to window mean cumulative or compounded abnormal return. I assume that it is applied to average compounded abnormal return. Estimate the cross-sectional standard deviation by

$$\hat{\sigma}_{BHAR} = \left[\frac{1}{N-1}\sum_{i=1}^{N}\left(BHAR_{i,T_1,T_2} - ACAR_{T_1,T_2}\right)^2\right]^{\frac{1}{2}}$$

and the skewness by

$$\hat{\gamma} = \frac{N}{(N-1)(N-2)} \sum_{i=1}^{N} \left(BHAR_{i,T_1,T_2} - ACAR_{T_1,T_2}\right)^3 \hat{\sigma}_{BHAR}^{-3}$$

Define

$$S = \frac{ACAR_{T_1,T_2}}{\hat{\sigma}_{BHAR}/\sqrt{N}}. \tag{4.41}$$

The skewness-adjusted transformed normal test statistic is

$$t_1 = S + \frac{1}{3}\hat{\gamma}S^2 + \frac{1}{27}\hat{\gamma}^2 S^3 + \frac{1}{6N}\hat{\gamma}$$

4.3.7 Long-Horizon Event Study Methodology

As discussed in Section 4.3, long-horizon event studies have an extensive history. The "anomalies" literature and the attempts to model the anomalies as market inefficiencies has led to a burgeoning field known as behavioral finance. Research in this field formalizes (and tests) the security pricing implications of investors' information processing biases. Because the behavioral biases might be persistent and arbitrage forces might take a long time to correct the mispricing, a vast body of literature hypothesizes and studies abnormal performance over long horizons of one-to-five years following a wide range of corporate event s. The events might be one-time (unpredictable) phenomena like an initial public offering or a seasoned equity offering, or they may be recurring events such as earnings announcements.

Both cumulative abnormal returns (CAR) and buy-and-hold abnormal return ($BHAR$) methods test the null hypothesis that abnormal performance is equal to zero. The abnormal returns for an event were calculated as follows:

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{it} \tag{4.42}$$

After calculating event $CARs$, I calculate and report the cumulative average abnormal return (CAAR). Where, the CAAR is the arithmetic average of all sample event $CARs$, and is calculated as follows:

$$CAR_i(t_1, t_2) = \frac{1}{N} \sum_{j=1_1}^{N} \sum_{t=t_1}^{t_2} AR_{it} \tag{4.43}$$

Under each method, the abnormal return measured is the same as the returns to a trading rule which buys sample securities at the beginning of the first period, and holds through the end of the last period. $CARs$ and $BHARs$ correspond to security holder wealth changes around an event. Further, when applied to post-event periods, tests using these measures provide information about market efficiency, because systematically nonzero abnormal returns following an event are inconsistent with efficiency and imply a profitable trading rule (ignoring trading costs).

While post-event risk-adjusted performance measurement is crucial in long-horizon tests, actual measurement is not straightforward. Two main methods for assessing and calibrating post-event risk-adjusted performance are used: characteristic-based matching approach (also known as $BHAR$) and the Jensen's alpha approach, which is also known as the calendar-time portfolio approach (Fama, 1998; Mitchell & Stafford, 2000).

Alternative explanations for the high abnormal event-day return examined in the previous section that refute value creation include a temporary price impact caused by buying pressure from the hedge fund or their followers, and market over-reaction. Brav et al. (2008) found the run up in price around the announcement window is accompanied by abnormally high trading volume. If the price impact is purely temporary and reflects a trading friction rather than information about prospective value change, then Target Firms should experience negative abnormal returns shortly after the event. This is not supported by extending the event windows to [-60,+60] days.

Chapter 5

Data and Empirical Testing

There is no central database of activist hedge funds. Therefore, I construct an independent dataset of all activist interventions from 1984-2014 from various sources, including Compustat, Capital IQ, FactSet, ISS Proxy Data, SharkRepellent, and the SEC's EDGAR database. Additionally, my dataset includes Schedule 13D filings, the mandatory federal securities law filings under Section 13(d) of the 1934 Exchange Act that investors must file with the SEC within 10 days of acquiring more than 5% of any class of securities of a publicly traded company if they have an interest in influencing the management of the company. My manually constructed database of shareholder activist events (see Figure 5.1) includes 5,958 interventions from 1984-2014. Similar to Gillan and Starks (2007), I define shareholder activist event as a purposeful intervention by "investors who, dissatisfied with some aspect of a company's management or operations, try to bring about change within the company without a change in control".

My dataset sample collection methodology includes a multi-step procedure. The vast majority of shareholder activism literature is predicated on Schedule 13D filings. However, I start with a much more expansive sample of activist interventions: 5,958 interventions from 1984-2014.

In my second step, I narrow the time series to 1990-2014, since the quantity and quality of financial information prior to 1990 is limited and unreliable. Next, I exclude certain events in which (a) the primary purpose of the filer is to be involved in the bankruptcy reorganization or the financing of a distressed firm; and (b) the target is a closed-end fund or other non-regular corporation. I exclude duplicate campaigns by multiple activists (i.e., the wolf-pack), so the dataset includes information about the Target Firm only once with respect to a specific campaign. If a Target Firm were to file for bankruptcy protection or liquidation during my multistep compilation, I include the financial information of the Target Firm up to the Chapter 11 or Chapter 7 filing date. More specifically, the bankrupt firm would account for 100% loss as it relates to stock return and portfolio analyses. I winsorize all unbounded variables and financial data at the 1.0% and 99.0% in each tail to adjust for outliers. As discussed in Chapter 4, there are two important econometric issues that need to be addressed: self-selection bias and endogeneity. To address and mitigate those concerns, I create the following six distinct groups:

1. All Activist Interventions (4,186 Target Firms): includes hedge funds, corporations, public pension funds, mutual funds, labor unions, religious groups and individuals that initiated an activist campaign against a Target Firm;

2. Hedge Fund Activists (3,202 Target Firms): only includes hedge funds that initiated an activist campaign against a Target Firm;

3. Non-Hedge Fund Activists (984 Target Firms): includes corporations, public pension funds, mutual funds, labor unions, religious groups and individuals (excludes hedge funds) that initiated an activist campaign against a Target Firm;

5.1 Characteristics of Target Firms and Activist Campaigns (1990-2014)

In this section, I provide a detailed overview of the objectives and characteristics of shareholder activist campaigns against Target Firms. Table 5.1 reports the characteristics of shareholder activist campaigns against Target Firms. The table provides a comparison of the six groups that are defined in Section 5, which reports the results of my *Treatment Group* and *Control Groups*.

5.1.1 Objectives of Activist Campaigns

Hedge fund activism involves various objectives and tactics against Target Firms. Table 5.1 summarizes the stated objectives of the various activist interventions from 1990 to 2014 when dissident shareholders announce their intent to intervene. The panel is organized by the underlying motives with respect to a campaign. The objectives are not mutually exclusive as one activist campaign can be attributable to multiple issues. It is important to note the differences between objectives and tactics among the various types of activists (i.e., hedge fund versus non-hedge fund activist interventions). Hedge Fund Activists are more likely (85%) to file a 13D to initiate a campaign against a Target Firm versus a Non-Hedge Fund Activist, which files a 13D 43% of the time. Hedge Fund Activists do not focus on corporate governance reforms exclusively but rather interventions that emphasize maximizing shareholder value though operational improvements, a change in strategic direction, a sale of the company, capital distribution policy (29%) and\or a replacement of the management team. These findings are consistent with Greenwood and Schor (2009). However, Hedge Fund Activists may employ various *governance-focused* tactics at the onset of a campaign, such as removal of a anti-takeover provisions

to facilitate a successful intervention. Non-Hedge Fund Activists are more likely to initiate a campaign centered of corporate governance enhancements (17%) and submit precatory shareholder proposals (21%) as their primary campaign objective. The *Treatment Group* (*board representation* by Hedge Fund Activists) is very focused on either *board representation* or control (72%) and almost 90% of the *Treatment Group* are 13D filers, which substantiates their credibility as motivated shareholders seeking to optimize value.

Table 5.2 reports the governance and corporate defense profile of shareholder activist campaigns against Target Firms. Hedge Fund Activists are more likely to win *board representation* (53%) versus Non-Hedge Fund Activists (27%) with respect to the total number of board seats sought. Interestingly, Hedge Fund Activists that win *board representation* initiate a proxy contest 48% of the time, but only 14% of all proxy fights "go the distance" (i.e., to a shareholder vote). In sharp contrast, Target Firms of both *Control Groups* face a high likelihood of a proxy contest. Not surprisingly, *Control Group I* (Target Firms that "won" the proxy fight against Hedge Fund Activists) experience proxy fights 100% of time, whereas, *Control Group II* (*board representation* by Non-Hedge Fund Activists) face proxy contests 77% of all interventions and the proxy fights will "go to a shareholder vote" 34% of the time. These results suggest that Target Firms are more likely to compromise and reach a settlement with a credible Hedge Fund Activist rather than expend a lot of time and resources fighting a campaign. However, Target Firms are more reluctant to settle with a Non-hedge Fund Activist. This may be due to the lack of credibility of the activist and scarcity of potential resources to support an expensive campaign to completion.

Panel B of Table 5.3 reports that 29% of the Target Firms are sold within two years ex post an activist intervention. This is consistent with the findings of Greenwood and Schor (2009). However, it is important to note that only 18% of

the Target Firms of the *Treatment Group* are sold or merged during the same time series. This substantiates my assertion that when a hedge fund activist seeks *board representation* they are more likely focused on other corporate initiatives to increase shareholder value rather than a "sale of the company" agenda. Not surprising, it is very common for Hedge Fund Activists to seek a replacement of the management team (primarily the CEO) to accomplish the Hedge Fund Activist agenda. Panel D of Table 5.4 reports that 44% of Target Firm CEOs are replaced within two years of the Hedge Fund activist joining the board compared to only 8% of Matched Firms during the same time period.

5.1.2 Target Firm Characteristics: Vulnerability of Target Firms to Shareholder Activism

What type of companies do activist target? This is an important question to address. Tables 5.5 through 5.10 report the characteristics of Target Firms by all activists (both *governance-focused* and *economically-motivated*) and Hedge Fund and Non-hedge Fund activists either seeking *board representation* or other governance objectives. I compare and contrast the Target Firms to a set of Matched Firms, the target firms' same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. I use numerous financial metrics, governance measures and market-based data as variables.

Table 5.11 reports the maximum likelihood probit regression with respect to the probability of a company being targeted by activist shareholders. The regressions cover all CRSP/Compustat firms from 1990 to 2014, which include both event and non-event observations. The dependent variable is a dummy variable equal to one if the Target Firm experiences an activist intervention during that specific month and zero for all non-activist firms. All Target Firm characteristics and variables are from various financial databases (including CRSP/Compustat, Thomson Reuters, NYSE,

IBES, Risk Metrics, FactSet and Institutional Shareholder Services). I controlled for both industry and year fixed effects. See Section 4.2.1 for a detailed discussion with respect to fixed and random effects.

Tables 5.6 and 5.7 report the characteristics of Target Firms and of both Hedge Fund and Non-hedge Fund activism. I examine multiple firm specific attributes relative to Matched Firms, the Target Firm's same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The results are consistent with the extant literature.

Following my classification methodology outlined in Section 5 on page 69, Table 5.11 reports the results of the six activist intervention groups. The Event Date (t_0) is either the the filing date of the 13D or the announcement of a campaign for All Activist, Hedge Fund Activist and Non-Hedge Fund Activist interventions. The Event Date (t_0) with respect to the *Treatment Group* (Hedge Fund board representation) and the *Control Group II* (Non-hedge Fund board representation) is the board seat grant date and Event Date (t_0) of *Control Group I* (Target Firms that "Won" Proxy Fight) is announcement date of the proxy fight results.

There are several important trends and factors to note. The negative coefficients with respect to Log Market Capitalization across all groups (except Non-hedge fund Board Representation) indicate that the Target Firms are generally smaller than the non-Target Firms with respect to market capitalization. This result is robust and consistent with many other studies including Klein and Zur (2009), Greenwood and Schor (2009), Clifford (2008), Boyson and Mooradian (2007), and Mietzner and Schweizer (2008). However, the coefficients relating to Log Assets are positive and significant. Suggesting that Target Firms are under-valued relative to

comparable firms.

Next, I examine the coefficients with respect to valuation. The coefficients of EV / EBITDA$_{(t-3)}$, which is defined as ((book value of debt + book value of equity – cash) / LTM EBITDA) three-months prior to the Event Date, are negative and significant regarding Hedge Fund Activism and with respect to my *Treatment Group*. These results suggests that activist hedge funds attempt to identify undervalued companies where there is a potential to improve its operations. Furthermore, this substantiates that Hedge Fund Activists resemble "value investors." As a robustness check, I investigated several other valuation metrics, including Tobin's Q (Equation 5.6).

Target Firms tend to be low-growth companies in terms of Revenue Growth, which is defined as the last-twelve-months (LTM) rolling sales trend. With respect to return measures, return on invested capital (ROIC) coefficients are negative and significant. Indicating that Hedge Fund Activists target companies for *board representation* that significantly under-perform their peers. These results differ from many other studies, including Brav et al (2008) that report positive ROA of Target Firms prior to an activist intervention.

The next set of variables concern capital structure. I examine the leverage profile (Debt / EBITDA) and Cash-to-Market Capitalization of the Target Firms of my *Treatment Group* and of both *Control Groups*. All of the coefficients relating to capital structure are statistically insignificant. Although Target Firms have lower share repurchase ratio relative to peers, they have a higher dividend yield (but insignificant).

Next, I investigate both Institutional Ownership and Management/Board Ownership. Refer to Hypothesis 2 and 3 for a more detailed examination with respect to the correlation between Hedge Fund activism and nominal "corporate inside" ownership. Conventional wisdom suggests that Target Firms of hedge fund

activism have higher institutional ownership and lower "inside" or management ownership. This ownership profile allows an activist to garner the support of the other institutional shareholders since the incumbent management team and board do not have sufficient ownership to "block" an activist attempt. The ownership coefficients in this model are statistically insignificant, however, there is qualitative evidence to support the conventional wisdom based on the signs of each ownership coefficient.

The next set of variables have not been reviewed by other scholars with respect to hedge fund activism. First, the coefficient with respect the Multiple Segments is a dummy variable if the target firm has more than one business unit that accounted for over 10% of sales prior to the event. The coefficients are positive and significant regarding Hedge Fund Activist interventions. This supports the general claim that Target Firms may have various business segments that are not core to the primary business.

Next, I examine Analyst Sell Recommendations, which is a dummy variable if greater than 50% if the research analysts had either a HOLD or SELL on the Target Firm prior to the event. Target Firms of Hedge Fund Activists had positive and statistically significant coefficients, indicating that the majority of the research analysts had a negative perception of the Target Firms prior an activist intervention. This substantiates that most Target Firms are either under-performing relative to peers or a have fundamental misalignment of value expectations.

Finally, I investigate a company's ability to manage investors expectations with respect to earnings. This is important, since it is a measure of the management team's ability and credibility vis-à-vis investors and the broader financial community. I use the following variable, Miss Earnings Estimate$_{(t-1)}$, which is a dummy variable if the firm missed its most recently updated estimates reported by I/B/E/S by greater than 5%. Target Firms of Hedge Fund Activists tend to miss its most recent earnings ex ante an activist intervention. This is economically significant since it reflects very

poorly on a Target Firm to manage investor expectations. It supports the general narrative that a management team does not have a command or understanding of its business.

In summary, the characteristics of Target Firms of shareholder activism suggest that the type of activist (i.e., Hedge Fund versus Non-Hedge Fund) target different firms depending upon the activist's primary agenda. Hedge Fund Activists that are seeking *board representation* to monitor the firm more closely target slow growth companies experiencing significant under-performance relative to peers that need longer term operational solutions to improve shareholder returns rather than changing financial and capital distribution policies.

5.2 Activist Hedge Fund Intervention: Board Representation (H1)

This section empirically tests Hypothesis 1 discussed in Chapter 3. The hypothesis is as follows: *There is a significant positive correlation between* board representation *of an activist hedge fund and nominal "corporate inside" ownership ex post the Board Seat Grant Date.*

5.2.1 Data

The data on investor ownership are from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. It is important to note that I define "corporate inside" ownership as equity securities beneficially owned by the company's officers and directors[7]. I exclude any institutions or non-company officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. I combine FactSet/LionShares database with my hand-collected hedge fund activist database using GVKEY and CUSIP firm identifiers to merge the datasets.

[7]Corporate insiders – meaning a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. On August 27, 2002, the SEC adopted rules and amendments to Section 16 of the Exchange Act, implementing the provisions of the Sarbanes-Oxley Act of 2002 that accelerated the deadline for filing most insider ownership reports.

5.2.2 Empirical Results

I conduct several empirical tests to determine statistical significance *board representation* of an Hedge Fund Activist ex post an intervention and nominal "corporate inside" ownership$_{(t-3\ months)}$. To address and mitigate the concern with respect to endogeneity, I compare the results of the *Treatment Group* ("Hedge Fund Board Representation") to both *Control Groups*. See Section 5 for a detailed discussion regarding the development of the *Treatment* and *Control Groups*. First, I perform a logistic and probit regressions with respect to the quarterly inside ownership position of Target Firms three months (one fiscal quarter) ex ante for the *Treatment Group* and both *Control Groups* (see Table 5.12). The *Treatment Group* is all Target Firms that granted at least one board seat to a dissident Hedge Fund, *Control Group I* is defined as Target Firms of all proxy fights campaigns that did not result in *board representation* during the same period and *Control Group II* is comprised of Target Firms that granted at least one board seat to a Non-hedge Fund dissident shareholder during the same time period. I apply both industry and year fixed effects to each model. The logistic regression coefficients provide the change in the log(odds) of the outcome for a one unit increase in the predictor variable. Only Models I and II (the *Treatment Group*) demonstrate a statistically significant and negative or a lower "corporate inside" ownership$_{(t-3\ months)}$ position with respect to an activist interventions. The results for both *Control Groups* are not statistically significant.

Next, I stress further my model to test nominal "corporate inside" ownership$_{(t-3\ months)}$ by using a multivariate probit regression model that includes other variables that explain Hedge Fund activism (refer to 5.11) to determine if statistical significance is maintained.

Table 5.13 reports the results of Hedge Fund board representation, Non-Hedge Fund board representation and Target Firms that did not receive the

treatment effects of active monitoring by a dissident shareholder. Models I and II demonstrate a statistically significant negative or a lower "corporate inside" ownership$_{(t-3\ \ months)}$ position with respect to Hedge Fund board representation. Both *Control Groups* report statistically insignificant results with respect to inside ownership. Interestingly, Target Firms that "won" the proxy fight against Hedge Fund Activists report a positive a coefficient (statistically insignificant) with respect to "corporate inside" ownership using a robust model.

5.2.3 Conclusion

The results of the empirical testing show a statistically meaningful correlation between *board representation* of a Hedge Fund Activist and nominal "corporate inside" ownership$_{(t-3\ \ months)}$ ex ante the Board Seat Grant Date. In contrast, *Control Group I* and *Control Group II* are not statistically significant and Target Firms that "won" the proxy fight against Hedge Fund Activists report positive coefficients with respect to "corporate inside" ownership. Therefore, I find statistically significant support to reject the null hypothesis to conclude *There is a significant positive correlation between* board representation *of an activist hedge fund and nominal "corporate inside" ownership*$_{(t-3\ \ months)}$ *ex ante the Board Seat Grant Date.*

5.3 Short-term Active Hedge Fund Monitoring (H2)

This section concerns Hypothesis 2, which reads as follows: *There is a significant positive "initial" market reaction on the announcement date that a hedge fund dissident shareholder has been granted* board representation *to function as a disciplinary mechanism to monitor management.*

5.3.1 Initial Market Reaction: The Model

I examine the market reaction in the 3-day, 5-day, 7-day, 11-day and 21-day windows around the board seat grant date or announcement date via a press release of the results of the proxy contest. As noted in Section 4.3, I employ a standard event study methodology using the market model and a four-factor model to measure normal performance. I report the cumulative abnormal return (CAR) for the 3-day, 5-day, 7-day, 11-day and 21-day windows around the board seat grant date or announcement date via a press release of the results of the proxy contest. The resulting time series of daily excess returns is regressed using the Market Model (Refer to 4.3.1.1) and the Fama-French (1993) three-factor Model and augmented by the momentum factor as suggested by Carhart (1997).

With respect to the Market Model, I assume that Target Firm returns are given by:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt} \tag{5.1}$$

The regression coefficients α_i and β_i are estimated in an ordinary least squares (OLS) regression during the estimation period one year (255 trading days) prior to the event period (event days -305 through -50). As proxy for the return for the market portfolio R_{mt}, both the Center for Research on Security Prices (CRSP) value weighted index and the CRSP equal weighted index were used.

The Four Factor Model for *abnormal return* or (*prediction error*) for a Target Firm and its match (j^{th}) on day t is as follows:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t) \tag{5.2}$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares

estimates of α_j, β_j, s_j h_j and u_j. where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

5.3.2 Empirical Results

In this section, I investigate the short-term market performance of Target and Matched Firms, with an event study using various performance windows. To conduct a comprehensive investigation, I replicate prior findings with respect to All Activist interventions, which include Hedge Fund and Non-Hedge Fund activism. The Event Date (t_0) is either the the filing date of the 13D or the announcement of a campaign for All Activist, Hedge Fund and Non-Hedge Fund Interventions.

Tables C.1, C.2 and C.3, summarize the cumulative abnormal returns ($CARs$) for Target Firms and the Matched Firms for All Activism, Hedge Fund and Non-Hedge Fund Intervention classifications. $CARs$ are calculated in excess of the equal and value weighted NYSE/AMEX/NASDAQ index from CRSP. Using a variety

of event windows and multiple factor models, the difference in performance between Target Firms and Matched Firms is always positive and statistically significant. Using value weighted, Fama-French-Momentum Model during (-10,+10) event window, the return in excess of the matched sample is approximately 5% for all Hedge Fund Interventions. The results are consistent with previous findings from Brav et al. (2008) and Boyson and Mooradian (2007).

Next, I investigate short-term market performance of Target and Matched Firms for the *Treatment Group* (Hedge Fund board representation) and both *Control Groups* (Target Firms that "Won" Proxy Fight and Non-hedge Fund board representation). The table below summarizes the $CARs$ of Target Firms for the *Treatment Group* and *Control Groups*. More detailed results are presented in Tables 5.14, 5.15 and 5.16, where I consider alternate announcement windows, market indices and Fama-French abnormal return model. The Event Date (t_0) with respect to the *Treatment Group* (Hedge Fund board representation) and the *Control Group II* (Non-hedge Fund board representation) is the board seat grant date and Event Date (t_0) of *Control Group I* (Target Firms that "Won" Proxy Fight) is announcement date of the proxy fight results. Using the Market Model (see Equation 4.3.1.1), Model I reports a statistically significant CAR (at the 1% level) of 1.25% for the 5-day window for the *Treatment Group*. In contrast, Model II reports a statistically significant CAR of -1.26% for *Control Group I*, Target Firms that "Won" a Proxy Fight and were not receive the treatment effects of active board representation by a Hedge Fund. *Control Group II* report a CAR of 0.32% during (-2,+2) event window. However, these results were not statistically significant.

	Model I Treatment Group	Model II Control Group I	Model III Control Group II
CAR $_{(-2,+2)}$	1.25%***	-1.26%***	0.32%
Observations	538	114	107

As noted earlier, Tables 5.14, 5.15 and 5.16 provide additional analysis using a variety of event windows and multiple factor models, the difference in performance between Target Firms and Matched Firms with respect to the *Treatment Group* is always positive and statistically significant. Using value weighted, Fama-French-Momentum Model during (-2,+2) event window, the CAR is 1.36% and statistically significant at the 1% level. I sharp contrast, *Control Group I* (Target Firms that "Won" Proxy Fight) report a -1.24% statistically significant CAR. *Control Group II* report a CAR of 0.32% during (-2,+2) event window. However, these results were not statistically significant.

5.3.3 Conclusion

The results of this section indicate that activism is perceived favorably by the stock market, with strong evidence of short-term increases in a Target Firms' stock price. Within my dataset of sample Target Firms, certain types of activism are strongly positively related to short-term stock performance. Target Firms of Hedge Fund activists that seek *board representation* generate positive and statistically significant stock performance relative to Target Firms that did not receive the disciplinary effects of hedge fund monitoring. Therefore, I find statistically significant support to reject the null hypothesis to conclude that there is *significant positive "initial" market reaction on the announcement date that a hedge fund dissident shareholder has been granted board representation to function as a*

disciplinary mechanism to monitor management.

Next, I examine longer-term performance of hedge fund activism. Since my sample covers a long time frame, I have a large number of completed activism events, allowing the assessment of the long-term impact of hedge fund activism. I will also address the question of whether hedge fund activism creates lasting value for Target Firms, which benefits all stockholders in the target rather than only investors in the hedge fund.

5.4 Long-term Performance of Hedge Fund Monitoring (H3/H4)

This section empirically tests Hypotheses 3 and 4 discussed in Chapter 3. For reference, the hypotheses with respect to long-term performance of Hedge Fund monitoring is as follows:

Hypothesis 3: *Hedge fund activism generates statistically significant long-term value for the Target Firms and its long-term shareholders when they function as a disciplinary mechanism to monitor management via* board representation.

Hypothesis 4: *Hedge fund activism generates statistically significant improvement in long-term operating performance for the Target Firms and its long-term share when they function as a disciplinary mechanism to monitor management via* board representation.

5.4.1 Buy-and-hold abnormal returns ($BHAR$) Approach

In recent years, following the works of Ikenberry, Lakonishok, and Vermaelen (1995), Barber and Lyon (1997), and Lyon et al. (1999), the characteristic-based matching approach (also known as the buy-and-hold abnormal returns, $BHAR$) has been widely used. Mitchell and Stafford (2000) described $BHAR$ returns as "the average multiyear return from a strategy of investing in all firms that complete an event and selling at the end of a pre-specified holding period versus a comparable strategy using otherwise similar nonevent firms". An appealing feature of using $BHAR$ is that buy-and-hold returns better resemble investors' actual investment experience than periodic (monthly) rebalancing entailed in other approaches to measuring risk-adjusted performance. The joint-test problem remains in that any

inference on the basis of $BHAR$ hinges on the validity of the assumption that event firms differ from the "otherwise similar nonevent firms" only in that they experience the event. I implicitly assume an expected return model in which the matched characteristics (e.g., size and book-to- market) perfectly proxy for the expected return on a security. Because corporate events themselves are unlikely to be random occurrences (i.e., they are unlikely to be exogenous with respect to past performance and expected returns), there is a danger that the event and nonevent samples differ systematically in their expected returns, notwithstanding the matching on certain firm characteristics. This makes matching on (unobservable) expected returns more difficult, especially in the case of event firms experiencing extreme prior performance.

Once a matching firm or portfolio is identified, $BHAR$ calculation is straightforward. A T-month $BHAR$ for event firm i is defined as:

$$BHAR_i(t,T) = \prod_{t=1toT}(1+R_{i,t}) - \prod_{t=1toT}(1+R_{B,t}) \tag{5.3}$$

Where R_B is the return on either a nonevent firm that is matched to the event firm i or a matched (benchmark) portfolio. If the researcher believes that the Carhart's (1997) four- factor model is an adequate description of expected returns, then firm-specific matching might entail identifying a nonevent firm that is closest to an event firm on the basis of firm size (i.e., market capitalization of equity), book-to-market ratio, and past 1- year return.

Alternatively, characteristic portfolio matching would identify the portfolio of all nonevent stocks that share the same quintile ranking on size, book-to-market, and momentum as the event firm (see Daniel, Grinblatt, Titman, & Wermers, 1997, or Lyon, Barber, & Tsai, 1997, for details of benchmark portfolio construction). The return on the matched portfolio is the benchmark portfolio return, R_B. For the sample of event firms, the mean $BHAR$ is calculated as the (equal or value-weighted) average of the individual firm $BHARs$. Additionally, I tested the significance of each

coefficient using the following equation:

$$t_{BHAR} = \frac{\overline{BHAR_{it}}}{(\sigma(BHAR_{it})/\sqrt{n})} \tag{5.4}$$

Total Shareholder Return (TSR), which is a variation of $BHAR$, is a financial return measure commonly used in practice. I investigate TSR as a robustness check with respect to $BHAR$ and find comparable results. Refer to Appendix D for more details regarding TSR.

5.4.2 Empirical Results

Following my classification methodology outlined in Section 5 on page 69, I construct six BHAR portfolios of stocks from 1994-2014. Figure 5.7 presents buy-and-hold portfolio returns of Target Firms with respect to all All Activist interventions relative to Matched Firms. Over a 20 year period, the long-term returns of all shareholder activist interventions generated approximately 340% return, which out-performed a portfolio of similar firms during the same time period, which only achieved 270%. Figure 5.8 presents buy-and-hold portfolio returns of Target Firms with respect to all Hedge Fund Activist interventions relative to Matched Firms. As of December 31, 2014, the Hedge Fund Activist BHAR portfolio generated over 330% return while the Matched Firm portfolio was a consistent laggard and yielded a 267% return over the same period. In contrast, Figure 5.9 the Non-Hedge Fund Activist BHAR portfolio only generated over 192% return while its Matched Firm portfolio yielded an approximate 285% return over the same period.

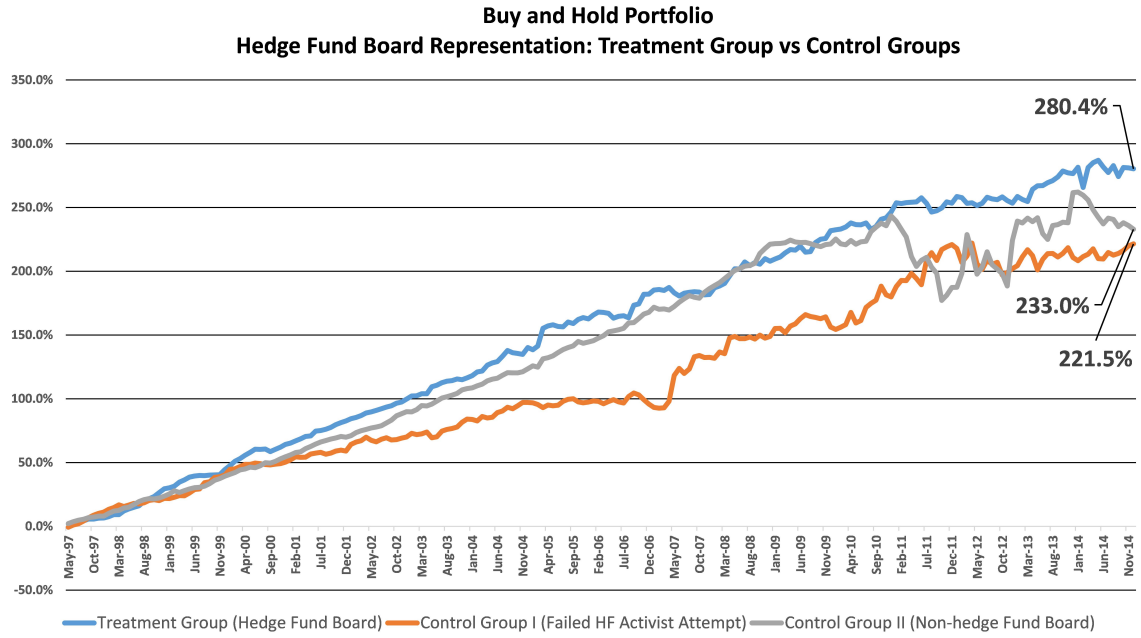
Next, I examine the *Treatment Group* and compare the results to both *Control Groups* as well as a portfolio of Matched Firms for each grouping. Figure 5.10 presents buy-and-hold portfolio returns of Target Firms of the *Treatment Group* relative to a portfolio of Matched Firms during the same time series. As of

December 31, 2014, the long-term buy-and-hold portfolio returns to shareholders of the *Treatment Group* was over 260%. Conversely, a portfolio of Matched Firms only generated 185% during the same time series.

Reviewing the buy-and-hold portfolio returns of the *Control Groups*, Figure 5.11 and Figure 5.12 present portfolio returns of Target Firms with respect to all Non-Hedge Fund *board representation* and Target Firms that defeated the hedge fund in a proxy fight. As of December 31, 2014, the *Control Group I* under-performed a portfolio of Matched Firms during the same period and *Control Group II* significantly under-performed its comparable Matched Firms. This substantiates that Hedge fund activism generates long-term value for the Target Firms and its long-term shareholders when they function as a disciplinary mechanism to monitor management via *board representation*.

Figure 5.2 below provides a return comparison of an 18-year "Buy and Hold Portfolio" with respect to the *Treatment Group* and both *Control Groups*. During the time series, the *Treatment Group* generated over 280%, whereas both *Control Groups* yielded approximately 225%. These results are consistent with Hypothesis 3.

Figure 5.2: Buy and Hold Portfolio Returns: Treatment Group vs. Control Groups



Next, I test the statistical significance of the 18-year "Buy and Hold Portfolio" with respect to the *Treatment Group* and both *Control Groups*. I test the equality of matched pairs with respect to the observations of the *Treatment Group* and both *Control Groups* using the Wilcoxon matched-pairs signed-ranks test (Wilcoxon 1945). The Wilcoxon signed rank sum test is the non-parametric version of a paired samples t-test. The null hypothesis is that both distributions are the same. Each Buy and Hold Portfolio consists of 212 monthly observations. The results of the Wilcoxon matched-pairs signed-ranks test, which are presented in table below, report a statistically significant difference at a p-value of 0.06 between *Treatment Group* and *Control Group I* (Target Firms that did not benefit from the disciplinary mechanism of active monitoring by a Hedge Fund via *(*board representation*)*. There is no statistically significant difference between the *Treatment Group* and *Control Group II*.

	Observations	z-test	p-value
Treatment Group vs. Control Group I	212	1.88	0.06
Treatment Group vs. Control Group II	212	1.04	0.30

5.4.3 Calendar-time portfolio approach (Jensen's alpha)

The calendar-time portfolio or Jensen's alpha approach to estimating risk-adjusted abnormal performance is an alternative to the $BHAR$ calculation using a matched-firm approach to risk adjustment. Jaffe (1974) and Mandelker (1974) introduced a calendar time methodology to the financial-economics literature, and it has since been advocated by many, including Fama (1998), Mitchell and Stafford (2000), and Brav and Gompers (1997).

The distinguishing feature of the most recent variants of the approach is to calculate calendar-time portfolio returns for firms experiencing an event, and calibrate whether they are abnormal in a multifactor regression. The estimated intercept from the regression of portfolio returns against factor returns is the postevent abnormal performance of the sample of event firms.

I implement Calendar-time Portfolio Abnormal Returns (Jensen's Alpha) for a 5-year period during Ex Post an activist intervention. In each calendar month over the entire sample period, a portfolio was constructed comprising all firms experiencing the event within the previous month. Because the number of event firms is not uniformly distributed over the sample period, the number of firms included in a portfolio is not constant through time. As a result, some new firms are added each month, and some firms exit each month. Accordingly, the portfolios are rebalanced each month, and an equal or value-weighted portfolio excess return is calculated. The resulting time series of monthly excess returns is regressed on the Fama-French (1993)

three-factor Model as follows:

- R_{jt} is the equal or value-weighted return for calendar month t for the portfolio of event firms that experienced the event within previous T years,
- R_{ft} is the risk-free rate,
- R_{Mt} is the return on the CRSP value-weight market portfolio,
- SMB_t, is the difference between the return on the portfolio of "small" stocks and "big" stocks;
- HML_t is the difference between the return a portfolio of "high" and "low" book-to-market stocks;
- α is the average monthly abnormal return on a portfolio of firms over the t-month post-event period,
- β is the beta (the sensitivities) of the event portfolio to the three factors.

I report the long-term abnormal returns associated of Target Firms of all activist interventions as well as report regression estimates and level of significance from both equal-weighted and value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add Target Firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Inferences about the abnormal performance are made on the basis of the estimated alpha and its statistical significance. Because alpha is the average monthly abnormal performance over the T-month post-event period, it can be used to calculate annualized post-event abnormal performance. I reported the long-term abnormal returns associated with firms that granted at least one board seat to an activist/dissident shareholder as well as report regression estimates and t-statistics from value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add Target Firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger.

5.4.4 Empirical Results

Following my classification methodology outlined in Section 5, I construct six calendar-time portfolios (Jensen-alpha approach) to estimate risk-adjusted abnormal performance. In this section, I investigate the long-run market performance of Target and Matched Firms using calendar-time portfolios for all groups. I discuss in detail my findings of the *Treatment Group* (Hedge Fund Board Representation) relative to both *Control Groups* and provide the results for All Activist, Hedge Fund and Non-Hedge Fund Interventions in the Appendix D.

Tables D.1, D.2 and D.3, summarize the cumulative abnormal returns ($CARs$), the precision-weighted cumulative average abnormal returns ($PWCAAR$) (Equation 4.33) and the calendar-time portfolio cumulative abnormal returns ($CTCARs$) for Target Firms and the Matched Firms for All Activism, Hedge Fund and Non-Hedge Fund Intervention classifications. $CARs$, $PWCAARs$ and $CTCARs$

are calculated in excess of the equal and value weighted NYSE/AMEX/NASDAQ index from CRSP. Using the three-factor model (Equation 5.5), the difference in performance between Target Firms and Matched Firms is always positive and statistically significant. Examining Table D.2, which reports the results from Hedge Fund Activist Interventions, I find that the Target Firms of Hedge Fund activism generate 17.8% CAR, 31.8% $PWCAAR$ and 27.5% $CTCAR$ five years ex post the activist intervention. In contrast, the Matched Firms report a statistically significant negative returns during the same time period. This substantiates that Hedge Fund Activists generate long-term value for Target Firms and its long-term shareholders.

Next, I investigate long-run market performance of Target and Matched Firms for the *Treatment Group* (Hedge Fund Board Representation) and both *Control Groups* (Target Firms that "Won" Proxy Fight and Non-hedge Fund Board Representation). Tables 5.17, 5.18 and 5.19, report the $CARs$, $PWCAARs$ and $CTCARs$ for Target Firms and the Matched Firms for the *Treatment Group* and *Control Groups* using equal and value weighted market indices.

The table below summarizes the calendar-time portfolio abnormal returns using CTCARs and an equally weighted index. Similar to the other models, $CTCARs$ are calculated in excess of the equal weighted NYSE/AMEX/NASDAQ index from CRSP. Using a variety of event windows and a three-factor model, the Target Firms of the *Treatment Group* generate positive and statistically significant abnormal returns ex post the board seat grant date. In contrast, *Control Group I* reports negative abnormal returns that are not statistically significant. Consistent with my other findings, *Control Group II* results are positive and significant in certain event windows. This is additional support to substantiate that dissident shareholders generate long-term value for the Target Firms and its long-term shareholders when they function as a disciplinary mechanism to monitor management via *board representation*.

Next, I test statistically for the difference between the calendar-time portfolio abnormal returns means of the *Treatment Group* relative to both *Control Groups*. The test procedure I used is a two-sample t-test. The null hypothesis states that there is no difference between the two means. The table below reports a positive and statistically significant difference between *Treatment Group* and *Control Group I* (Target Firms that did not benefit from the disciplinary mechanism of active monitoring by a Hedge Fund via board representation). With the exception of Event +2, there is negative and statistically significant difference between the *Treatment Group* and *Control Group II*. Essentially, Target Firms benefited from board representation of both Hedge Fund and Non-Hedge Fund activists.

	[Event +1]	[Event +2]	[Event +3]	[Event +4]	[Event +5]
Abnormal Return (Jensen's α)					
Treatment Group	8.84***	14.76***	19.85***	16.36***	11.63***
Control Group I	-1.11	-6.40	-5.61	14.76	-13.22
Control Group II	11.47	14.78	22.96*	26.91*	40.23**
Differences (t-test)					
Treatment Group vs. Control Group I	9.95***	21.16***	25.46***	1.6**	24.85***
Treatment Group vs. Control Group II	-2.63***	-0.02	-3.11***	-10.55***	-28.60***

5.4.5 Conclusion

In summary, the foregoing results suggest that Hedge Fund Activist seeking *board representation* generate positive "alpha" (α) around event time for Target Firms and the positive abnormal returns do not revert up to a five years ex post the board seat grant date. Therefore, the evidence clearly refutes the market over-reaction hypothesis and supports the hypothesis (H3) that Hedge Fund Activism creates long-term value for Target Firms and its long-term shareholders when they function

as a disciplinary mechanism to monitor management via *board representation*.

5.4.6 Long-term Stock Returns: Individual Firm Regressions

I conduct a more formal long-term return analysis using individual firm-level regressions around the Event Date. For this study, I examine long-term stock returns for each individual Target Firm that granted at least one board seat to a Hedge Fund Activist (the *Treatment Group*) and contrast those results with both *Control Groups*. To identify whether stock returns are abnormally low or high, I use a benchmark for comparative purposes. Such benchmarks of comparison are provided by the capital asset pricing model (CAPM), the Fama-French three factor model, and the Fama-French-Carhart four factor asset-pricing models. These models provide a prediction of the return that normally would be expected for a given security during a given period and, therefore, enable researchers to identifying abnormal returns.

I use the Fama-French three factor model to estimate an "alpha," (α) the average excess return that is not explained by the three market-wide factors identified by Fama and French (1993). I estimate the excess return on the market as the value-weight return of all CRSP firms incorporated in the US and listed on the NYSE, AMEX, or NASDAQ that have a CRSP share code of 10 or 11 at the beginning of month t, good shares and price data at the beginning of t, and good return data for t minus the 1-month Treasury bill rate from Ibbotson Associates. Specifically, I estimate for each firm i an alpha (α) using the following regression:

$$r_{it} - r_f = \alpha_i + \beta_{i1} RMRF_t + \beta_{i2} SMB_t + \beta_{i3} HML_t + E_{it} \tag{5.5}$$

The Fama-French factors are constructed using the six value-weight portfolios formed on size and book-to-market. SMB (Small Minus Big) is the average

return on the three small portfolios minus the average return on the three big portfolios. HML (High Minus Low) is the average return on the two value portfolios minus the average return on the two growth portfolios, and I estimate the excess return on the market similar to the methodology used in the capital asset pricing model.

For each of the Target Firms in the *Treatment Group*, I estimate a monthly alpha, or abnormal return, for a 5-year period prior to date the board seat was granted. In addition, I estimate monthly alphas for a 5-year period (annually) following one day post the board seat grant date. To the extent that Target Firms delist from the sample, I incorporate the financial returns up to the delisting date. Additionally, to the extent Target Firms file for Chapter 11 bankruptcy protection, I incorporate the returns from the firm up to the date of filing for bankruptcy.

For each of the periods, I provide the average alpha for all the firms in this sample. I also indicate the statistical significance of this study's results; however, as is now well known in the financial economics literature, the standard error of the average of the estimated alphas understates the unobserved variability in performance, and the reported t-stats should thus be treated as merely suggestive (Fama, 1998).

5.4.7 Empirical Results

I construct three equally-weighted regressions to examine the long-term market performance of individual Target Firms. The results are reported in Table 5.20. Panel A in Table 5.20 reports the alpha (α) for the *Treatment Group*. The Target Firms report statistically significant, negative alphas ex ante board representation by an activist Hedge Fund. Ex post the board seat grant date, there is a noticeable improvement in stock returns in the event windows after the first year. Notwithstanding the slightly negative alpha in Year One, the Target Firms improved significantly relative to the prior year. These findings are consistent and robust when

using other multi-factor models.

In contrast, *Control Group I* (Target Firms that "Won" Proxy Fight), which are reported in Panel B, generate insignificant negative returns (α) throughout the time series. Consistent with my earlier findings in $BHAR$ and calendar-time portfolio testing, *Control Group II* (Non-hedge Fund Board Representation) report insignificant positive returns (α) ex post the board seat grant date by a Non-Hedge Fund activist. Notwithstanding that *Control Group II* generates greater returns, the Target Firms of the *Treatment Group* experience positive abnormal returns consistent with results of Brav et al. (2008) which substantiates that hedge funds generate long-term value for the Target Firms and its long-term shareholders when they function as a disciplinary mechanism to monitor management via *board representation*.

In summary, the foregoing results of statistically significant findings in $BHAR$ and calendar-time portfolio testing, economically significant (statistically insignificant ex post) individual firm regressions and the evidence in the extant literature suggest that the long term returns are positive for Target Firms of Hedge Fund activists that seek *board representation*, and the positive abnormal returns do not revert up to a five years ex post the board seat grant date. Therefore, the evidence clearly refutes the market over-reaction hypothesis and supports the hypothesis (H3) that Hedge Fund activism creates long-term value for the Target Firms and its long-term shareholders when they function as a disciplinary mechanism to monitor management via *board representation*.

5.4.8 Measuring Cross-Sectional Firm Operating Performance

If Hedge Fund activists create shareholder value by intervening in the Target Firms, one would expect improvements in terms of operating performance, capital

structure and corporate governance after the intervention. This section reviews the evidence with respect to the change in Target Firms post-targeting along various financial measures of corporate policy and performance.

I examine numerous financial metrics and corporate governance attributes for robustness (see Appendix E), including the following measures of firm performance: Revenue growth, Tobin's Q, return on assets (ROA) and return on invested capital (ROIC), which are the most widely used and accepted firm performance proxies. Additionally, because the conventional wisdom and the common narrative is that shareholder activists negatively affect long-term operating performance and decrease capital investment, I measure operating margin (EBIT/Sales) and capital investment policy (CAPEX/Assets). Additionally, I report the industry adjusted differences for all financial metrics of the *Treatment Group* and the *Control Groups* as well as compare the results to similar Matched Firms (firms in the same 4-digit SIC industry).

Following my classification methodology outlined in Section 5, I examine the operating metrics five years ex ante and ex post the activist intervention. The Event Date (t_0) is either the the filing date of the 13D or the announcement of a campaign for All Activist, Hedge Fund and Non-Hedge Fund interventions. The Event Date (t_0) with respect to the *Treatment Group* (Hedge Fund Board Representation) and the *Control Group II* (Non-hedge Fund Board Representation) is the board seat grant date and Event Date (t_0) of *Control Group I* (Target Firms that "Won" Proxy Fight) is announcement date of the proxy fight results.

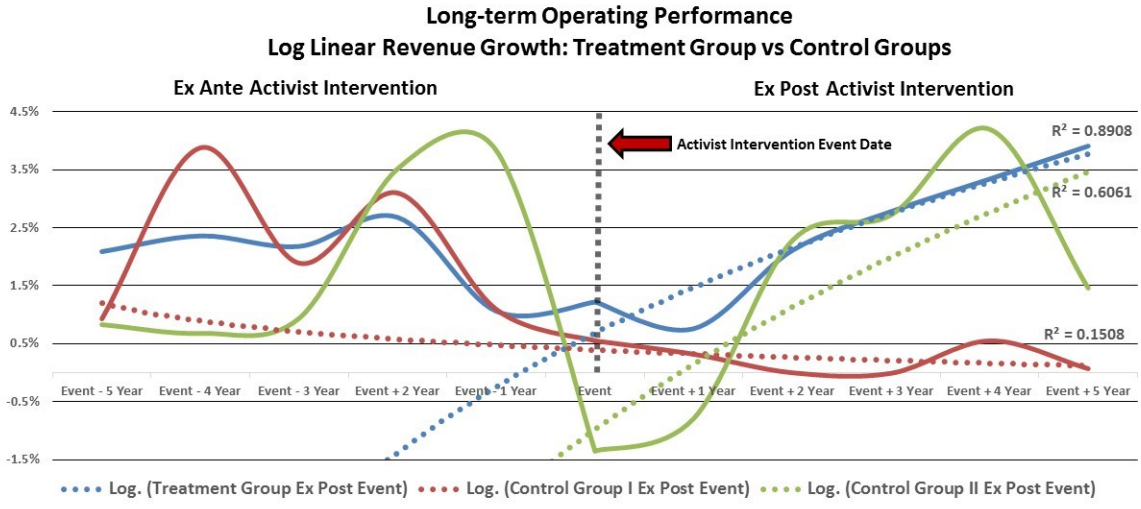
The tables in Appendix E detail the cross-sectional financial performance and governance metrics with respect to all six groups. Since my study is primarily concerned with Hedge Fund Board Representation, in this section I will discuss the long-run operational performance of Target and Matched Firms for the *Treatment Group* and both *Control Groups*. To keep the discussion manageable, I focus on a

few key variables. The results are presented in Tables 5.21, 5.22 and 5.23.

Figure 5.3 illustrates the log linear revenue growth of the *Treatment Group* and both *Control Groups*. Tables 5.21, 5.22 and 5.23 report that all groups experience a significant decrease in revenue ex ante an activist intervention, which is consistent with the under-performance hypothesis of Target Firms. The Target Firms of the *Treatment Group* experience a 4.2% CAGR [Event +1, Event +5] ex post the board seat grant date compared to 3.4% CAGR ex ante the Hedge Fund activist intervention. This improvement compares very favorably relative to both *Control Groups* that report an approximate 2.4% CAGR during the same time series and less than the Target Firms experienced prior to the intervention. The log linear revenue growth trend for the *Treatment Group* yields an R^2 of 89%.

Table E.37 reports the results of revenue growth for the *Treatment Group* Target Firms relative to Match Firms and industry peers. The Target Firms report a negative and statistically significant difference between the means of Match Firms and an industry composite with respect to a sales growth ex ante an intervention.

Figure 5.3: Long-term Operating Performance: Log Linear Revenue Growth



Tobin's Q is named after the Nobel Prize winner James Tobin and is

calculated as the ratio of market value to asset replacement value (Yermack, 1996). The formula for Tobin's Q is as follows:

$$Tobin's\ Q = \frac{Market\ value\ of\ assets}{Replacement\ cost\ of\ assets} \tag{5.6}$$

As an approximation, the market value of assets is computed as market value of equity plus book value of assets minus book value of equity, following Brown and Caylor (2006). The asset replacement value is taken as the book value of assets. A Tobin's Q ratio greater than 1 indicates the good quality of a firm's investment decisions: It has invested in positive NPV investment projects rather than in negative NPV investment projects, and the returns meet or exceed expectations. In contrast, Tobin's Q lower than 1 suggests that the firm did not even earn its returns expected by investors from the investment projects to cover the cost of capital.

Figure 5.4 reports the Q Ratio of the *Treatment Group* and both *Control Groups*. Consistent with the extant literature (Brav et al, 2008), I find that Target Firms' performance for all groups deteriorates prior to an activist intervention. The mean Q Ratio for the *Treatment Group* declines significantly from 2.1 five years prior to the Event date to 1.7 on the date the board seat is granted to a dissident Hedge Fund. The foregoing results were statistically significant at the 1% level. The mean Q Ratio for the *Treatment Group* increased from 1.7 to 2.2 five years ex post the board seat grant date, reflecting a 32.5% increase. During the same period, the Control Group experienced a similar improvement in its Q Ratio.

Figure 5.4: Long-term Operating Performance: Tobin's Q

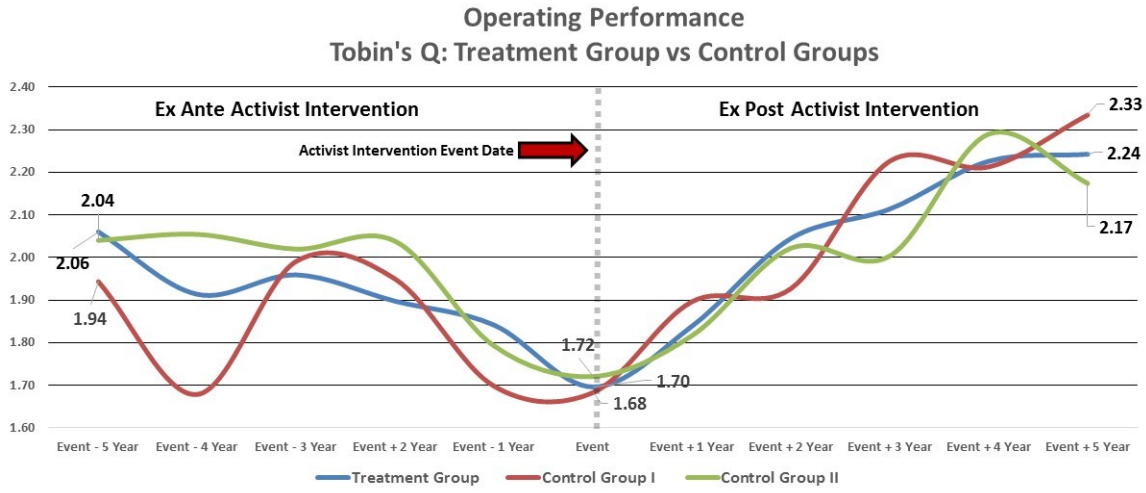


Table E.38 reports the results of the *Treatment Group* Target Firms' Q Ratio vis-à-vis to Match Firms and an industry composite. The Target Firms report a negative and statistically significant difference between means of Match Firms and industry peers prior to an activist intervention. The *Treatment Group* reports a positive and statistically insignificant difference between Target Firms and Match Firms during Year 3 ex post the board seat grant date.

Return on assets is calculated as earnings before interest and taxes (EBIT) multiplied by the reciprocal of the effective rate divided by the average of total assets for the year. Return on assets (ROA) indicates how management's efficiency in using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, ROA is generally displayed as a percentage. Sometimes this figure is referred to as return on investment, an indicator of how a company's profitability:

$$Return\ on\ Assets\ = \frac{(EBIT * (1 - tax\ rate))}{((Total\ Assets(t) + Total\ Assets(t\text{-}1)\ /\ 2)} \tag{5.7}$$

Figure 5.5 reports the ROA of the *Treatment Group* and both *Control*

Groups. I find that Target Firms' performance for the *Treatment Group* declines significantly from 7.1% five years prior to the Event date to 3.3% on the date the board seat is granted to a Hedge Fund dissident. The foregoing results were statistically significant at the 1% level. This is consistent with the findings of Brav et al, (2008). All Target Firms experience a dramatic decline in ROA one year prior to the Event date. Which substantiates a intervention from dissident shareholders. The Target Firms of the *Treatment Group* report a 88% increase in ROA five years ex post the board seat grant date. In contrast, the Target Firms that did not grant a board seat to a dissident shareholder *(Control Group I)*, experienced a 10% decline in ROA during the same time series.

Figure 5.5: Long-term Operating Performance: ROA

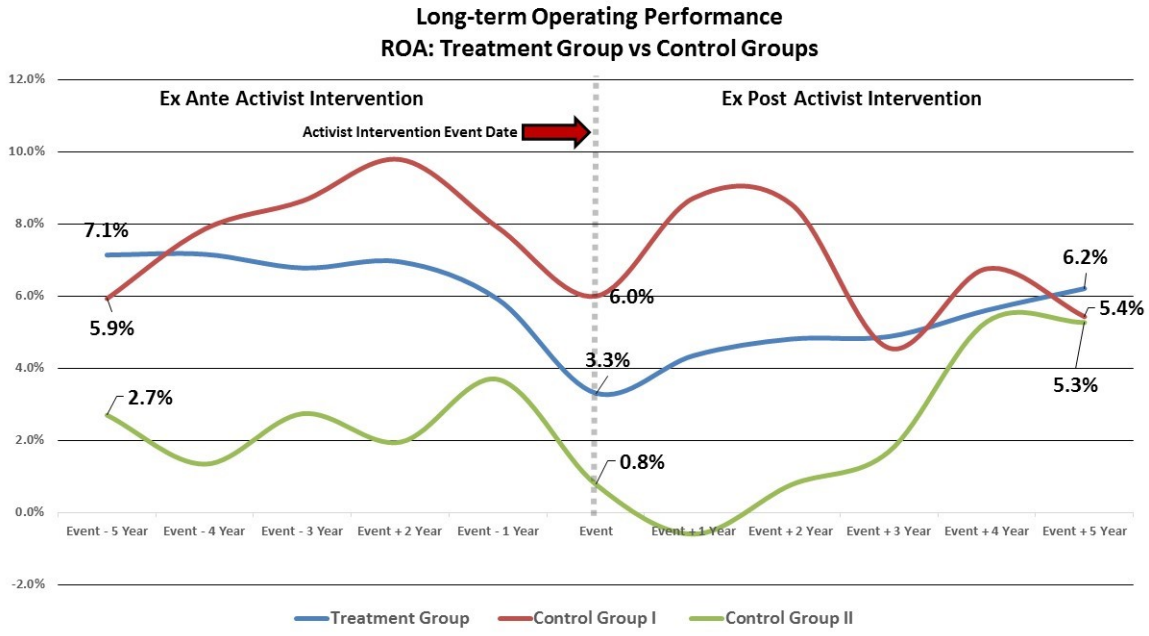


Table E.38 reports the results of ROA for the *Treatment Group* Target Firms vis-à-vis to Match Firms and an industry composite. The Target Firms report a negative and statistically significant difference between means of Match Firms and industry peers prior to an activist intervention. Year 5 ex post the board seat

grant date, the Target Firms of *Treatment Group* report a positive and statistically significant difference between Target Firms and industry peers as well as a positive and statistically insignificant median difference between Target Firms and Match Firms.

Return on invested capital (ROIC) is calculated as earnings before interest and taxes (EBIT) multiplied by the reciprocal of the effective rate divided by the average of total debt and total common equity for the Target Firms. ROIC calculation is used to assess a firm's efficiency at allocating the capital under its control to profitable investments. The return on invested capital measure gives a sense of how well a company is using its available cash to generate returns. The calculation is as follows:

$$ROIC = \frac{(EBIT * (1 - tax\ rate))}{((Debt + Pref. + Common)(t)) + ((Debt + Pref. + Common)(t\text{-}1)) / 2)} \tag{5.8}$$

Tables 5.21, 5.22 and 5.23 report that all groups experience a decline in ROIC one year ex ante the Event date. However, both the *Treatment Group* and *Control Group II* experience a significant deterioration in ROIC from [Event -5] to the Event date. Five years ex post the board seat grant date, the *Treatment Group* report a 100% increase in ROIC during the review period.

Table E.39 reports the results of ROIC for the *Treatment Group* Target Firms relative to Match Firms and industry peers. The Target Firms report a negative and statistically significant difference between means of Match Firms and industry peers prior to an activist intervention. Year 5 ex post the board seat grant date, the Target Firms of *Treatment Group* report a positive and statistically insignificant difference between Target Firms and Matched Firms. However, Target Firms report a negative and statistically significant difference in means relative to its industry peers.

Operating margin is calculated as earnings before interest, taxes, depreciation and amortization divided by total revenue generated by the Target Firms. A ratio is used to measure a company's pricing strategy and operating efficiency. Operating margin is a measurement of what proportion of a company's revenue remains after paying for variable costs of production such as wages, raw materials, and so forth and provides an understanding of how much a company makes (before interest and taxes) on each dollar of sales. The calculation is as follows:

$$Operating\ Margin\ = \frac{EBITDA}{Sales} \tag{5.9}$$

A frequently invoked claim by opponents of hedge fund activism is that activist interventions lead to deteriorating operating performance of the Target Firms ex post the activist event. I test empirically the operating performance of Target Firms of the groups. Figure 5.6 illustrates the median operating margin of the *Treatment Group* and both *Control Groups*. Tables 5.21, 5.22 and 5.23 report the mean operating margin for all Target Firms. I find that all groups experience a dramatic decrease in performance during from [Event -2] to the Event date. which is consistent with the under-performance hypothesis of Target Firms and the extant literature. Additionally, I find that Target Firms' operating performance steadily improves for all groups ex post the Event date.

Figure 5.6: Long-term Operating Performance: Median Operating Margin

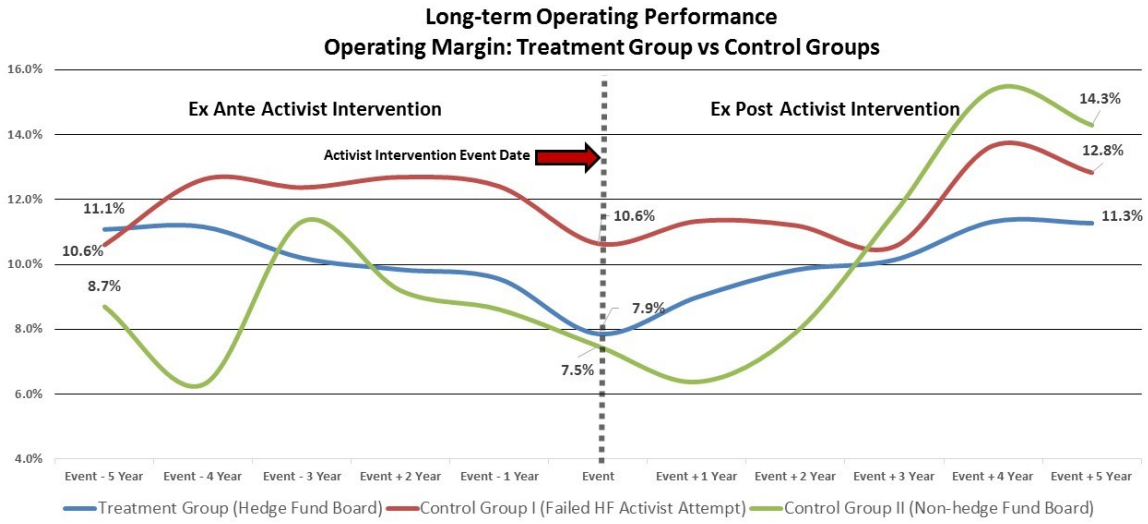


Table E.37 reports the results of operating margin for the *Treatment Group* Target Firms relative to Match Firms and industry peers. The Target Firms report a positve and statistically significant difference between the means of its industry peers five years ex post the board seat grant date, which support Hypothesis 4.

Capital expenditures relative to sales (CAPEX / Assets) is calculated as total capital expenditures divided by the firm's total assets. This metric provides measure of how much the firm is investing for future growth opportunities as well as maintaining existing fixed assets. The calculation is as follows:

$$CAPEX\text{-}to\text{-}Assets \ = \frac{Total \ Capital \ Expenditures}{Total \ Assets} \tag{5.10}$$

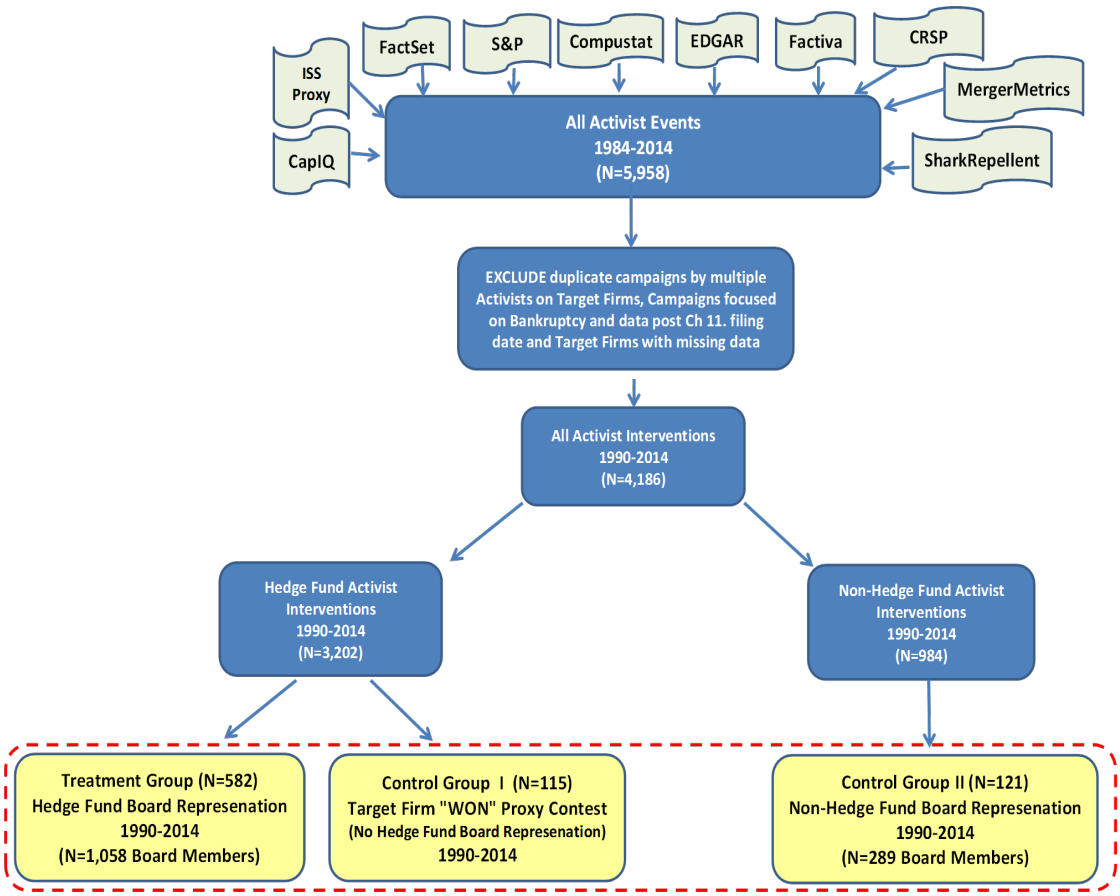
Tables 5.21, 5.22 and 5.23 report the capital investment policy (CAPEX/Assets) of the Target Firms for the *Treatment Group* and for both the *Control Groups*. All groups experience a decline of fixed asset investment leading into the Event. During the treatment period, Target Firms that granted at least one board seat to Hedge Fund activists, increased capital spending to levels consistent with the capital policy of the firms prior to the intervention. A commonly invoked claim by

opponents of hedge fund activism is that activist interventions lead to significant decrease in capital spending. I find no evidence to support that claim. Table E.41 reports the results of fixed asset investment for the *Treatment Group* Target Firms relative to Match Firms and industry peers. The Target Firms report a negative and statistically significant difference between the means of its industry peers five and Matched Firms ex ante the board seat grant date. Although, the Target Firms resume a capital spending policy consistent with prior levels ex post the Hedge Fund board seat grant date, although those differences are statistically insignificant.

5.4.9 Conclusion

In summary, I find that Target Firms significantly under-perform Matched Firms and a composite of industry peers ex ante a Hedge Fund Activist obtaining at least one board seat. These findings are consistent with previous literature. However, these Target Firms demonstrate a dramatic improvement post intervention, up to five years ex post the board seat grant date. Many of these results are statistically significant. I contrast these findings to both *Control Groups*. The results indicate that Hedge Fund activists that seek *board representation* have been successful in improving operating performance, increasing payouts, enhancing corporate governance and reducing agency costs of Target Firms. More importantly, I find no evidence that there is a reversal in operating performance. Overall, the *Treatment Group* experiences better operating performance five years ex post *board representation* then *Control Group I*.

Figure 5.1: Data Collection Methodology



There is no central database of activist hedge funds. Therefore, I constructed an independent dataset of all activist interventions from 1984-2014 from various sources, including Compustat, Capital IQ, FactSet, ISS Proxy Data, SharkRepellent, and the SEC's EDGAR database. Additionally, my dataset includes Schedule 13D filings, the mandatory federal securities law filings under Section 13(d) of the 1934 Exchange Act that investors must file with the SEC within 10 days of acquiring more than 5% of any class of securities of a publicly traded company if they have an interest in influencing the management of the company. My manually constructed database of shareholder activist events includes 5,958 interventions from 1984-2014. Similar to Gillan and Starks (2007), I define shareholder activist event as a purposeful intervention by "investors who, dissatisfied with some aspect of a company's management or operations, try to bring about change within the company without a change in control". My data collection comprised a multistep procedure. The vast majority of shareholder activism literature is predicated on Schedule 13D filings. However, I started with a much more expansive sample of activist interventions: 5,958 interventions from 1984-2014. In my second step, I narrowed the time frame to 1990-2014. Next, I excluded certain events in which (a) the primary purpose of the filer is to be involved in the bankruptcy reorganization or the financing of a distressed firm; and (b) the target is a closed-end fund or other non-regular corporation. I excluded duplicate campaigns by multiple activists (i.e., the wolf-pack), so the dataset includes information about the Target Firm only once with respect to a specific campaign. If a Target Firm were to file for bankruptcy protection or liquidation during this multistep compilation, I would have included financial information from the Target Firm up to the Chapter 11 or Chapter 7 filing date. More specifically, the bankrupt firm would account for 100% loss as it relates to stock return and portfolio analyses. I winsorized all unbounded variables and financial data at the 1.0% and 99.0% in each tail to adjust for outliers. As discussed in Chapter 4, there are two important econometric issues that need to be addressed: self-selection bias and endogeneity. To address and mitigate those concerns, I created the following six distinct groups:

1. All Activist Interventions (4,186 Target Firms): includes hedge funds, corporations, public pension funds, mutual funds, labor unions, religious groups and individuals that initiated an activist campaign against a Target Firm;
2. Hedge Fund Activists (3,202 Target Firms): only includes hedge funds that initiated an activist campaign against a Target Firm;
3. Non-Hedge Fund Activists (984 Target Firms): includes corporations, public pension funds, mutual funds, labor unions, religious groups and individuals (excludes hedge funds) that initiated an activist campaign against a Target Firm;
4. *Treatment Group*: Board representation by Hedge Fund Activists (582 Target Firms): only includes hedge funds that sought and won *board representation* to actively monitor management of a Target Firm;
5. *Control Group I*: Target Firms that "won" the proxy fight against Hedge Fund Activists (115 Target Firms): this group is the primary Control Group since it's comprised of Target Firms that faced the threat of hedge fund *board representation* but the majority of the shareholders supported the incumbent management team and board. Therefore, this group did not receive active monitoring by a hedge fund activist nor it's collateral effects as a disciplinary mechanism; and
6. *Control Group II*: Board representation by Non-Hedge Fund Activists (121 Target Firms): includes corporations, public pension funds, mutual funds, labor unions, religious groups and individuals (excludes hedge funds) that sought and won *board representation* to actively monitor management of a Target Firm.

Table 5.1: Objectives and Characteristics of Activist Campaigns (1990-2014)

This table reports the objectives and characteristics of shareholder activist campaigns against Target Firms. The table provides a comparison of six groups: 1) All Activist Interventions (which includes hedge funds, corporations, public pension funds, mutual funds, labor unions, religious groups and individuals); 2) Hedge Fund Activists; 3) Non-Hedge Fund Activists; 4) Board representation by Hedge Fund Activists ("Treatment Group"); 5) Board representation by Non-Hedge Fund Activists; and 6) Target Firms that "won" the proxy fight against Hedge Fund Activists: No Board representation by Hedge Fund Activists ("Control Group").

	(1)		(2)		(3)		(4)		(5)		(6)	
	All Activist Interventions		Hedge Fund Activist Interventions		Non-Hedge Fund Activist Interventions		Hedge Fund Board Representation		Non-Hedge Fund Board Representation		Target Firm "Wins" Proxy Fight	
Number of Target Firms	4,186		3,202		984		582		121		115	
13D Filer	3,140	75%	2,721	85%	421	43%	517	89%	93	77%	112	97%
Board Control	272	6%	156	5%	116	12%	87	15%	75	5%	72	63%
Board Representation	857	20%	660	21%	197	20%	332	57%	3	3%	1	1%
Enhance Corporate Governance	134	3%	84	3%	50	5%	10	2%	9	7%	10	9%
Hostile/Unsolicited Acquisition	123	3%	36	1%	87	9%	6	1%	0	0%	5	4%
Maximize Shareholder Value	1,098	26%	925	29%	172	17%	99	17%	0	0%	6	5%
Public Short Position/Bear Raid	25	1%	21	1%	4	0%	3	1%	0	0%	0	0%
Remove Officer(s)	34	1%	21	1%	13	1%	5	1%	1	0%	0	0%
Support Dissident Group in Proxy Fight	49	1%	40	1%	10	1%	2	0%	0	0%	0	0%
Vote Against a Management Proposal	148	4%	91	3%	57	6%	2	0%	0	0%	0	0%
Vote For a Management Proposal	43	1%	29	1%	14	1%	2	0%	0	0%	0	0%
Vote For a Stockholder Proposal	373	9%	165	5%	208	21%	4	1%	0	0%	0	0%
Vote/Activism Against a Merger	224	5%	168	5%	56	6%	3	1%	0	0%	0	0%

Table 5.2: Governance and Corporate Defense Profile of Target Firms (1990-2014)

This table reports the Governance and Corporate Defense Profile of shareholder activist campaigns against Target Firms. The table provides a comparison of six groups: 1) All Activist Interventions (which includes hedge funds, corporations, public pension funds, mutual funds, labor unions, religious groups and individuals); 2) Hedge Fund Activists; 3) Non-Hedge Fund Activists; 4) Board representation by Hedge Fund Activists ("Treatment Group"); Board representation by Non-Hedge Fund Activists; and 6) Target Firms that "won" the proxy fight against Hedge Fund Activists: No Board representation by Hedge Fund Activists ("Control Group").

	All Activist Interventions		Hedge Fund Activist Interventions		Non-Hedge Fund Activist Interventions		Hedge Fund Board Representation		Non-Hedge Fund Board Representation		Target Firm "Wins" Proxy Fight	
Number of Target Firms	4,186		3,202		984		582		121		115	
Board Room Dynamics												
Dissident Board Seats Sought	3,055		1,997		1,058		1,997		1,058		320	
Dissident Board Seats Won	1,347	*43%*	1,058	*53%*	289	*27%*	1,058	*53%*	289	*26%*	0	*0%*
Intervention Resulted in Board Seats for Activist	703	*17%*	582	*18%*	121	*12%*	582	*100%*	121	*100%*	0	*0%*
Target Firm Characteristics												
Classified Board	1,917	*46%*	1,535	*48%*	382	*39%*	257	*44%*	58	*48%*	60	*52%*
Cumulative Voting	185	*4%*	140	*4%*	45	*5%*	38	*7%*	8	*7%*	11	*10%*
Poison Pill In Force $_{(t-2)}$	719	*17%*	562	*18%*	157	*16%*	120	*21%*	32	*27%*	14	*12%*
Poison Pill In Force During Activist Campaign	1,229	*29%*	952	*30%*	277	*28%*	195	*34%*	42	*35%*	34	*30%*
Shareholder Activist Tactics												
13D Filer	3,140	*75%*	2,721	*85%*	421	*43%*	517	*89%*	93	*77%*	112	*97%*
13D Filing (Detailed Item 4)	2,332	*56%*	1,913	*60%*	420	*43%*	484	*83%*	93	*77%*	112	*97%*
13D (No specific disclosure of campaign)	808	*19%*	808	*25%*	1	*0%*	33	*6%*	0	*0%*	0	*0%*
Threaten Proxy Fight	243	*6%*	193	*6%*	49	*5%*	56	*10%*	13	*11%*	0	*0%*
Proxy Fight	960	*23%*	638	*20%*	322	*33%*	277	*48%*	93	*77%*	115	*100%*
Proxy Fight Went the Distance	362	*9%*	214	*7%*	148	*15%*	82	*14%*	41	*34%*	115	*100%*
Publicly Disclosed Letter to Board/Management	1692	*40%*	1,278	*40%*	414	*42%*	285	*49%*	61	*50%*	130	*113%*
Letter to Stockholders	781	*19%*	387	*12%*	394	*40%*	125	*22%*	58	*48%*	168	*146%*
Hostile Offer	133	*3%*	30	*1%*	103	*10%*	6	*1%*	6	*5%*	13	*11%*
Unsolicited Offer	245	*6%*	91	*3%*	154	*16%*	19	*3%*	12	*10%*	17	*15%*
Exempt Solicitation	257	*6%*	72	*2%*	185	*19%*	3	*1%*	0	*0%*	0	*0%*
Call Special Meeting	64	*2%*	39	*1%*	25	*3%*	19	*3%*	4	*3%*	11	*10%*
Lawsuit	214	*5%*	131	*4%*	83	*8%*	34	*6%*	18	*15%*	21	*18%*
Nominate Slate of Directors	901	*22%*	624	*19%*	277	*28%*	295	*51%*	93	*77%*	94	*82%*
Propose Binding Proposal	154	*4%*	74	*2%*	80	*8%*	32	*6%*	14	*12%*	17	*15%*
Propose Precatory Proposal	475	*11%*	291	*9%*	183	*19%*	38	*7%*	9	*7%*	28	*24%*
Remove Director(s)	21	*1%*	13	*0%*	8	*1%*	3	*1%*	0	*0%*	0	*0%*
Remove Officer(s)	13	*0%*	8	*0%*	5	*1%*	0	*0%*	0	*0%*	0	*0%*
Written Consent	54	*1%*	28	*1%*	26	*3%*	13	*2%*	5	*4%*	2	*2%*
Take Action by Written Consent	57	*1%*	29	*1%*	28	*3%*	13	*2%*	7	*6%*	4	*3%*
Tender Offer Launched	80	*2%*	24	*1%*	56	*6%*	3	*1%*	5	*4%*	3	*3%*
Short Slate	270	*6%*	192	*6%*	78	*8%*	92	*16%*	31	*26%*	43	*37%*
Board Control	271	*6%*	156	*5%*	115	*12%*	87	*15%*	34	*28%*	21	*15%*
Vote For a Stockholder Proposal	373	*9%*	164	*5%*	208	*21%*	3	*1%*	0	*0%*	5	*4%*
Vote Against a Management Proposal	372	*9%*	259	*8%*	113	*11%*	5	*1%*	0	*0%*	16	*14%*

Table 5.3: Timing to Sale/Merger: Target Firms vs. Matched Firms

Panel A: All Activist Interventions

Target Firms (N=4,186)				**Matched Firms (N=4,186)**				**CRSP/Compustat Universe (N=1,816,396)**			
Sale/Merger Ex Post Announcement Date				Sale/Merger Ex Post Announcement Date				Sale/Merger Ex Post Announcement Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	559	13%	13%	< Six (6) Months	199	5%	5%	< Six (6) Months	64,870	4%	4%
6-12 months	248	6%	19%	6-12 months	140	3%	8%	6-12 months	56,859	3%	7%
1-2 Years	**319**	**8%**	**27%**	**1-2 Years**	**237**	**6%**	**14%**	**1-2 Years**	**108,325**	**6%**	**13%**
2-3 Years	176	4%	31%	2-3 Years	193	5%	18%	2-3 Years	96,680	5%	18%
3-5 Years	243	6%	37%	3-5 Years	259	6%	25%	3-5 Years	156,731	9%	27%
> 5 Years	2,641	63%	100%	> 5 Years	3,158	75%	100%	> 5 Years	1,332,931	73%	100%
Total	4,186			Total	4,186			Total	1,816,396		

Panel B: Hedge Fund Activist Interventions

Target Firms (N=3,202)				**Matched Firms (N=3,202)**				**CRSP/Compustat Universe (N=1,817,378)**			
Sale/Merger Ex Post Announcement Date				Sale/Merger Ex Post Announcement Date				Sale/Merger Ex Post Announcement Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	483	15%	15%	< Six (6) Months	167	5%	5%	< Six (6) Months	65,352	4%	4%
6-12 months	191	6%	21%	6-12 months	112	4%	9%	6-12 months	57,050	3%	7%
1-2 Years	**243**	**8%**	**29%**	**1-2 Years**	**182**	**6%**	**14%**	**1-2 Years**	**108,567**	**6%**	**13%**
2-3 Years	143	4%	33%	2-3 Years	155	5%	19%	2-3 Years	96,823	5%	18%
3-5 Years	189	6%	39%	3-5 Years	202	6%	26%	3-5 Years	156,920	9%	27%
> 5 Years	1,953	61%	100%	> 5 Years	2,384	74%	100%	> 5 Years	1,334,886	73%	100%
Total	3,202			Total	3,202			Total	1,817,378		

Panel C: Non-Hedge Fund Activist Interventions

Target Firms (N=984)				**Matched Firms (N=984)**				**CRSP/Compustat Universe (N=1,819,598)**			
Sale/Merger Ex Post Announcement Date				Sale/Merger Ex Post Announcement Date				Sale/Merger Ex Post Announcement Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	77	8%	8%	< Six (6) Months	31	3%	3%	< Six (6) Months	65,352	4%	4%
6-12 months	57	6%	14%	6-12 months	28	3%	6%	6-12 months	57,050	3%	7%
1-2 Years	**77**	**8%**	**21%**	**1-2 Years**	**55**	**6%**	**12%**	**1-2 Years**	**108,567**	**6%**	**13%**
2-3 Years	33	3%	25%	2-3 Years	38	4%	15%	2-3 Years	96,823	5%	18%
3-5 Years	54	5%	30%	3-5 Years	57	6%	21%	3-5 Years	156,920	9%	27%
> 5 Years	686	70%	100%	> 5 Years	775	79%	100%	> 5 Years	1,334,886	73%	100%
Total	984			Total	984			Total	1,819,598		

Panel D: Hedge Fund Board Representation

Target Firms (N=582)				**Matched Firms (N=582)**				**CRSP/Compustat Universe (N=1,820,000)**			
Sale/Merger Ex Post Dissident Seat Date				Sale/Merger Ex Post Dissident Seat Date				Sale/Merger Ex Post Dissident Seat Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	6	1%	1%	< Six (6) Months	17	3%	3%	< Six (6) Months	65,423	4%	4%
6-12 months	31	5%	6%	6-12 months	13	2%	5%	6-12 months	57,076	3%	7%
1-2 Years	**65**	**11%**	**18%**	**1-2 Years**	**26**	**4%**	**10%**	**1-2 Years**	**108,579**	**6%**	**13%**
2-3 Years	32	6%	23%	2-3 Years	20	3%	13%	2-3 Years	96,824	5%	18%
3-5 Years	43	7%	30%	3-5 Years	51	9%	22%	3-5 Years	156,931	9%	27%
> 5 Years	405	70%	100%	> 5 Years	455	78%	100%	> 5 Years	1,335,167	73%	100%
Total	582			Total	582			Total	1,820,000		

Table 5.3: Timing to Sale/Merger: Target Firms vs. Matched Firms

Panel E: Non-Hedge Fund Board Representation

Target Firms (N=121)				**Matched Firms (N=121)**				**CRSP/Compustat Universe (N=1,820,460)**			
Sale/Merger Ex Post Dissident Seat Date				Sale/Merger Ex Post Dissident Seat Date				Sale/Merger Ex Post Dissident Seat Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	6	5%	5%	< Six (6) Months	3	2%	2%	< Six (6) Months	65,423	4%	4%
6-12 months	5	4%	9%	6-12 months	6	5%	7%	6-12 months	57,102	3%	7%
1-2 Years	**14**	**12%**	**21%**	**1-2 Years**	**8**	**7%**	**14%**	**1-2 Years**	**108,630**	**6%**	**13%**
2-3 Years	7	6%	26%	2-3 Years	4	3%	17%	2-3 Years	96,849	5%	18%
3-5 Years	10	8%	35%	3-5 Years	8	7%	24%	3-5 Years	156,964	9%	27%
> 5 Years	79	65%	100%	> 5 Years	92	76%	100%	> 5 Years	1,335,492	73%	100%
Total	121			Total	121			Total	1,820,460		

Panel F: Target Firm "Wins" Proxy Fight: No Hedge Fund Board Representation

Target Firms (N=115)				**Matched Firms (N=115)**				**CRSP/Compustat Universe (N=1,820,486)**			
Sale/Merger Ex Post Target Firm Proxy Fight Win				Sale/Merger Ex Post Target Firm Proxy Fight Win				Sale/Merger Ex Post Target Firm Proxy Fight Win			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	3	3%	3%	< Six (6) Months	3	3%	3%	< Six (6) Months	65,430	4%	4%
6-12 months	4	3%	6%	6-12 months	6	5%	8%	6-12 months	57,104	3%	7%
1-2 Years	**9**	**8%**	**14%**	**1-2 Years**	**7**	**6%**	**14%**	**1-2 Years**	**108,637**	**6%**	**13%**
2-3 Years	6	5%	19%	2-3 Years	7	6%	20%	2-3 Years	96,850	5%	18%
3-5 Years	10	9%	28%	3-5 Years	7	6%	26%	3-5 Years	156,966	9%	27%
> 5 Years	83	72%	100%	> 5 Years	85	74%	100%	> 5 Years	1,335,499	73%	100%
Total	115			Total	115			Total	1,820,486		

Table 5.4: Timing to CEO Change: Target Firms vs. Matched Firms

Panel A: All Activist Interventions

Target Firms (N=4,186)				**Matched Firms (N=4,186)**				**CRSP/Compustat Universe (N=1,816,411)**			
CEO Change Ex Post Announcement Date				CEO Change Ex Post Announcement Date				CEO Change Ex Post Announcement Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	630	15%	15%	< Six (6) Months	152	4%	4%	< Six (6) Months	26,503	1%	1%
6-12 months	285	7%	22%	6-12 months	65	2%	5%	6-12 months	15,909	1%	2%
1-2 Years	**319**	**8%**	**29%**	**1-2 Years**	**111**	**3%**	**8%**	**1-2 Years**	**27,811**	**2%**	**4%**
2-3 Years	186	4%	34%	2-3 Years	83	2%	10%	2-3 Years	23,730	1%	5%
3-5 Years	188	4%	38%	3-5 Years	113	3%	13%	3-5 Years	38,852	2%	7%
> 5 Years	2,548	62%	100%	> 5 Years	3,662	87%	100%	> 5 Years	1,683,606	93%	100%
Total	4,186			Total	4,186			Total	1,816,411		

Panel B: Hedge Fund Activist Interventions

Target Firms (N=3,202)				**Matched Firms (N=3,202)**				**CRSP/Compustat Universe (N=1,817,395)**			
CEO Change Ex Post Announcement Date				CEO Change Ex Post Announcement Date				CEO Change Ex Post Announcement Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	468	15%	15%	< Six (6) Months	105	3%	3%	< Six (6) Months	26,665	1%	1%
6-12 months	199	6%	21%	6-12 months	51	2%	5%	6-12 months	15,995	1%	2%
1-2 Years	**233**	**7%**	**28%**	**1-2 Years**	**82**	**3%**	**7%**	**1-2 Years**	**27,897**	**2%**	**4%**
2-3 Years	140	4%	32%	2-3 Years	59	2%	9%	2-3 Years	23,776	1%	5%
3-5 Years	124	4%	36%	3-5 Years	89	3%	12%	3-5 Years	38,916	2%	7%
> 5 Years	2,038	64%	100%	> 5 Years	2,816	88%	100%	> 5 Years	1,684,146	93%	100%
Total	3,202			Total	3,202			Total	1,817,395		

Table 5.4: Timing to CEO Change: Target Firms vs. Matched Firms

Panel C: Non-Hedge Fund Activist Interventions

Target Firms (N=984)				**Matched Firms (N=984)**				**CRSP/Compustat Universe (N=1,819,617)**			
CEO Change Ex Post Announcement Date				CEO Change Ex Post Announcement Date				CEO Change Ex Post Announcement Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	162	16%	16%	< Six (6) Months	47	5%	5%	< Six (6) Months	26,971	1%	1%
6-12 months	86	9%	25%	6-12 months	14	1%	6%	6-12 months	16,108	1%	2%
1-2 Years	**86**	**9%**	**34%**	**1-2 Years**	**29**	**3%**	**9%**	**1-2 Years**	**28,044**	**2%**	**4%**
2-3 Years	46	5%	39%	2-3 Years	24	2%	12%	2-3 Years	23,870	1%	5%
3-5 Years	64	7%	45%	3-5 Years	24	2%	14%	3-5 Years	38,976	2%	7%
> 5 Years	540	55%	100%	> 5 Years	846	86%	100%	> 5 Years	1,685,648	93%	100%
Total	984			Total	984			Total	1,819,617		

Panel D: Hedge Fund Board Representation

Target Firms (N=582)				**Matched Firms (N=582)**				**CRSP/Compustat Universe (N=1,820,019)**			
CEO Change Ex Post Dissident Seat Date				CEO Change Ex Post Dissident Seat Date				CEO Change Ex Post Dissident Seat Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	128	22%	22%	< Six (6) Months	24	4%	4%	< Six (6) Months	27,005	1%	1%
6-12 months	62	11%	33%	6-12 months	10	2%	6%	6-12 months	16,132	1%	2%
1-2 Years	**66**	**11%**	**44%**	**1-2 Years**	**15**	**3%**	**8%**	**1-2 Years**	**28,064**	**2%**	**4%**
2-3 Years	24	4%	48%	2-3 Years	14	2%	11%	2-3 Years	23,892	1%	5%
3-5 Years	16	3%	51%	3-5 Years	18	3%	14%	3-5 Years	39,024	2%	7%
> 5 Years	286	49%	100%	> 5 Years	501	86%	100%	> 5 Years	1,685,902	93%	100%
Total	582			Total	582			Total	1,820,019		

Panel E: Non-Hedge Fund Board Representation

Target Firms (N=121)				**Matched Firms (N=121)**				**CRSP/Compustat Universe (N=1,820,480)**			
CEO Change Ex Post Dissident Seat Date				CEO Change Ex Post Dissident Seat Date				CEO Change Ex Post Dissident Seat Date			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	32	26%	26%	< Six (6) Months	5	4%	4%	< Six (6) Months	27,101	1%	1%
6-12 months	20	17%	43%	6-12 months	2	2%	6%	6-12 months	16,174	1%	2%
1-2 Years	**20**	**17%**	**60%**	**1-2 Years**	**2**	**2%**	**7%**	**1-2 Years**	**28,110**	**2%**	**4%**
2-3 Years	4	3%	63%	2-3 Years	4	3%	11%	2-3 Years	23,912	1%	5%
3-5 Years	5	4%	67%	3-5 Years	1	1%	12%	3-5 Years	39,035	2%	7%
> 5 Years	40	33%	100%	> 5 Years	107	88%	100%	> 5 Years	1,686,148	93%	100%
Total	121			Total	121			Total	1,820,480		

Panel F: Target Firm "Wins" Proxy Fight: No Hedge Fund Board Representation

Target Firms (N=115)				**Matched Firms (N=115)**				**CRSP/Compustat Universe (N=1,820,486)**			
CEO Change Ex Post Target Firm Proxy Fight Win				CEO Change Ex Post Target Firm Proxy Fight Win				CEO Change Ex Post Target Firm Proxy Fight Win			
Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative	Timeframe	Observations	Percent	Cumulative
< Six (6) Months	12	10%	10%	< Six (6) Months	3	3%	3%	< Six (6) Months	27,104	1%	1%
6-12 months	9	8%	18%	6-12 months	1	1%	3%	6-12 months	16,181	1%	2%
1-2 Years	**11**	**10%**	**28%**	**1-2 Years**	**2**	**2%**	**5%**	**1-2 Years**	**28,114**	**2%**	**4%**
2-3 Years	9	8%	36%	2-3 Years	5	4%	10%	2-3 Years	23,906	1%	5%
3-5 Years	6	5%	41%	3-5 Years	4	3%	13%	3-5 Years	39,024	2%	7%
> 5 Years	68	59%	100%	> 5 Years	100	87%	100%	> 5 Years	1,686,157	93%	100%
Total	115			Total	115			Total	1,820,486		

Table 5.5: Target Firm Characteristics: Comparison of Target Firms to Matched Firms from 1990-2014 (All Activist Interventions)

This table reports the characteristics of Target Firms and comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Log market capitalization and assets are in millions of dollars; Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)); Revenue Growth is defined as the LTM rolling sales; Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); FCF Yield is ((EBITDA - CAPEX) / sales); FCF / Assets is ((EBITDA - CAPEX) / Total Assets); Capex / Assets is capital expenditures to total assets; Cash / Market Cap is total cash to market capitalization; Debt / EBITDA is total debt to EBITDA; Leverage (net) is defined as a net debt to equity; EV / EBITDA$_{(t-3)}$ is ((book value of debt + book value of equity − cash) / LTM EBITDA) three months prior to the event; Institutional Ownership is derived from 13F filings; Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); Operating Margin is (EBITDA/sales); Short Interest Ratio$_{(t-1)}$ is the (short interest position/sales) one month prior to the event; Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable is the firm Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event; Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event; Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S; and Herfindahl-Hirschman Index is the sales in different business segments as reported by Compustat. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

All Activist Interventions (N=4,188)																	
	Target Firms			**Matched Firms**			**Industry Adjusted**			**CRSP/Compustat Universe**			**Differences between Target and Match**		**Differences between Targets and Industry**		**Differences between Targets and Compustat Universe**	
	Mean	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Diff (Mean)**	**Diff (Median)**	**Diff (Mean)**	**Diff (Median)**	**Diff (Mean)**	**Diff (Median)**
Log Market Capitalization	5.8597	5.5727	0.0320	5.8130	5.6632	0.0318	5.8895	5.9073	0.0114	5.3925	5.2711	0.0015	0.0467	-0.0905	-0.0297	-0.3346	-0.467***	0.3016
Log Assets	6.4499	6.2056	0.0364	6.2934	6.1170	0.0365	6.2251	6.1898	0.0169	5.8105	5.7342	0.0018	0.157**	0.0887	0.2248	0.0158	-0.639***	0.4714
Tobin's Q	1.8740	1.3427	0.0321	2.2615	1.5048	0.0395	2.6746	2.0633	0.0308	2.3068	1.4502	0.0021	-0.388***	-0.1622	-0.8006	-0.7207	0.433***	-0.1076
ROA	0.0464	0.0757	0.0034	0.0619	0.0977	0.0039	0.0453	0.0655	0.0018	0.0551	0.0917	0.0002	-0.0156**	-0.0220	0.0010	0.0102	0.00873*	-0.0160
ROE	-0.0707	0.0354	0.0134	-0.0026	0.0771	0.0131	-0.0024	0.0196	0.0056	-0.0292	0.0830	0.0006	-0.0681***	-0.0417	-0.0683	0.0158	0.0415**	-0.0477
ROIC	0.0024	0.0374	0.0035	0.0275	0.0566	0.0036	0.0247	0.0469	0.0017	0.0187	0.0575	0.0002	-0.0252***	-0.0192	-0.0223	-0.0095	0.0163***	-0.0201
Revenue Growth	0.0215	0.0074	0.0043	0.0468	0.0222	0.0045	0.1374	0.0469	0.0044	0.0607	0.0299	0.0002	-0.0254***	-0.0148	-0.1159	-0.0395	0.0393***	-0.0225
Share Repurchase	0.0085	0.0000	0.0004	0.0092	0.0000	0.0004	0.0094	0.0089	0.0001	0.0034	0.0000	0.0000	-0.0007	0.0000	-0.0009	-0.0089	-0.00504***	0.0000
Dividend Yield	1.3804	0.0000	0.0465	1.5905	0.0000	0.0492	1.6270	0.9203	0.0287	1.7963	0.0000	0.0029	-0.210**	0.0000	-0.2466	-0.9203	0.416***	0.0000
FCF Yield	-0.1706	0.0841	0.0367	-0.2954	0.1068	0.0470	-1.6410	0.0541	0.0707	-0.3918	0.0952	0.0026	0.125*	-0.0227	1.4704	0.0300	-0.221***	-0.0111
FCF / Assets	0.0310	0.0620	0.0035	0.0445	0.0825	0.0040	0.0279	0.0509	0.0018	0.0333	0.0802	0.0002	-0.0135*	-0.0205	0.0031	0.0111	0.0023	-0.0182
Capex / Assets	0.0150	0.0072	0.0005	0.0167	0.0079	0.0005	0.0145	0.0121	0.0002	0.0200	0.0097	0.0001	-0.00164*	-0.0008	0.0005	-0.0049	0.00500***	-0.0025
Cash / Market Cap	0.3728	0.1649	0.0128	0.4606	0.1438	0.0197	0.5565	0.3208	0.0104	0.3736	0.1181	0.0008	-0.0878***	0.0211	-0.1837	-0.1559	0.0008	0.0468
Debt / EBITDA	2.7101	1.2948	0.1317	2.1183	0.9564	0.1129	2.0420	1.4496	0.0468	2.2600	1.1113	0.0054	0.592***	0.3384	0.6680	-0.1547	-0.450***	0.1835
Leverage (net)	0.4996	0.1367	0.0374	0.3641	0.0696	0.0347	0.3816	0.1320	0.0176	0.4700	0.1418	0.0016	0.136**	0.0671	0.1180	0.0047	-0.0297	-0.0050
EV / EBITDA $_{(t-3)}$	7.0118	7.1062	0.4360	7.3856	7.3879	0.4639	5.5863	7.1368	0.2201	6.5520	6.9893	0.0219	-0.3740	-0.2818	1.4255	-0.0306	-0.4600	0.1169
Institutional Ownership	57.7225	62.5325	0.5536	50.7602	52.0630	0.6054	49.6548	52.6713	0.2581	43.1376	40.6398	0.0334	6.962***	10.4695	8.0677	9.8612	-14.58***	21.8927
Management/Board Ownership	6.7963	1.8956	0.2548	9.1285	2.6432	0.2987	9.0078	8.8752	0.0774	8.1464	1.8707	0.0197	-2.332***	-0.7476	-2.2115	-6.9796	1.350***	0.0250
Operating Margin	-0.1484	0.1053	0.0340	-0.2751	0.1265	0.0431	-1.3792	0.0613	0.0563	-0.2527	0.1286	0.0020	0.127*	-0.0212	1.2308	0.0440	-0.104*	-0.0233
Short Interest Ratio $_{(t-1)}$	0.0452	0.0216	0.0013	0.0401	0.0179	0.0013	0.0381	0.0389	0.0003	0.0324	0.0102	0.0003	0.00515**	0.0037	0.0071	-0.0173	-0.0128**	0.0114
Classified Board	0.4583	0.0000	0.0077	0.1271	0.0000	0.0052	0.1252	0.1132	0.0013	0.0909	0.0000	0.0002	0.331***	0.0000	0.3331	-0.1132	-0.367***	0.0000
Poison Pill	0.1835	0.0000	0.0060	0.1195	0.0000	0.0050	0.1169	0.1132	0.0012	0.0860	0.0000	0.0002	0.0641***	0.0000	0.0667	-0.1132	-0.0975***	0.0000
Hedge Fund 13D Filer	0.3501	0.0000	0.0074	0.0247	0.0000	0.0024	0.0237	0.0238	0.0002	0.0127	0.0000	0.0001	0.325***	0.0000	0.3264	-0.0238	-0.337***	0.0000
Multiple Segments	0.1747	0.0000	0.0059	0.1490	0.0000	0.0055	0.1433	0.1321	0.0016	0.1188	0.0000	0.0002	0.0257**	0.0000	0.0314	-0.1321	-0.0559***	0.0000
Analyst Sell Recommendation	0.4194	0.0000	0.0076	0.3305	0.0000	0.0073	0.3361	0.3311	0.0021	0.2402	0.0000	0.0003	0.0888***	0.0000	0.0832	-0.3311	-0.179***	0.0000
Miss Earnings Estimate $_{(t-1)}$	0.5139	1.0000	0.0095	0.4147	0.0000	0.0096	0.4221	0.4205	0.0017	0.4245	0.0000	0.0005	0.0992***	1.0000	0.0918	0.5795	-0.0895***	1.0000
Herfindahl-Hirschman Index	0.1057	0.0527	0.0032	0.1059	0.0527	0.0033	0.0788	0.0527	0.0015	0.1095	0.0524	0.0002	-0.0002	0.0000	0.0269	0.0000	0.0039	0.0003

Table 5.6: Target Firm Characteristics: Comparison of Target Firms to Matched Firms from 1990-2014 (Hedge Fund Activism)

This table reports the characteristics of Target Firms and comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Log market capitalization and assets are in millions of dollars; Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)); Revenue Growth is defined as the LTM rolling sales; Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); FCF Yield is ((EBITDA - CAPEX) / sales); FCF / Assets is ((EBITDA - CAPEX) / Total Assets); Capex / Assets is capital expenditures to total assets; Cash / Market Cap is total cash to market capitalization; Debt / EBITDA is total debt to EBITDA; Leverage (net) is defined as a net debt to equity; EV / EBITDA$_{(t-3)}$ is ((book value of debt + book value of equity − cash) / LTM EBITDA) three months prior to the event; Institutional Ownership is derived from 13F filings; Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); Operating Margin is (EBITDA/sales); Short Interest Ratio$_{(t-1)}$ is the (short interest position/sales) one month prior to the event; Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable is the firm Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event; Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event; Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S; and Herfindahl-Hirschman Index is the sales in different business segments as reported by Compustat. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Hedge Fund Activist Interventions (N=3,202)																	
	Target Firms			**Matched Firms**			**Industry Adjusted**			**CRSP/Compustat Universe**			**Differences between Target and Match**		**Differences between Targets and Industry**		**Differences between Targets and Compustat Universe**	
	Mean	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Diff (Mean)**	**Diff (Median)**	**Diff (Mean)**	**Diff (Median)**	**Diff (Mean)**	**Diff (Median)**
Log Market Capitalization	5.701	5.509	0.0325	5.690521	5.599298	0.0347	5.8470	5.8398	0.0129	5.393	5.271	0.0015	0.0101	-0.0900	-0.1464	-0.3305	-0.3076***	0.2380
Log Assets	6.241	6.061	0.0374	6.100151	5.961935	0.0386	6.1494	6.1415	0.0189	5.811	5.735	0.0018	0.1407***	0.0995	0.0915	-0.0800	-0.4296***	0.3267
Tobin's Q	1.853	1.341	0.0366	2.30995	1.558217	0.0457	2.7262	2.1116	0.0353	2.307	1.450	0.0021	-0.4569***	-0.2170	-0.8731	-0.7704	0.4535***	-0.1090
ROA	0.047	0.075	0.0039	0.066923	0.1011	0.0044	0.0441	0.0637	0.0021	0.055	0.092	0.0002	-0.0195***	-0.0256	0.0033	0.0118	0.0076*	-0.0162
ROE	-0.068	0.032	0.0156	0.0121748	0.0751823	0.0154	-0.0001	0.0132	0.0064	-0.029	0.083	0.0006	-0.0801***	-0.0435	-0.0678	0.0185	0.0387**	-0.0513
ROIC	0.001	0.037	0.0041	0.0323052	0.0577982	0.0041	0.0231	0.0451	0.0020	0.019	0.057	0.0002	-0.0317***	-0.0213	-0.0225	-0.0086	0.0181***	-0.0209
Revenue Growth	0.028	0.010	0.0052	0.0494586	0.0233775	0.0052	0.1378	0.0470	0.0050	0.061	0.030	0.0002	-0.0216***	-0.0134	-0.1099	-0.0370	0.0328***	-0.0199
Share Repurchase	0.009	0.000	0.0004	0.0094111	0.0000	0.0004	0.0093	0.0090	0.0001	0.003	0.000	0.0000	-0.0008	0.0000	-0.0007	-0.0090	-0.0052***	0.0000
Dividend Yield	1.341	0.000	0.0538	1.575602	0.0000	0.0582	1.6367	0.8794	0.0337	1.796	0.000	0.0029	-0.2344***	0.0000	-0.2955	-0.8794	0.4549***	0.0000
FCF Yield	-0.164	0.081	0.0420	-0.262676	0.1080367	0.0510	-1.6341	0.0518	0.0799	-0.392	0.095	0.0026	0.0985	-0.0268	1.4699	0.0295	-0.2275***	-0.0139
FCF / Assets	0.032	0.062	0.0039	0.0493588	0.0855161	0.0046	0.0268	0.0499	0.0021	0.033	0.080	0.0002	-0.0174***	-0.0236	0.0052	0.0120	0.0013	-0.0183
Capex / Assets	0.015	0.007	0.0006	0.0166127	0.0081031	0.0006	0.0144	0.0121	0.0002	0.020	0.010	0.0001	-0.0015*	-0.0009	0.0008	-0.0048	0.0049***	-0.0024
Cash / Market Cap	0.341	0.166	0.0131	0.3815825	0.1392368	0.0186	0.5245	0.3165	0.0108	0.374	0.118	0.0008	-0.0409*	0.0263	-0.1838	-0.1509	0.0330*	0.0474
Debt / EBITDA	2.589	1.214	0.1496	1.895625	0.8459824	0.1275	1.9728	1.3844	0.0525	2.261	1.112	0.0054	0.6937***	0.3684	0.6165	-0.1701	-0.3288**	0.1028
Leverage (net)	0.463	0.112	0.0435	0.3278619	0.0368411	0.0409	0.3554	0.0854	0.0202	0.470	0.142	0.0016	0.1354**	0.0754	0.1079	0.0268	0.0067	-0.0296
EV / EBITDA $_{(t-3)}$	7.090	7.119	0.5125	7.48488	7.506643	0.5523	5.3176	7.0020	0.2614	6.552	6.989	0.0219	-0.3947	-0.3878	1.7725	0.1168	-0.5380	0.1295
Institutional Ownership	57.797	62.677	0.6416	50.43235	51.59	0.6975	49.3097	52.6713	0.3014	43.149	40.665	0.0334	7.3650***	11.0865	8.4876	10.0052	-14.6487***	22.0115
Management/Board Ownership	6.710	2.153	0.2934	9.091546	2.56	0.3406	9.0269	8.8862	0.0887	8.145	1.870	0.0197	-2.3815***	-0.4070	-2.3169	-6.7332	1.4351***	0.2830
Operating Margin	-0.154	0.101	0.0402	-0.271304	0.1266587	0.0490	-1.3914	0.0575	0.0639	-0.253	0.129	0.0020	0.1170*	-0.0253	1.2371	0.0439	-0.0983**	-0.0273
Short Interest Ratio $_{(t-1)}$	0.046	0.024	0.0015	0.04092	0.018057	0.0015	0.0377	0.0389	0.0003	0.032	0.010	0.0003	0.0051**	0.0062	0.0083	-0.0146	-0.0136**	0.0141
Classified Board	0.479	0.000	0.0088	0.1219818	0.0000	0.0058	0.1236	0.1118	0.0015	0.091	0.000	0.0002	0.3573***	0.0000	0.3557	-0.1118	-0.3882***	0.0000
Poison Pill	0.185	0.000	0.0069	0.1147695	0.0000	0.0056	0.1158	0.1132	0.0014	0.086	0.000	0.0002	0.0701***	0.0000	0.0690	-0.1132	-0.0988***	0.0000
Hedge Fund 13D Filer	0.387	0.000	0.0086	0.0253998	0.0000	0.0028	0.0239	0.0238	0.0002	0.013	0.000	0.0001	0.3617***	0.0000	0.3633	-0.0238	-0.3743***	0.0000
Multiple Segments	0.170	0.000	0.0066	0.1379743	0.0000	0.0061	0.1422	0.1314	0.0018	0.119	0.000	0.0002	0.0316***	0.0000	0.0274	-0.1314	-0.0507***	0.0000
Analyst Sell Recommendation	0.414	0.000	0.0087	0.321731	0.0000	0.0083	0.3262	0.3225	0.0024	0.240	0.000	0.0003	0.0919***	0.0000	0.0875	-0.3225	-0.1733***	0.0000
Miss Earnings Estimate $_{(t-1)}$	0.521	1.000	0.0110	0.421105	0.0000	0.0110	0.4192	0.4147	0.0019	0.425	0.000	0.0005	0.1002***	1.0000	0.1022	0.5853	-0.0968***	1.0000
Herfindahl-Hirschman Index	0.114	0.053	0.0040	0.1147228	0.053092	0.0040	0.0825	0.0530	0.0018	0.110	0.052	0.0002	-0.0003	0.0000	0.0319	0.0001	-0.0049	0.0007

Table 5.7: Target Firm Characteristics: Comparison of Target Firms to Matched Firms from 1990-2014 (Non-Hedge Fund Activism)

This table reports the characteristics of Target Firms and comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Log market capitalization and assets are in millions of dollars; Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)); Revenue Growth is defined as the LTM rolling sales; Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); FCF Yield is ((EBITDA - CAPEX) / sales); FCF / Assets is ((EBITDA - CAPEX) / Total Assets); Capex / Assets is capital expenditures to total assets; Cash / Market Cap is total cash to market capitalization; Debt / EBITDA is total debt to EBITDA; Leverage (net) is defined as a net debt to equity; EV / EBITDA$_{(t-3)}$ is ((book value of debt + book value of equity − cash) / LTM EBITDA) three months prior to the event; Institutional Ownership is derived from 13F filings; Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); Operating Margin is (EBITDA/sales); Short Interest Ratio$_{(t-1)}$ is the (short interest position/sales) one month prior to the event; Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable is the firm Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event; Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event; Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S; and Herfindahl-Hirschman Index is the sales in different business segments as reported by Compustat. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Non-Hedge Fund Activist Interventions (N=984)																	
	Target Firms			**Matched Firms**			**Industry Adjusted**			**CRSP/Compustat Universe**			**Differences between Target and Match**		**Differences between Targets and Industry**		**Differences between Targets and Compustat Universe**	
	Mean	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Mean**	**Median**	**Std. Err.**	**Diff (Mean)**	**Diff (Median)**	**Diff (Mean)**	**Diff (Median)**	**Diff (Mean)**	**Diff (Median)**
Log Market Capitalization	6.3646	6.0463	0.0829	6.2123	6.0198	0.0735	6.0262	6.0486	0.0238	5.3930	5.2715	0.0015	0.1518	0.0265	0.3384	-0.0023	-0.9715***	0.7748
Log Assets	7.0421	6.8504	0.0883	6.8613	6.7252	0.0856	6.4683	6.4398	0.0362	5.8112	5.7349	0.0018	0.1745	0.1252	0.5738	0.4106	-1.2308***	1.1155
Tobins Q	1.9329	1.3488	0.0662	2.0985	1.3889	0.0762	2.5140	1.9381	0.0626	2.3060	1.4500	0.0021	-0.1859*	-0.0401	-0.5811	-0.5893	0.3731***	-0.1012
ROA	0.0421	0.0762	0.0070	0.0471	0.0887	0.0078	0.0493	0.0689	0.0038	0.0551	0.0917	0.0002	-0.0060	-0.0125	-0.0072	0.0073	0.0129*	-0.0155
ROE	-0.0797	0.0489	0.0263	-0.0454	0.0806	0.0249	-0.0092	0.0320	0.0112	-0.0293	0.0829	0.0006	-0.0333	-0.0317	-0.0705	0.0169	0.0504*	-0.0340
ROIC	0.0068	0.0401	0.0069	0.0119	0.0527	0.0074	0.0298	0.0530	0.0035	0.0186	0.0574	0.0002	-0.0067	-0.0126	-0.0230	-0.0129	0.0119	-0.0173
Revenue Growth	0.0031	0.0031	0.0074	0.0433	0.0188	0.0093	0.1360	0.0455	0.0090	0.0607	0.0298	0.0002	-0.0366***	-0.0157	-0.1329	-0.0424	0.0576***	-0.0267
Share Repurchase	0.0080	0.0000	0.0007	0.0087	0.0000	0.0007	0.0094	0.0087	0.0002	0.0035	0.0000	0.0000	-0.0007	0.0000	-0.0014	-0.0087	-0.0045***	0.0000
Dividend Yield	1.4980	0.0000	0.0925	1.5809	0.0500	0.0857	1.5968	0.9822	0.0532	1.7953	0.0000	0.0029	-0.1385	-0.0500	-0.0988	-0.9822	0.2973***	0.0000
FCF Yield	-0.1889	0.0918	0.0746	-0.3943	0.1032	0.1091	-1.6649	0.0605	0.1512	-0.3914	0.0952	0.0026	0.2045	-0.0114	1.4760	0.0313	-0.2025**	-0.0034
FCF / Assets	0.0280	0.0627	0.0071	0.0286	0.0749	0.0083	0.0313	0.0525	0.0037	0.0333	0.0802	0.0002	-0.0017	-0.0122	-0.0033	0.0102	0.0052	-0.0175
Capex / Assets	0.0147	0.0071	0.0008	0.0169	0.0073	0.0011	0.0151	0.0121	0.0004	0.0200	0.0096	0.0001	-0.0022	-0.0002	-0.0004	-0.0050	0.0054**	-0.0025
Cash / Market Cap	0.4647	0.1607	0.0319	0.7051	0.1616	0.0550	0.6601	0.3300	0.0264	0.3735	0.1182	0.0008	-0.2355***	-0.0009	-0.1954	-0.1693	-0.0912***	0.0425
Debt / EBITDA	3.0492	1.4926	0.2743	2.7778	1.3193	0.2386	2.2634	1.5905	0.1021	2.2606	1.1114	0.0054	0.2718	0.1733	0.7858	-0.0979	-0.7886***	0.3812
Leverage (net)	0.6030	0.2186	0.0733	0.4685	0.1956	0.0642	0.4673	0.2712	0.0363	0.4699	0.1417	0.0016	0.1314	0.0230	0.1357	-0.0526	-0.1330*	0.0769
EV / EBITDA $_{(t-3)}$	6.7930	7.0902	0.8211	7.0581	6.9795	0.8612	6.4757	7.2488	0.3897	6.5531	6.9895	0.0219	-0.2653	0.1107	0.3173	-0.1586	-0.2399	0.1007
Institutional Ownership	57.3729	61.4350	1.0973	50.7984	51.9140	1.2218	50.7492	52.6627	0.4921	43.1722	40.7022	0.0334	5.7076***	9.5210	6.6237	8.7723	-14.2006***	20.7328
Management/Board Ownership	7.0306	1.2739	0.5101	9.0475	2.7115	0.6127	8.9726	8.8641	0.1580	8.1422	1.8718	0.0197	-2.2008***	-1.4376	-1.9420	-7.5902	1.1116*	-0.5979
Operating Margin	-0.1330	0.1128	0.0634	-0.2824	0.1237	0.0895	-1.3401	0.0728	0.1189	-0.2525	0.1286	0.0020	0.1508	-0.0109	1.2071	0.0400	-0.1195	-0.0158
Short Interest Ratio $_{(t-1)}$	0.0427	0.0162	0.0028	0.0370	0.0172	0.0022	0.0395	0.0394	0.0005	0.0325	0.0102	0.0003	0.0053	-0.0010	0.0032	-0.0232	-0.0102	0.0060
Classified Board	0.3886	0.0000	0.0156	0.1427	0.0000	0.0112	0.1306	0.1185	0.0027	0.0916	0.0000	0.0002	0.2440***	0.0000	0.2580	-0.1185	-0.2970***	0.0000
Poison Pill	0.1790	0.0000	0.0122	0.1356	0.0000	0.0109	0.1201	0.1160	0.0025	0.0862	0.0000	0.0002	0.0446***	0.0000	0.0589	-0.1160	-0.0928***	0.0000
Hedge Fund 13D Filer	0.2279	0.0000	0.0134	0.0224	0.0000	0.0047	0.0231	0.0238	0.0004	0.0134	0.0000	0.0001	0.2045***	0.0000	0.2048	-0.0238	-0.2145***	0.0000
Multiple Segements	0.1923	0.0000	0.0126	0.1855	0.0000	0.0124	0.1471	0.1349	0.0034	0.1189	0.0000	0.0002	0.0090	0.0000	0.0452	-0.1349	-0.0734***	0.0000
Analyst Sell Recommendation	0.4374	0.0000	0.0158	0.3598	0.0000	0.0153	0.3684	0.3658	0.0041	0.2405	0.0000	0.0003	0.0780***	0.0000	0.0690	-0.3658	-0.1969***	0.0000
Miss Earnings Estimate $_{(t-1)}$	0.4915	0.0000	0.0188	0.3935	0.0000	0.0192	0.4317	0.4315	0.0036	0.4247	0.0000	0.0005	0.0949***	0.0000	0.0598	-0.4315	-0.0668***	0.0000
Herfindahl-Hirschman Index	0.0771	0.0514	0.0043	0.0771	0.0514	0.0043	0.0666	0.0519	0.0022	0.1095	0.0524	0.0002	-0.0001	0.0000	0.0105	-0.0005	0.0325***	-0.0010

Table 5.8: Treatment Group: Comparison of Target Firms to Matched Firms from 1990-2014 (Hedge Fund Board Representation)

This table reports the characteristics of Target Firms and comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Log market capitalization and assets are in millions of dollars; Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)); Revenue Growth is defined as the LTM rolling sales; Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); FCF Yield is ((EBITDA - CAPEX) / sales); FCF / Assets is ((EBITDA - CAPEX) / Total Assets); Capex / Assets is capital expenditures to total assets; Cash / Market Cap is total cash to market capitalization; Debt / EBITDA is total debt to EBITDA; Leverage (net) is defined as a net debt to equity; EV / EBITDA$_{(t-3)}$ is ((book value of debt + book value of equity − cash) / LTM EBITDA) three months prior to the event; Institutional Ownership is derived from 13F filings; Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); Operating Margin is (EBITDA/sales); Short Interest Ratio$_{(t-1)}$ is the (short interest position/sales) one month prior to the event; Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable is the firm Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event; Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event; Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S; and Herfindahl-Hirschman Index is the sales in different business segments as reported by Compustat. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Hedge Fund Board Representation (N=582)

	Target Firms			Matched Firms			Industry Adjusted			CRSP/Compustat Universe			Differences between Target and Match		Differences between Targets and Industry		Differences between Targets and Compustat Universe	
	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)
Log Market Capitalization	5.6397	5.4618	0.0757	5.8722	5.6710	0.0802	5.8813	5.9328	0.0294	5.3935	5.2717	0.0015	-0.2324**	-0.2092	-0.2416	-0.4710	-0.2463***	0.1901
Log Assets	6.1545	6.0006	0.0801	6.1430	5.9617	0.0806	6.1334	6.1441	0.0414	5.8118	5.7353	0.0018	0.0115	0.0389	0.0211	-0.1435	-0.3426***	0.2653
Tobins Q	1.7986	1.2797	0.0921	2.3487	1.6393	0.1026	2.6014	2.0816	0.0752	2.3060	1.4501	0.0021	-0.5501***	-0.3596	-0.8028	-0.8019	0.5074***	-0.1704
ROA	0.0264	0.0607	0.0084	0.0618	0.1038	0.0105	0.0506	0.0714	0.0046	0.0551	0.0917	0.0002	-0.0355***	-0.0431	-0.0242	-0.0107	0.0287***	-0.0310
ROE	-0.1565	0.0083	0.0361	0.0628	0.0762	0.0380	0.0058	0.0095	0.0153	-0.0293	0.0830	0.0006	-0.2193***	-0.0679	-0.1623	-0.0012	0.1272***	-0.0747
ROIC	-0.0246	0.0285	0.0096	0.0211	0.0549	0.0099	0.0287	0.0483	0.0044	0.0186	0.0574	0.0002	-0.0457***	-0.0264	-0.0533	-0.0198	0.0432***	-0.0289
Revenue Growth	0.0244	0.0122	0.0105	0.0489	0.0286	0.0111	0.1257	0.0484	0.0105	0.0607	0.0298	0.0002	-0.0245	-0.0164	-0.1013	-0.0362	0.0363***	-0.0176
Share Repurchase	0.0089	0.0000	0.0010	0.0102	0.0000	0.0010	0.0106	0.0111	0.0003	0.0035	0.0000	0.0000	-0.0013	0.0000	-0.0017	-0.0111	-0.0055***	0.0000
Dividend Yield	0.9452	0.0000	0.0976	1.1066	0.0000	0.1085	1.2963	0.7655	0.0614	1.7955	0.0000	0.0029	-0.1615	0.0000	-0.3511	-0.7655	0.8503***	0.0000
FCF Yield	-0.2534	0.0569	0.1108	-0.4325	0.1005	0.1411	-1.6101	0.0471	0.1827	-0.3913	0.0952	0.0026	0.1791	-0.0436	1.3567	0.0098	-0.1379	-0.0383
FCF / Assets	0.0083	0.0471	0.0085	0.0469	0.0912	0.0105	0.0324	0.0513	0.0045	0.0333	0.0802	0.0002	-0.0386***	-0.0441	-0.0241	-0.0042	0.0250**	-0.0331
Capex / Assets	0.0162	0.0083	0.0012	0.0160	0.0082	0.0013	0.0150	0.0122	0.0005	0.0200	0.0096	0.0001	0.0002	0.0001	0.0012	-0.0039	0.0038	-0.0013
Cash / Market Cap	0.3328	0.1884	0.0208	0.3167	0.1528	0.0302	0.4719	0.3133	0.0214	0.3736	0.1182	0.0008	0.0161	0.0356	-0.1391	-0.1249	0.0408	0.0702
Debt / EBITDA	2.4660	1.2948	0.3045	1.7529	0.7393	0.2379	1.9687	1.4496	0.1162	2.2610	1.1116	0.0054	0.7131*	0.5555	0.4973	-0.1548	-0.2049	0.1832
Leverage (net)	0.4702	0.1163	0.0928	0.1458	-0.0551	0.0851	0.3191	0.0787	0.0444	0.4700	0.1418	0.0016	0.3244**	0.1714	0.1511	0.0376	-0.0001	-0.0255
EV / EBITDA $_{(t-3)}$	5.4046	6.9316	1.1542	8.2180	7.4098	1.1884	6.2492	7.0276	0.5619	6.5537	6.9897	0.0219	-2.8135*	-0.4782	-0.8446	-0.0960	1.1491	-0.0581
Institutional Ownership	63.0020	68.8924	1.3513	55.7960	60.9700	1.4973	52.6322	54.3051	0.5645	43.1737	40.7085	0.0334	7.2060***	7.9224	10.3698	14.5874	-19.8283***	28.1839
Management/Board Ownership	5.8170	2.2157	0.5096	8.8008	3.0145	0.7415	9.8049	9.3918	0.1832	8.1424	1.8706	0.0197	-2.9838***	-0.7988	-3.9879	-7.1761	2.3254***	0.3451
Operating Margin	-0.1632	0.0784	0.0822	-0.4502	0.1126	0.1339	-1.3156	0.0481	0.1433	-0.2525	0.1286	0.0020	0.2870*	-0.0342	1.1524	0.0303	-0.0893	-0.0502
Short Interest Ratio $_{(t-1)}$	0.0545	0.0326	0.0035	0.0454	0.0252	0.0030	0.0399	0.0410	0.0007	0.0325	0.0102	0.0003	0.0091**	0.0074	0.0146	-0.0084	-0.0220*	0.0224
Classified Board	0.4423	0.0000	0.0206	0.1394	0.0000	0.0144	0.1347	0.1245	0.0032	0.0916	0.0000	0.0002	0.3029***	0.0000	0.3076	-0.1245	-0.3507***	0.0000
Poison Pill	0.2341	0.0000	0.0176	0.1497	0.0000	0.0148	0.1277	0.1253	0.0030	0.0862	0.0000	0.0002	0.0843***	0.0000	0.1064	-0.1253	-0.1479***	0.0000
Hedge Fund 13D Filer	0.4045	0.0000	0.0204	0.0310	0.0000	0.0072	0.0266	0.0281	0.0005	0.0134	0.0000	0.0001	0.3735***	0.0000	0.3779	-0.0281	-0.3911***	0.0000
Multiple Segements	0.1756	0.0000	0.0158	0.1308	0.0000	0.0140	0.1493	0.1371	0.0039	0.1189	0.0000	0.0002	0.0448**	0.0000	0.0263	-0.1371	-0.0566***	0.0000
Analyst Sell Recommendation	0.4286	0.0000	0.0205	0.3511	0.0000	0.0198	0.3371	0.3261	0.0051	0.2406	0.0000	0.0003	0.0775***	0.0000	0.0915	-0.3261	-0.1880***	0.0000
Miss Earnings Estimate $_{(t-1)}$	0.5794	1.0000	0.0254	0.4513	0.0000	0.0243	0.4263	0.4253	0.0042	0.4247	0.0000	0.0005	0.1281***	1.0000	0.1531	0.5747	-0.1547***	1.0000
Herfindahl-Hirschman Index	0.0715	0.0528	0.0053	0.0715	0.0528	0.0053	0.0626	0.0529	0.0026	0.1095	0.0524	0.0002	-0.0000	0.0000	0.0089	-0.0001	0.0380***	0.0004

Table 5.9: Control Group II: Comparison of Target Firms to Matched Firms from 1990-2014 (Non-Hedge Fund Board Representation)

This table reports the characteristics of Target Firms and comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Log market capitalization and assets are in millions of dollars; Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)); Revenue Growth is defined as the LTM rolling sales; Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); FCF Yield is ((EBITDA - CAPEX) / sales); FCF / Assets is ((EBITDA - CAPEX) / Total Assets); Capex / Assets is capital expenditures to total assets; Cash / Market Cap is total cash to market capitalization; Debt / EBITDA is total debt to EBITDA; Leverage (net) is defined as a net debt to equity; EV / EBITDA$_{(t-3)}$ is ((book value of debt + book value of equity − cash) / LTM EBITDA) three months prior to the event; Institutional Ownership is derived from 13F filings; Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); Operating Margin is (EBITDA/sales); Short Interest Ratio$_{(t-1)}$ is the (short interest position/sales) one month prior to the event; Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable is the firm Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event; Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event; Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S; and Herfindahl-Hirschman Index is the sales in different business segments as reported by Compustat. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Non-Hedge Fund Activist Board Representation (N=121)

	Target Firms			Matched Firms			Industry Adjusted			CRSP/Compustat Universe			Differences between Target and Match		Differences between Targets and Industry		Differences between Targets and Compustat Universe	
	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)
Log Market Capitalization	4.7272	4.2872	0.1690	4.9653	4.7067	0.1682	5.7226	5.6682	0.0684	5.3936	5.2718	0.0015	-0.2382	-0.4195	-0.9954	-1.3810	0.6664***	-0.9846
Log Assets	5.3669	5.2425	0.1751	5.4197	5.2537	0.1749	6.1870	6.1028	0.1024	5.8120	5.7356	0.0018	-0.0528	-0.0112	-0.8201	-0.8603	0.4451**	-0.4931
Tobin's Q	1.7157	1.1366	0.1605	2.4296	1.2978	0.2879	2.5153	1.9719	0.1668	2.3059	1.4500	0.0021	-0.7139**	-0.1612	-0.7996	-0.8353	0.5902**	-0.3134
ROA	0.0013	0.0205	0.0214	-0.0156	0.0476	0.0283	0.0343	0.0470	0.0110	0.0551	0.0917	0.0002	0.0169	-0.0271	-0.0330	-0.0265	0.0537**	-0.0712
ROE	-0.0659	-0.0022	0.0535	-0.0330	0.0590	0.0827	-0.0428	0.0272	0.0295	-0.0293	0.0829	0.0006	-0.0329	-0.0612	-0.0231	-0.0294	0.0366	-0.0851
ROIC	-0.0363	0.0187	0.0204	-0.0417	0.0333	0.0273	0.0063	0.0370	0.0113	0.0186	0.0574	0.0002	0.0053	-0.0146	-0.0426	-0.0183	0.0549**	-0.0387
Revenue Growth	-0.0589	-0.0135	0.0199	-0.0118	0.0074	0.0299	0.1511	0.0506	0.0269	0.0607	0.0298	0.0002	-0.0471	-0.0209	-0.2100	-0.0641	0.1196***	-0.0433
Share Repurchase	0.0075	0.0000	0.0020	0.0073	0.0000	0.0020	0.0089	0.0084	0.0006	0.0035	0.0000	0.0000	0.0002	0.0000	-0.0014	-0.0084	-0.0040***	0.0000
Dividend Yield	1.0142	0.0000	0.2881	1.0371	0.0000	0.2333	1.3180	0.7488	0.1315	1.7952	0.0000	0.0029	-0.0228	0.0000	-0.3038	-0.7488	0.7809**	0.0000
FCF Yield	-0.1288	0.0342	0.0768	-1.3123	0.0764	0.5249	-2.0931	0.0494	0.4593	-0.3913	0.0952	0.0026	1.1835**	-0.0422	1.9643	-0.0152	-0.2625	-0.0610
FCF / Assets	-0.0025	0.0137	0.0190	-0.0390	0.0314	0.0295	0.0191	0.0364	0.0108	0.0333	0.0802	0.0002	0.0365	-0.0177	-0.0216	-0.0227	0.0358	-0.0665
Capex / Assets	0.0136	0.0065	0.0021	0.0197	0.0063	0.0048	0.0132	0.0116	0.0010	0.0200	0.0096	0.0001	-0.0061	0.0002	0.0004	-0.0051	0.0064	-0.0031
Cash / Market Cap	0.4286	0.1653	0.0954	0.3785	0.1429	0.0842	0.6346	0.3108	0.0733	0.3736	0.1182	0.0008	0.0501	0.0224	-0.2060	-0.1455	-0.0550	0.0471
Debt / EBITDA	2.7524	0.4572	0.8952	1.9167	0.6364	0.6738	2.3308	1.3717	0.2825	2.2611	1.1117	0.0054	0.8358	-0.1792	0.4216	-0.9145	-0.4913	-0.6545
Leverage (net)	0.3463	0.0762	0.1665	0.3077	0.0593	0.1527	0.3998	0.2433	0.0941	0.4700	0.1418	0.0016	0.0386	0.0169	-0.0535	-0.1671	0.1237	-0.0656
EV / EBITDA $_{(t-3)}$	10.3016	6.4295	2.6529	1.6523	4.8680	2.7569	4.5353	7.2488	1.1778	6.5529	6.9897	0.0219	8.6493**	1.5615	5.7663	-0.8193	-3.7487	-0.5602
Institutional Ownership	39.1203	33.4689	3.0797	38.7963	35.3880	3.3033	47.8810	49.9639	1.3212	43.1834	40.7200	0.0334	0.3241	-1.9191	-8.7607	-16.4950	4.0631	-7.2511
Management/Board Ownership	14.9839	9.5583	2.1119	16.9577	10.6476	2.3265	9.9699	9.7492	0.4720	8.1401	1.8702	0.0197	-1.9738	-1.0893	5.0140	-0.1909	-6.8438***	7.6881
Operating Margin	-0.3786	0.0748	0.2238	-0.9830	0.0848	0.4120	-1.7156	0.0525	0.3737	-0.2524	0.1286	0.0020	0.6044	-0.0100	1.3370	0.0223	0.1262	-0.0538
Short Interest Ratio $_{(t-1)}$	0.0288	0.0042	0.0056	0.0267	0.0054	0.0053	0.0352	0.0354	0.0013	0.0325	0.0102	0.0003	0.0022	-0.0012	-0.0064	-0.0312	0.0036	-0.0060
Classified Board	0.4793	0.0000	0.0456	0.0992	0.0000	0.0273	0.1327	0.1272	0.0073	0.0917	0.0000	0.0002	0.3802***	0.0000	0.3466	-0.1272	-0.3876***	0.0000
Poison Pill	0.2562	0.0000	0.0398	0.1074	0.0000	0.0283	0.1311	0.1294	0.0069	0.0862	0.0000	0.0002	0.1488***	0.0000	0.1251	-0.1294	-0.1700***	0.0000
Hedge Fund 13D Filer	0.3554	0.0000	0.0437	0.0165	0.0000	0.0116	0.0240	0.0238	0.0011	0.0135	0.0000	0.0001	0.3388***	0.0000	0.3314	-0.0238	-0.3419***	0.0000
Multiple Segments	0.2314	0.0000	0.0385	0.1570	0.0000	0.0332	0.1485	0.1378	0.0091	0.1189	0.0000	0.0002	0.0744	0.0000	0.0829	-0.1378	-0.1125***	0.0000
Analyst Sell Recommendation	0.3140	0.0000	0.0424	0.3388	0.0000	0.0432	0.3343	0.3231	0.0122	0.2406	0.0000	0.0003	-0.0248	0.0000	-0.0203	-0.3231	-0.0734*	0.0000
Miss Earnings Estimate $_{(t-1)}$	0.5606	1.0000	0.0616	0.4474	0.0000	0.0574	0.4408	0.4501	0.0103	0.4247	0.0000	0.0005	0.1132	1.0000	0.1198	0.5499	-0.1359**	1.0000
Herfindahl-Hirschman Index	0.0686	0.0490	0.0115	0.0686	0.0490	0.0115	0.0613	0.0495	0.0058	0.1095	0.0524	0.0002	0.0000	0.0000	0.0073	-0.0005	0.0409**	-0.0034

Table 5.10: Control Group I: Comparison of Target Firms to Matched Firms from 1990-2014 (Target Firm "Wins" Proxy Fight: No Hedge Fund Board Representation)

This table reports the characteristics of Target Firms and comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and the CRSP/Compustat universe for the fiscal quarter ex ante the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Log market capitalization and assets are in millions of dollars; Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)); Revenue Growth is defined as the LTM rolling sales; Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); FCF Yield is ((EBITDA - CAPEX) / sales); FCF / Assets is ((EBITDA - CAPEX) / Total Assets); Capex / Assets is capital expenditures to total assets; Cash / Market Cap is total cash to market capitalization; Debt / EBITDA is total debt to EBITDA; Leverage (net) is defined as a net debt to equity; EV / EBITDA$_{(t-3)}$ is ((book value of debt + book value of equity − cash) / LTM EBITDA) three months prior to the event; Institutional Ownership is derived from 13F filings; Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); Operating Margin is (EBITDA/sales); Short Interest Ratio$_{(t-1)}$ is the (short interest position/sales) one month prior to the event; Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable is the firm Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event; Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event; Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S; and Herfindahl-Hirschman Index is the sales in different business segments as reported by Compustat. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Target Firm "Wins" Proxy Fight: No Hedge Fund Board Representation (N=115)

	Target Firms			Matched Firms			Industry Adjusted			CRSP/Compustat Universe			Differences between Target and Match		Differences between Targets and Industry		Differences between Targets and Compustat Universe	
	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)
Log Market Capitalization	5.7078	5.4368	0.1416	5.6949	5.3670	0.1337	5.6769	5.5311	0.0503	5.3935	5.2718	0.0015	0.0129	0.0698	0.0309	-0.0943	-0.3143**	0.1650
Log Assets	6.5427	6.4246	0.1668	6.5224	6.4719	0.1643	6.1821	6.2107	0.0849	5.8119	5.7354	0.0018	0.0203	-0.0473	0.3606	0.2139	-0.7308***	0.6892
Tobin's Q	1.7653	1.3106	0.1231	2.0715	1.3216	0.2024	2.4607	1.6636	0.1357	2.3059	1.4500	0.0021	-0.3062	-0.0110	-0.6954	-0.3530	0.5406***	-0.1394
ROA	0.0460	0.0580	0.0150	0.0698	0.0856	0.0161	0.0266	0.0342	0.0086	0.0551	0.0917	0.0002	-0.0238	-0.0276	0.0194	0.0238	0.0090	-0.0337
ROE	-0.0878	0.0531	0.0623	-0.0162	0.0911	0.0561	-0.0704	0.0043	0.0253	-0.0293	0.0829	0.0006	-0.0715	-0.0380	-0.0174	0.0488	0.0584	-0.0298
ROIC	0.0144	0.0417	0.0131	0.0370	0.0591	0.0139	0.0156	0.0424	0.0073	0.0186	0.0574	0.0002	-0.0226	-0.0174	-0.0012	-0.0007	0.0042	-0.0157
Revenue Growth	0.0100	0.0035	0.0133	0.0303	0.0102	0.0182	0.1294	0.0455	0.0197	0.0607	0.0298	0.0002	-0.0203	-0.0067	-0.1194	-0.0420	0.0507**	-0.0263
Share Repurchase	0.0061	0.0000	0.0014	0.0098	0.0000	0.0016	0.0073	0.0046	0.0005	0.0035	0.0000	0.0000	-0.0037*	0.0000	-0.0012	-0.0046	-0.0027***	0.0000
Dividend Yield	2.4514	0.8800	0.3120	2.2218	0.3600	0.2972	2.2687	1.2921	0.1642	1.7950	0.0000	0.0029	0.2297	0.5200	0.1827	-0.4121	-0.6564***	0.8800
FCF Yield	-0.0436	0.0872	0.0717	-0.2531	0.1174	0.2107	-1.2038	0.0717	0.2674	-0.3913	0.0952	0.0026	0.2095	-0.0302	1.1602	0.0155	-0.3477	-0.0080
FCF / Assets	0.0325	0.0665	0.0165	0.0563	0.0823	0.0176	0.0129	0.0353	0.0086	0.0333	0.0802	0.0002	-0.0238	-0.0158	0.0196	0.0312	0.0008	-0.0137
Capex / Assets	0.0146	0.0071	0.0016	0.0161	0.0075	0.0024	0.0127	0.0118	0.0008	0.0200	0.0096	0.0001	-0.0015	-0.0004	0.0019	-0.0047	0.0054	-0.0025
Cash / Market Cap	0.3576	0.1958	0.0417	0.4838	0.1884	0.0736	0.6567	0.3746	0.0526	0.3736	0.1182	0.0008	-0.1262	0.0074	-0.2991	-0.1788	0.0160	0.0776
Debt / EBITDA	3.5478	1.8177	0.7274	2.5882	1.3657	0.6001	2.3603	1.5757	0.2540	2.2610	1.1116	0.0054	0.9595	0.4520	1.1875	0.2420	-1.2868**	0.7061
Leverage (net)	0.9934	0.3824	0.1945	0.7932	0.3829	0.1481	0.6511	0.4190	0.0884	0.4700	0.1417	0.0016	0.2002	-0.0005	0.3423	-0.0366	-0.5235***	0.2407
EV / EBITDA $_{(t-1)}$	7.5737	7.6284	1.6331	7.0819	7.1697	1.4064	4.1344	6.7783	1.0243	6.5531	6.9895	0.0219	0.4918	0.4587	3.4393	0.8501	-1.0206	0.6389
Institutional Ownership	54.0497	54.1729	2.6405	46.5186	40.6830	3.0068	42.3183	46.1480	1.4398	43.1815	40.7163	0.0334	7.5311*	13.4899	11.7314	8.0250	-10.8682***	13.4566
Management/Board Ownership	5.6880	1.4646	1.0441	5.9396	1.3755	1.2021	7.3432	7.1369	0.3810	8.1414	1.8709	0.0197	-0.2516	0.0891	-1.6552	-5.6723	2.4534*	-0.4063
Operating Margin	-0.0215	0.1189	0.0857	-0.2539	0.1478	0.2008	-1.0086	0.0922	0.2166	-0.2525	0.1285	0.0020	0.2324	-0.0289	0.9871	0.0267	-0.2310	-0.0096
Short Interest Ratio $_{(t-1)}$	0.0278	0.0107	0.0035	0.0342	0.0111	0.0051	0.0327	0.0303	0.0013	0.0325	0.0102	0.0003	-0.0064	-0.0004	-0.0049	-0.0196	0.0047	0.0005
Classified Board	0.5333	1.0000	0.0345	0.1381	0.0000	0.0239	0.1037	0.0935	0.0057	0.0917	0.0000	0.0002	0.3952***	1.0000	0.4296	0.9065	-0.4417***	1.0000
Poison Pill	0.1619	0.0000	0.0255	0.1381	0.0000	0.0239	0.1009	0.1043	0.0053	0.0862	0.0000	0.0002	0.0238	0.0000	0.0610	-0.1043	-0.0757***	0.0000
Hedge Fund 13D Filer	0.2190	0.0000	0.0286	0.0286	0.0000	0.0115	0.0186	0.0160	0.0009	0.0135	0.0000	0.0001	0.1905***	0.0000	0.2004	-0.0160	-0.2056***	0.0000
Multiple Segments	0.1524	0.0000	0.0249	0.1190	0.0000	0.0224	0.1195	0.0948	0.0078	0.1189	0.0000	0.0002	0.0333	0.0000	0.0329	-0.0948	-0.0334	0.0000
Analyst Sell Recommendation	0.3619	0.0000	0.0332	0.3238	0.0000	0.0324	0.3068	0.3167	0.0106	0.2406	0.0000	0.0003	0.0381	0.0000	0.0551	-0.3167	-0.1213***	0.0000
Miss Earnings Estimate $_{(t-1)}$	0.4825	0.0000	0.0470	0.4123	0.0000	0.0463	0.4214	0.4205	0.0078	0.4247	0.0000	0.0005	0.0702	0.0000	0.0611	-0.4205	-0.0577	0.0000
Herfindahl-Hirschman Index	0.1672	0.0513	0.0204	0.1672	0.0513	0.0204	0.1077	0.0518	0.0093	0.1095	0.0524	0.0002	0.0000	0.0000	0.0595	-0.0005	-0.0577***	-0.0011

Table 5.11: Vulnerability of Target Firms to Shareholder Activism: Probit Regression

The table provides a comparison of Six Activist Groups: 1) All Activist Interventions (which includes hedge funds, corporations, public pension funds, mutual funds, labor unions, religious groups and individuals); 2) Hedge Fund Activists; 3) Non-Hedge Fund Activists; 4) Board representation by Hedge Fund Activists ("Treatment Group"); Board representation by Non-Hedge Fund Activists; and 6) Target Firms that "won" the proxy fight against Hedge Fund Activists: No Board representation by Hedge Fund Activists ("Control Group"). All potentially unbounded variables are winsorized at the 1% and 99% extremes. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Log market capitalization and assets are in millions of dollars; Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)); Revenue Growth is defined as the LTM rolling sales; Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); FCF Yield is ((EBITDA - CAPEX) / sales); FCF / Assets is ((EBITDA - CAPEX) / Total Assets); Capex / Assets is capital expenditures to total assets; Cash / Market Cap is total cash to market capitalization; Debt / EBITDA is total debt to EBITDA; Leverage (net) is defined as a net debt to equity; EV / EBITDA$_{(t-3)}$ is ((book value of debt + book value of equity − cash) / LTM EBITDA) three months prior to the event; Institutional Ownership is derived from 13F filings; Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); Operating Margin is (EBITDA/sales); Short Interest Ratio$_{(t-1)}$ is the (short interest position/sales) one month prior to the event; Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable is the firm Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event; Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event; Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S; and Herfindahl-Hirschman Index is the sales in different business segments as reported by Compustat. t statistics in parentheses. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	(1) All Activism	(2) Hedge Fund Activism	(3) Non-HF Activism	(4) HF Board Representation	(5) Non-HF Board Representation	(6) Target "Wins" Proxy Fight
Revenue Growth	-0.0407	0.162	-0.525**	-0.890*	-95.95	-9.384
Share Repurchase	-11.32*	-7.028	-25.68*	-10.43	-1048.3	2178.8
Dividend Yield	0.00379	-0.0131	0.00170	0.0133	2.433	55.85
FCF Yield	0.0247	0.0335	0.0534	0.105	10.64	-35.92
Cash / Market Cap	-0.414***	-0.402	-0.712***	-0.388	-55.74	445.9
Debt / EBITDA	0.00298	-0.00456	-0.0231	0.0334	8.713	-18.25
EV / EBITDA$_{(t-3)}$	-0.00412**	-0.00610***	-0.00401	-0.00923*	-1.042	17.82
Institutional Ownership	-0.000174	0.00192	-0.00550	0.00915	0.648	0.175
Management/Board Ownership	-0.00262	-0.00234	-0.00401	-0.0202	-0.0181	16.94
Classified Board	0.394***	0.450***	0.381**	0.487*	34.21	108.6
Poison Pill	0.0709	0.211*	-0.209	-0.301	20.46	36.72
Hedge Fund 13D Filer	2.058***	2.304***	1.504***	3.235***	NM	NM
Total Shareholder Return$_{(t-12)}$	0.0296	0.0354	-0.0452	-0.248	-37.94	50.56
ROIC	-2.717***	-3.650***	-1.652	-4.948*	-153.1	4891.0
ROA	0.156	0.0379	0.295	-1.299	-28.19	-2545.7
Log Market Capitalization	-0.245***	-0.217**	-0.487***	-0.117	45.64	-166.9
Log Assets	0.356***	0.299***	0.597***	0.147	-46.99	97.22
Tobin's Q	0.0238	-0.00568	0.137**	-0.0500	-1.874	-35.62
Herfindahl-Hirschman Index	7.774*	10.01*	5.731	13.25	1631.2	14378.4
Short Interest Ratio	-0.968	-2.453**	1.457	0.193	430.4	-1260.2
Multiple Segments	0.126	0.194*	-0.0858	0.306	NM	NM
Analyst Sell Recommendation	0.216***	0.298***	0.0384	0.279	NM	NM
Miss Earnings Estimate$_{(t-1)}$	0.0603	0.0886	0.0903	-0.332	NM	NM
Constant	-1.641***	-1.788***	-1.147*	-1.641	-141.1	-1165.5
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,569	1,146	420	263	37	32
Pseudo R^2	25.3%	32.8%	18.6%	50.2%	NM	NM

Table 5.12: H1: Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms (Logistic Regression Model)

This table reports the Quarterly Corporate Ownership of Target Firms one month ex ante for the Treatment Group and both Control Groups. The *Treatment Group* is all Target Firms that granted at least one board seat to a dissident Hedge Fund, *Control Group I* is defined as Target Firms of all proxy fights campaigns that did not result in *board representation* during the same period and *Control Group II* is comprised of Target Firms that granted at least one board seat to a Non-hedge Fund dissident shareholder during the same time period. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Model I Treatment Group	Model II Treatment Group	Model III Control Group I	Model IV Control Group I	Model V Control Group II	Model VI Control Group II
Corporate "Insider" Ownership $_{(t-1)}$	-0.0176***	-0.0103***	-0.0001	-0.0052	-0.0033	-0.0052
Constant	0.0550	-0.3341	0.0001	0.1007	0.0001	0.1006
Industry Fixed Effects	No	Yes	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes	No	Yes
Observations	625	614	117	114	117	114
Pseudo R^2	1.6%	3.2%	0.2%	9.9%	0.2%	8.9%

Table 5.13: H1: Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms: Robustness Analysis

This table reports the Quarterly Corporate Ownership of Target Firms one month ex ante for the Treatment Group and both Control Groups. The *Treatment Group* is all Target Firms that granted at least one board seat to a dissident Hedge Fund, *Control Group I* is defined as Target Firms of all proxy fights campaigns that did not result in *board representation* during the same period and *Control Group II* is comprised of Target Firms that granted at least one board seat to a Non-hedge Fund dissident shareholder during the same time period. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Model I Treatment Group	Model II Treatment Group	Model III Control Group I	Model IV Control Group I	Model V Control Group II	Model VI Control Group II
Corporate "Insider" Ownership $_{(t-1)}$	-0.0174**	-0.0166**	0.0191	0.0272	-0.00952	0.0290
Revenue Growth	-0.251	-0.380	0.548	0.753	-1.640**	-2.936
Log Market Capitalization	-0.146	-0.251*	0.185	0.473	-0.696	-3.289***
Log Assets	0.113	0.225*	-0.0758	-0.313	0.473	1.014
Tobin's Q	-0.107**	-0.0993**	-0.247	-0.401	0.207	0.887
ROA	-1.922	-2.154	5.943	-7.941	10.52**	35.56*
ROIC	-1.893	-1.938	-13.15	1.987	-14.73**	-60.07*
Total Shareholder Return$_{(t-12)}$	-0.119	-0.140	-0.0621	-0.142	0.168	-0.420
Cash / Market Cap	0.0584	-0.225	-0.716	0.440	0.614	3.683
Debt / EBITDA	0.0184	0.0214	0.0126	0.0202	0.0218	0.0834
Institutional Ownership	0.00526	0.00550	0.00441	0.00703	0.0188	0.154**
Herfindahl-Hirschman Index	1.401	12.20	0.850	40.86	-0.0320	-21.27
Multiple Segments	0.0749	0.179	-0.0235	-0.503	-0.369	-0.349
Classified Board	0.459***	0.574***	0.334	0.0409	1.097**	4.024***
Poison Pill	0.144	0.320*	0.555	0.996	0.758	2.345
Constant	-0.0974	-1.069	-0.380	-4.771	-0.425	0.444
Industry Fixed Effects	No	Yes	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes	No	Yes
Observations	450	448	71	59	76	69
Pseudo R^2	14.3%	19.9%	15.1%	20.3%	23.2%	67.3%

Table 5.14: H2: Short-term Efficacy of Hedge Fund Board Representation (Event Study)

This table reports Cumulative Abnormal Return (CAR) for the 3-day, 5-day, 7-day, 11-day and 21 day windows around the board seat grant date by a hedge fund activist. The resulting time series of daily excess returns is regressed using the Market Model (Refer to 4.3.1.1) and the Fama-French (1993) three-factor Model and augmented by the momentum factor as suggested by Carhart (1997). I assume that Target Firm's returns follow a single factor Market Model,

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt}$$

The Four Factor Model for *abnormal return* or (*prediction error*) for a Target Firm and its match (j^{th}) on day t is as follows:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t)$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares estimates of α_j, β_j, s_j h_j and u_j. where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

Hedge Fund Board Representation																
Target Firms								Matched Firms								
Equally Weighted Index								Equally Weighted Index								
Market Model				Four Factor Model				Market Model				Four Factor Model				
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	
(- 1, 1)	538	1.04%	5.15	(- 1, 1)	538	1.12%	4.45	(- 1, 1)	538	0.38%	2.11	(- 1, 1)	538	0.38%	1.30	
(- 2, 2)	538	1.25%	5.02	(- 2, 2)	538	1.32%	4.05	(- 2, 2)	538	0.54%	1.85	(- 2, 2)	538	0.48%	1.26	
(- 3, 3)	538	1.18%	4.34	(- 3, 3)	538	1.21%	3.14	(- 3, 3)	538	0.68%	1.52	(- 3, 3)	538	0.63%	1.40	
(- 5, 5)	538	1.23%	3.30	(- 5, 5)	538	1.18%	2.44	(- 5, 5)	538	0.43%	1.13	(- 5, 5)	538	0.27%	0.48	
(- 10, 10)	539	1.38%	3.21	(- 10, 10)	539	1.17%	1.76	(- 10, 10)	539	1.01%	1.42	(- 10, 10)	539	0.69%	0.89	
Value Weighted Index								Value Weighted Index								
Market Model				Four Factor Model				Market Model				Four Factor Model				
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	
(- 1, 1)	538	1.06%	5.13	(- 1, 1)	538	1.15%	4.55	(- 1, 1)	538	0.42%	2.15	(- 1, 1)	538	0.42%	1.43	
(- 2, 2)	538	1.29%	5.00	(- 2, 2)	538	1.36%	4.15	(- 2, 2)	538	0.59%	1.87	(- 2, 2)	538	0.52%	1.36	
(- 3, 3)	538	1.27%	4.42	(- 3, 3)	538	1.28%	3.31	(- 3, 3)	538	0.80%	1.65	(- 3, 3)	538	0.71%	1.59	
(- 5, 5)	538	1.40%	3.47	(- 5, 5)	538	1.31%	2.70	(- 5, 5)	538	0.61%	1.24	(- 5, 5)	538	0.39%	0.69	
(- 10, 10)	539	1.66%	3.45	(- 10, 10)	539	1.39%	2.08	(- 10, 10)	539	1.27%	1.52	(- 10, 10)	539	0.94%	1.20	

Table 5.15: H2: Short-term Efficacy of Non-Hedge Fund Board Representation (Event Study)

This table reports Cumulative Abnormal Return (CAR) for the 3-day, 5-day, 7-day, 11-day and 21 day windows around the board seat grant date by a non-hedge fund activist The resulting time series of daily excess returns is regressed using the Market Model (Refer to 4.3.1.1) and the Fama-French (1993) three-factor Model and augmented by the momentum factor as suggested by Carhart (1997). I assume that Target Firm's returns follow a single factor Market Model,

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt}$$

The Four Factor Model for *abnormal return* or (*prediction error*) for a Target Firm and its match (j^{th}) on day t is as follows:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t)$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares estimates of α_j, β_j, s_j h_j and u_j. where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

Non-Hedge Fund Board Representation															
Target Firms								Matched Firms							
Equally Weighted Index								Equally Weighted Index							
Market Model				Four Factor Model				Market Model				Four Factor Model			
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	107	1.23%	2.15	(- 1, 1)	107	1.26%	1.83	(- 1, 1)	107	-0.62%	-0.56	(- 1, 1)	107	-0.63%	-0.96
(- 2, 2)	107	0.42%	1.06	(- 2, 2)	107	0.38%	0.43	(- 2, 2)	107	-1.28%	-0.70	(- 2, 2)	107	-1.30%	-1.54
(- 3, 3)	107	0.73%	0.96	(- 3, 3)	107	0.61%	0.57	(- 3, 3)	107	-0.19%	0.59	(- 3, 3)	107	-0.20%	-0.20
(- 5, 5)	107	0.87%	0.95	(- 5, 5)	107	0.81%	0.61	(- 5, 5)	107	-0.17%	0.26	(- 5, 5)	107	0.17%	0.14
(- 10, 10)	107	1.58%	0.97	(- 10, 10)	107	1.49%	0.81	(- 10, 10)	107	0.15%	0.14	(- 10, 10)	107	0.30%	0.17
Value Weighted Index								Value Weighted Index							
Market Model				Four Factor Model				Market Model				Four Factor Model			
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	107	1.15%	1.91	(- 1, 1)	107	1.23%	1.78	(- 1, 1)	107	-0.67%	-0.74	(- 1, 1)	107	-0.68%	-1.03
(- 2, 2)	107	0.32%	0.80	(- 2, 2)	107	0.32%	0.35	(- 2, 2)	107	-1.32%	-0.84	(- 2, 2)	107	-1.37%	-1.61
(- 3, 3)	107	0.60%	0.64	(- 3, 3)	107	0.49%	0.46	(- 3, 3)	107	-0.25%	0.44	(- 3, 3)	107	-0.36%	-0.35
(- 5, 5)	107	0.65%	0.53	(- 5, 5)	107	0.60%	0.46	(- 5, 5)	107	-0.35%	0.00	(- 5, 5)	107	-0.10%	-0.08
(- 10, 10)	107	1.53%	0.79	(- 10, 10)	107	1.38%	0.75	(- 10, 10)	107	0.19%	0.09	(- 10, 10)	107	0.15%	0.09

Table 5.16: H2: Short-term Efficacy of Target Firms that "Won" Proxy Fight: Failed Attempt at Hedge Board Representation (Event Study)

This table reports Cumulative Abnormal Return (CAR) for the 3-day, 5-day, 7-day, 11-day and 21 day windows around the date of the proxy fight that the hedge fund activist failed to obtain board representation. The resulting time series of daily excess returns is regressed using the Market Model (Refer to 4.3.1.1) and the Fama-French (1993) three-factor Model and augmented by the momentum factor as suggested by Carhart (1997). I assume that Target Firm's returns follow a single factor Market Model,

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt}$$

The Four Factor Model for *abnormal return* or (*prediction error*) for a Target Firm and its match (j^{th}) on day t is as follows:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t)$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares estimates of α_j, β_j, s_j h_j and u_j. where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

Target Firms that "Won" Proxy Fight: Failed Attempt at Hedge Board Representation

Target Firms								Matched Firms							
Equally Weighted Index								Equally Weighted Index							
Market Model				Four Factor Model				Market Model				Four Factor Model			
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	114	-0.78%	-1.69	(- 1, 1)	114	-0.85%	-1.86	(- 1, 1)	111	1.00%	1.68	(- 1, 1)	111	1.07%	2.07
(- 2, 2)	114	-1.26%	-2.07	(- 2, 2)	114	-1.25%	-2.10	(- 2, 2)	111	0.39%	0.71	(- 2, 2)	111	0.50%	0.75
(- 3, 3)	114	-0.69%	-1.39	(- 3, 3)	114	-0.67%	-0.96	(- 3, 3)	111	1.57%	1.16	(- 3, 3)	111	1.67%	2.11
(- 5, 5)	114	-1.02%	-1.45	(- 5, 5)	114	-0.88%	-1.00	(- 5, 5)	111	1.93%	1.46	(- 5, 5)	111	2.04%	2.06
(- 10, 10)	114	-1.21%	-1.17	(- 10, 10)	114	-1.13%	-0.93	(- 10, 10)	111	1.76%	1.04	(- 10, 10)	111	2.00%	1.46
Value Weighted Index								Value Weighted Index							
Market Model				Four Factor Model				Market Model				Four Factor Model			
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	114	-0.66%	-1.37	(- 1, 1)	114	-0.85%	-1.85	(- 1, 1)	111	1.13%	1.65	(- 1, 1)	111	1.08%	2.08
(- 2, 2)	114	-1.08%	-1.77	(- 2, 2)	114	-1.24%	-2.09	(- 2, 2)	111	0.57%	0.72	(- 2, 2)	111	0.52%	0.78
(- 3, 3)	114	-0.56%	-1.33	(- 3, 3)	114	-0.72%	-1.03	(- 3, 3)	111	1.74%	1.09	(- 3, 3)	111	1.64%	2.08
(- 5, 5)	114	-1.02%	-1.77	(- 5, 5)	114	-1.08%	-1.22	(- 5, 5)	111	2.08%	1.25	(- 5, 5)	111	1.93%	1.95
(- 10, 10)	114	-1.09%	-1.48	(- 10, 10)	114	-1.08%	-0.89	(- 10, 10)	111	1.96%	0.79	(- 10, 10)	111	2.04%	1.49

Table 5.17: H3: Calendar-time Portfolio Abnormal Returns: Jensen's Alpha (Hedge Fund Board Representation)

This table report Calendar-time Portfolio Abnormal Returns (Jensen's Alpha) for a 5-year period during Ex Post an activist intervention. In each calendar month over the entire sample period, a portfolio was constructed comprising all firms experiencing the event within the previous month. Because the number of event firms is not uniformly distributed over the sample period, the number of firms included in a portfolio is not constant through time. As a result, some new firms are added each month, and some firms exit each month. Accordingly, the portfolios are rebalanced each month, and an equal or value-weighted portfolio excess return is calculated. The resulting time series of monthly excess returns is regressed on the Fama-French (1993) three-factor Model as follows:

- R_{jt} is the equal or value-weighted return for calendar month t for the portfolio of event firms that experienced the event within previous T years,
- R_{ft} is the risk-free rate,
- R_{Mt} is the return on the CRSP value-weight market portfolio,
- SMB_t, is the difference between the return on the portfolio of "small" stocks and "big" stocks;
- HML_t is the difference between the return a portfolio of "high" and "low" book-to-market stocks;
- α is the average monthly abnormal return on a portfolio of firms over the t-month post-event period,
- β is the beta (the sensitivities) of the event portfolio to the three factors.

I report the long-term abnormal returns associated of Target Firms of Hedge Fund Board Representation (target Firms that granted at least one board seat to hedge fund an activist/dissident shareholder) as well as report regression estimates and level of significance from both equal-weighted and value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add target firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Panel A: Target Firms (Hedge Fund Board Representation)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	495	0.0940***	0.0608***	0.0884***	0.0977***	0.0778***	0.0857***
Event Year +2	495	0.1348***	0.2834***	0.1476***	0.1244***	0.3077***	0.2213***
Event Year +3	495	0.1889***	0.4852***	0.1985***	0.1456***	0.4910***	0.2904***
Event Year +4	495	0.1718***	0.5970***	0.1636***	0.0949***	0.6178***	0.3315**
Event Year +5	495	0.1550***	0.6407***	0.1163***	NM	0.6710***	NM

Panel B: Matched Firms (Hedge Fund Board Representation)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	495	0.0402***	0.0667**	0.0154	0.0418***	0.0785**	0.0131**
Event Year +2	495	0.0286***	0.0797**	0.0049	0.0384***	0.1061**	0.0118
Event Year +3	495	0.021***	0.1176**	-0.0162	0.0291***	0.1435**	-0.0168
Event Year +4	495	0.0177***	0.1344*	-0.0453	0.0117***	0.1418*	-0.0527
Event Year +5	495	0.0352***	0.2066*	-0.0372	0.0176***	0.1921*	-0.0610

Panel C: Differences (Hedge Fund Board Representation)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	495	0.0538	-0.0059	0.0730	0.0559	-0.0007	0.0726
Event Year +2	495	0.1062	0.2037	0.1427	0.0860	0.2016	0.2095
Event Year +3	495	0.1679	0.3676	0.2147	0.1165	0.3475	0.3072
Event Year +4	495	0.1541	0.4626	0.2089	0.0832	0.4760	0.3842
Event Year +5	495	0.1198	0.4341	0.1535	NM	0.4789	NM

Table 5.18: H3: Calendar-time Portfolio Abnormal Returns: Jensen's Alpha (Non-Hedge Fund Board Representation)

This table report Calendar-time Portfolio Abnormal Returns (Jensen's Alpha) for a 5-year period during Ex Post an activist intervention. In each calendar month over the entire sample period, a portfolio was constructed comprising all firms experiencing the event within the previous month. Because the number of event firms is not uniformly distributed over the sample period, the number of firms included in a portfolio is not constant through time. As a result, some new firms are added each month, and some firms exit each month. Accordingly, the portfolios are rebalanced each month, and an equal or value-weighted portfolio excess return is calculated. The resulting time series of monthly excess returns is regressed on the Fama-French (1993) three-factor Model as follows:

- R_{jt} is the equal or value-weighted return for calendar month t for the portfolio of event firms that experienced the event within previous T years,
- R_{ft} is the risk-free rate,
- R_{Mt} is the return on the CRSP value-weight market portfolio,
- SMB_t, is the difference between the return on the portfolio of "small" stocks and "big" stocks;
- HML_t is the difference between the return a portfolio of "high" and "low" book-to-market stocks;
- α is the average monthly abnormal return on a portfolio of firms over the t-month post-event period,
- β is the beta (the sensitivities) of the event portfolio to the three factors.

I report the long-term abnormal returns associated of Target Firms of Non-Hedge Fund Board Representation (target Firms that granted at least one board seat to a non-hedge fund activist/dissident shareholder) as well as report regression estimates and level of significance from both equal-weighted and value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add target firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Panel A: Target Firms (Non-Hedge Fund Board Representation)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	106	0.0775*	0.0534	0.1147	0.0973*	0.0557	0.1251*
Event Year +2	106	0.0928**	0.1155	0.1478	0.1106**	0.1109	0.1506
Event Year +3	108	0.1422***	0.2403**	0.2296*	0.1223***	0.1961	0.1944
Event Year +4	108	0.1802***	0.2966**	0.2691*	0.1374***	0.2173	0.1987
Event Year +5	110	0.2514***	0.4192**	0.4023**	0.1974***	0.3100*	0.3183*

Panel B: Matched Firms (Non-Hedge Fund Board Representations)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	106	-0.08***	-0.0939*	-0.0825	-0.0653***	-0.0843**	-0.0776
Event Year +2	106	-0.1419***	-0.1527*	-0.1325*	-0.1397***	-0.1307*	-0.1527*
Event Year +3	108	-0.1665***	-0.1577*	-0.1754*	-0.1743**	-0.1255*	-0.212*
Event Year +4	108	-0.1452***	-0.1666	-0.1683	-0.1784***	-0.1484*	-0.2336*
Event Year +5	110	-0.107***	-0.1507	-0.1406	-0.1737***	-0.1700	-0.2424

Panel C: Differences (Non-Hedge Fund Board Representation)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	106	0.1575	0.1473	0.1972	0.1626	0.1400	0.2027
Event Year +2	106	0.2347	0.2682	0.2803	0.2503	0.2416	0.3033
Event Year +3	108	0.3087	0.3980	0.4050	0.2966	0.3216	0.4064
Event Year +4	108	0.3254	0.4632	0.4374	0.3158	0.3657	0.4323
Event Year +5	110	0.3584	0.5699	0.5429	0.3711	0.4800	0.5607

Table 5.19: H3: Calendar-time Portfolio Abnormal Returns: Jensen's Alpha (Target Firm that "Won" a Proxy Fight: No Hedge Fund Board Representation)

This table report Calendar-time Portfolio Abnormal Returns (Jensen's Alpha) for a 5-year period during Ex Post an activist intervention. In each calendar month over the entire sample period, a portfolio was constructed comprising all firms experiencing the event within the previous month. Because the number of event firms is not uniformly distributed over the sample period, the number of firms included in a portfolio is not constant through time. As a result, some new firms are added each month, and some firms exit each month. Accordingly, the portfolios are rebalanced each month, and an equal or value-weighted portfolio excess return is calculated. The resulting time series of monthly excess returns is regressed on the Fama-French (1993) three-factor Model as follows:

- R_{jt} is the equal or value-weighted return for calendar month t for the portfolio of event firms that experienced the event within previous T years,
- R_{ft} is the risk-free rate,
- R_{Mt} is the return on the CRSP value-weight market portfolio,
- SMB_t, is the difference between the return on the portfolio of "small" stocks and "big" stocks;
- HML_t is the difference between the return a portfolio of "high" and "low" book-to-market stocks;
- α is the average monthly abnormal return on a portfolio of firms over the t-month post-event period,
- β is the beta (the sensitivities) of the event portfolio to the three factors.

I report the long-term abnormal returns associated of Target Firms that "Won" a Proxy Fight (i.e., no Hedge Fund Board Representation) as well as report regression estimates and level of significance from both equal-weighted and value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add target firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Panel A: Target Firms (Failed Attempt by Hedge Fund Board Representation)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	112	-0.0065	0.0113	-0.0111	0.0435	0.0272	0.0512
Event Year +2	112	-0.0263	0.0013	-0.0640	0.0474	0.0172	0.0394
Event Year +3	112	0.0134**	0.1111	-0.0561	0.1169**	0.1263	0.0922
Event Year +4	112	-0.0423*	0.1004	-0.1476	0.0893**	0.1308	0.0450
Event Year +5	112	-0.0293*	0.0975	-0.1322	0.085**	0.1107	0.0437

Panel B: Matched Firms (Failed Attempt by Hedge Fund Board Representations)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	112	0.1119***	0.0814	0.111***	0.0826***	0.0643	0.0761**
Event Year +2	112	0.1784***	0.1387*	0.1762***	0.1209***	0.1077	0.1081**
Event Year +3	112	0.1635***	0.1277	0.163**	0.0643**	0.0812	0.0393
Event Year +4	112	0.0893**	0.0673	0.0986	-0.0468	-0.0123	-0.0687
Event Year +5	112	0.0813**	0.0698	0.0956	-0.0743	-0.0353	-0.0947

Panel C: Differences (Failed Attempt by Hedge Fund Board Representationss)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	112	-0.1184	-0.0701	-0.1221	-0.0391	-0.0371	-0.0249
Event Year +2	112	-0.2047	-0.1374	-0.2402	-0.0735	-0.0905	-0.0687
Event Year +3	112	-0.1501	-0.0166	-0.2191	0.0526	0.0451	0.0529
Event Year +4	112	-0.1316	0.0331	-0.2462	0.1361	0.1431	0.1137
Event Year +5	112	-0.1106	0.0277	-0.2278	0.1593	0.1460	0.1384

Table 5.20: H3: Long-term Abnormal Returns of Treatment and Control Groups (Individual Firm Regressions)

The table reports statistics on long-term abnormal returns associated with Target firms of all shareholder activist interventions. I report regression estimates and level of significance from value-weighted calendar-time portfolio regressions. The 'portfolio holding period,' indicates the holding period in months relative to the month of the hedge fund intervention. For example, the portfolio with holding period [+1, +12], continually adds target firms that have had an activist event in the preceding month and holds these firms through a year after their respective activism event. I report regression results separately for all Target Firms in Panel A, Matched Firms in Panel B and the differences between Target Firms and Matched Firm α in Panel C. α is the estimate of the regression intercept from the factor model. βp, R_M-R_f is the loading on the market excess return. βp, *SMB* and βp, *HML* are the estimates of portfolio factor loadings on the Fama-French size and book-to-market factors. Adjusted R^2 is derived from the monthly observations. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Panel A: Target Firm Long-term Abnormal Returns of Treatment Group (Fama-French Model)

	Holding Period (in Years)									
	[Event -5]	[Event -4]	[Event -3]	[Event -2]	[Event -1]	[Event +1]	[Event +2]	[Event +3]	[Event +4]	[Event +5]
α	-0.270***	-0.1440*	-0.1908***	-0.1296***	-0.0564*	-0.006	0.0552	0.0828	0.0768	0.084
βp, R_M-R_f	1.0233***	0.9866***	0.9889***	0.9506***	0.9039***	0.9863***	0.9665***	0.9665***	0.9986***	1.0023***
βp, SMB	0.6494***	0.6668***	0.5981***	0.6142***	0.7282***	0.5354***	0.5465***	0.5465***	0.4928***	0.4875***
βp, HML	0.4441***	0.4868***	0.4753***	0.4055***	0.3876***	0.4773***	0.5455***	0.5455***	0.529***	0.5136***
Adjusted R^2	74.34%	73.12%	72.93%	71.34%	59.49%	57.59%	63.14%	63.14%	68.40%	69.45%
F-Test	262.65***	235.90***	222.79***	195.98***	110.14***	96.51***	121.48***	121.48***	153.24***	160.91***

Panel B: Target Firm Long-term Abnormal Returns of Control Group I (Fama-French Model)

	Holding Period (in Years)									
	[Event -5]	[Event -4]	[Event -3]	[Event -2]	[Event -1]	[Event +1]	[Event +2]	[Event +3]	[Event +4]	[Event +5]
α	-0.2520*	-0.1392	-0.2556***	-0.2280***	-0.0048	-0.0300	-0.0768	-0.0252	-0.0240	-0.0360
βp, R_M-R_f	0.9773***	0.923***	1.0092***	0.9638***	0.7258***	1.2693***	1.2671***	1.1957***	1.2172***	1.1947***
βp, SMB	0.6837***	0.6648***	0.4459***	0.264***	0.382***	0.4754***	0.4465***	0.3843***	0.4019***	0.3893***
βp, HML	0.2899***	0.195***	0.248***	0.274***	0.4052***	0.8408***	0.7289***	0.6317***	0.6544***	0.6122***
Adjusted R^2	66.67%	63.16%	55.69%	44.25%	21.49%	40.36%	50.00%	51.70%	55.87%	56.94%
F-Test	150.39***	122.15***	84.78***	51.01***	17.60***	40.70***	59.67***	63.79***	75.29***	78.59***

Panel C: Target Firm Long-term Abnormal Returns of Control Group II (Fama-French Model)

	Holding Period (in Years)									
	[Event -5]	[Event -4]	[Event -3]	[Event -2]	[Event -1]	[Event +1]	[Event +2]	[Event +3]	[Event +4]	[Event +5]
α	-0.042	0.0048	-0.0756	-0.1032	0.1428	0.0852*	0.1224	0.2232*	0.24	0.306
βp, R_M-R_f	0.9255***	0.9174***	0.9139***	0.9053***	1.1254***	0.6955***	0.6484***	0.7163***	0.7397***	0.7436***
βp, SMB	0.4955***	0.5664***	0.5169***	0.4659***	0.0999	0.3198*	0.434***	0.4003***	0.3959***	0.403***
βp, HML	0.324***	0.3624***	0.4247***	0.4537***	0.0683	0.5826***	0.5913***	0.5934***	0.5719***	0.5909***
Adjusted R^2	57.18%	54.85%	58.54%	45.49%	11.08%	19.45%	22.76%	35.26%	37.09%	38.79%
F-Test	57.18%	54.85%	58.54%	45.49%	11.08%	19.45%	22.76%	35.26%	37.09%	38.79%

Table 5.21: H4: Long-term Operating Performance of Treatment Group (Hedge Fund Board Representation)

This table reports the long term operating performance of Target Firms of the Treatment Group five years ex ante and ex post the board seat grant date of the Hedge Fund Activist. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Revenue Growth is defined as the LTM rolling sales; Operating Margin is (EBITDA/sales); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets – Current Liabilities – Cash)); Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); Capex / Assets is capital expenditures to total assets; Cash / Assets is total cash to total assets; Leverage (net) is defined as a net debt to equity; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event and Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Long-term Operating Performance of Treatment Group (in Years)

	Ex Ante Hedge Fund Board Representation						**Ex Post Hedge Fund Board Representation**					△ from Event -5	△ from Event
	Event -5	Event -4	Event -3	Event -2	Event -1	Event	Event +1	Event +2	Event +3	Event +4	Event +5	to Event	to Event +5
Revenue Growth	0.0408	0.0343	0.0341	0.0369	0.0212	0.0187	0.0242	0.0343	0.0519	0.0501	0.0476	-54.2%	154.5%
Operating Margin	0.0337	0.012	0.0365	0.0452	0.0507	0.003	-0.0061	-0.0296	-0.0123	0.0084	0.0139	-91.1%	363.3%
ROA	0.0714	0.0716	0.0678	0.0695	0.0591	0.0331	0.0435	0.0481	0.0488	0.0561	0.0621	-53.6%	87.6%
Tobin's Q	2.0603	1.9138	1.9593	1.8976	1.8417	1.6964	1.8389	2.0446	2.1139	2.226	2.2425	-17.7%	32.2%
ROIC	0.0465	0.0445	0.044	0.045	0.039	0.0285	0.0325	0.0431	0.0455	0.0491	0.0568	-38.7%	99.3%
Capex / Assets	0.0168	0.0156	0.0155	0.0166	0.0172	0.015	0.0149	0.0166	0.0161	0.0166	0.0171	-10.7%	14.0%

Table 5.22: H4: Long-term Operating Performance of Control Group I (Failed Attempt at Hedge Fund Board Representation)

This table reports the long term operating performance of Target Firms of the Control Group I five years ex ante and ex post the board seat grant date of the Hedge Fund Activist. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Revenue Growth is defined as the LTM rolling sales; Operating Margin is (EBITDA/sales); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets – Current Liabilities – Cash)); Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); Capex / Assets is capital expenditures to total assets; Cash / Assets is total cash to total assets; Leverage (net) is defined as a net debt to equity; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event and Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Long-term Operating Performance of Control Group I (in Years)														
	Ex Ante Target Firm Proxy Fight						**Ex Post Target Firm Proxy Fight**						△ from Event -5	△ from Event
	Event -5	Event -4	Event -3	Event -2	Event -1	Event	Event +1	Event +2	Event +3	Event +4	Event +5		to Event	to Event +5
Revenue Growth	0.0280	0.0534	0.0485	0.0364	0.0083	0.0078	0.0037	0.0180	0.0035	0.0454	0.0432		-72.1%	453.8%
Operating Margin	-0.0124	0.0682	0.0805	0.1127	0.0635	0.0358	0.0236	0.0484	-0.0227	0.0436	-0.0273		-388.7%	-176.3%
ROA	0.0593	0.0786	0.0864	0.0979	0.079	0.06	0.0872	0.0855	0.0456	0.0676	0.0543		1.2%	-9.5%
Tobin's Q	1.9436	1.6787	1.991	1.9497	1.6982	1.6833	1.8963	1.9270	2.2261	2.2127	2.3344		-13.4%	38.7%
ROIC	0.0436	0.0494	0.0495	0.0532	0.0508	0.0456	0.0417	0.0487	0.0454	0.0714	0.0451		4.6%	-1.1%
Capex / Assets	0.0158	0.0164	0.0128	0.0128	0.0129	0.0127	0.0122	0.0131	0.0167	0.0146	0.0170		-19.6%	33.9%

Table 5.23: H4: Long-term Operating Performance of Control Group II: Non-Hedge Fund Board Representation

This table reports the long term operating performance of Target Firms of the Control Group II five years ex ante and ex post the board seat grant date of the Hedge Fund Activist. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. All variables are retrieved from the fiscal quarter prior to the event, unless otherwise noted. Revenue Growth is defined as the LTM rolling sales; Operating Margin is (EBITDA/sales); ROA is (EBIT * (1-tax rate)/Book Value of Total Assets); Tobin's Q is defined as (book value of debt + market value of equity)/(book value of debt + book value of equity); ROE is (Net Income / Book Value of Equity); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets – Current Liabilities – Cash)); Share Repurchase is the annualized share repurchase activity; Dividend Yield is defined as (common dividend/Market Cap); Capex / Assets is capital expenditures to total assets; Cash / Assets is total cash to total assets; Leverage (net) is defined as a net debt to equity; Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event; Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event and Miss Earnings Estimate$_{(t-1)}$ is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Long-term Operating Performance of Control Group II (in Years)

	Ex Ante Non-hedge Fund Board Representation						**Ex Post Non-hedge Fund Board Representation**					△ from Event -5	△ from Event
	Event -5	Event -4	Event -3	Event -2	Event -1	Event	Event +1	Event +2	Event +3	Event +4	Event +5	to Event	to Event +5
Revenue Growth	0.0178	0.0287	0.0468	0.0323	0.0222	-0.0437	0.0160	0.0089	0.0256	0.0544	0.0249	-345.5%	NM%
Operating Margin	-0.1959	-0.1732	-0.0184	-0.085	-0.125	-0.1205	-0.2098	-0.1047	-0.1344	0.0494	-0.0138	-38.5%	-88.5%
ROA	0.027	0.0134	0.0274	0.0195	0.0369	0.0078	-0.0060	0.0077	0.0169	0.0529	0.0527	-71.1%	575.6%
Tobin's Q	2.0403	2.0545	2.0199	2.0385	1.7927	1.7208	1.8166	2.0220	2.0035	2.2897	2.1742	-15.7%	26.3%
ROIC	0.0393	0.0333	0.0281	0.0309	0.0335	0.0187	0.0152	0.0243	0.0330	0.055	0.0583	-52.4%	211.8%
Capex / Assets	0.0154	0.0139	0.0132	0.0134	0.0156	0.013	0.0122	0.0133	0.0170	0.0202	0.0173	-15.6%	33.1%

Figure 5.7: Buy and Hold Portfolio Returns: All Activist Intervention

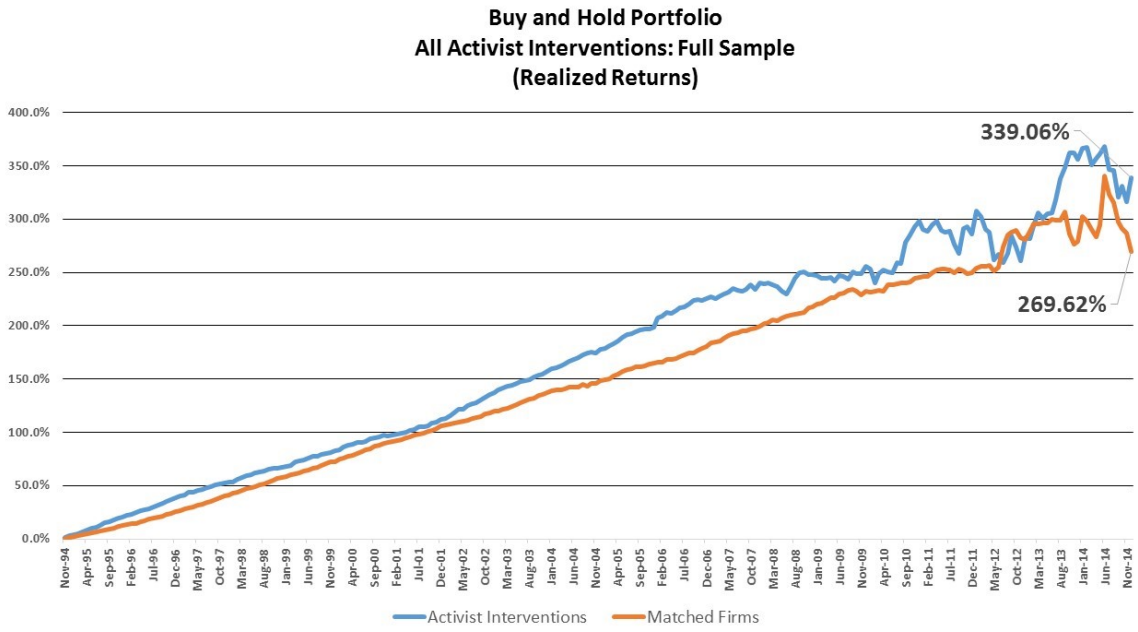


Figure 5.8: Buy and Hold Portfolio Returns: Hedge Fund Activism

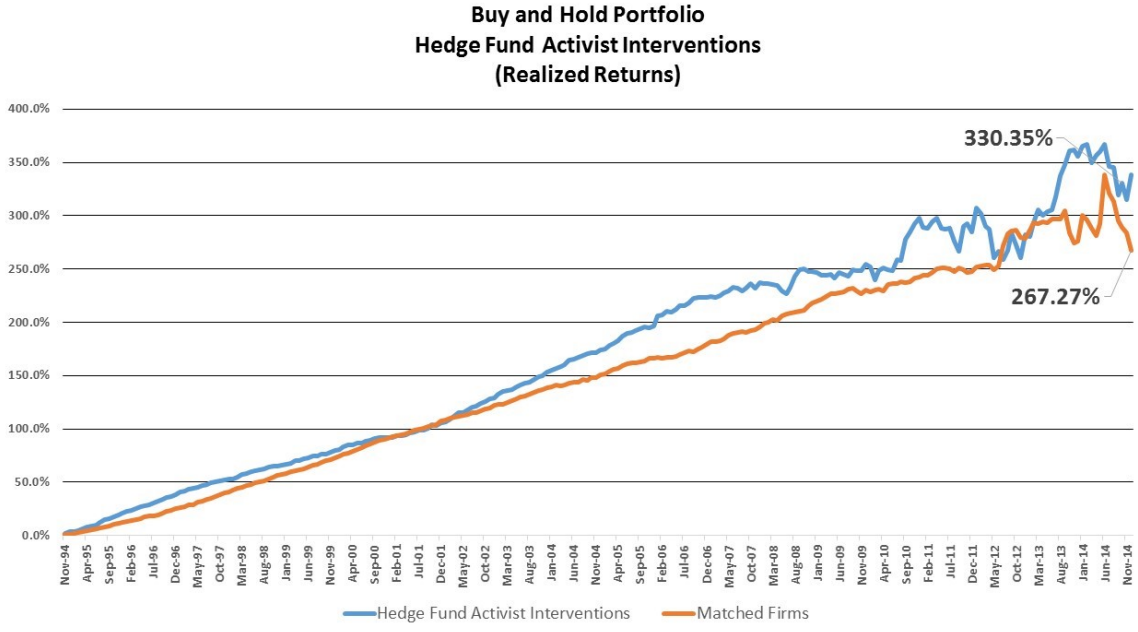


Figure 5.9: Buy and Hold Portfolio Returns: Non-Hedge Fund Activism

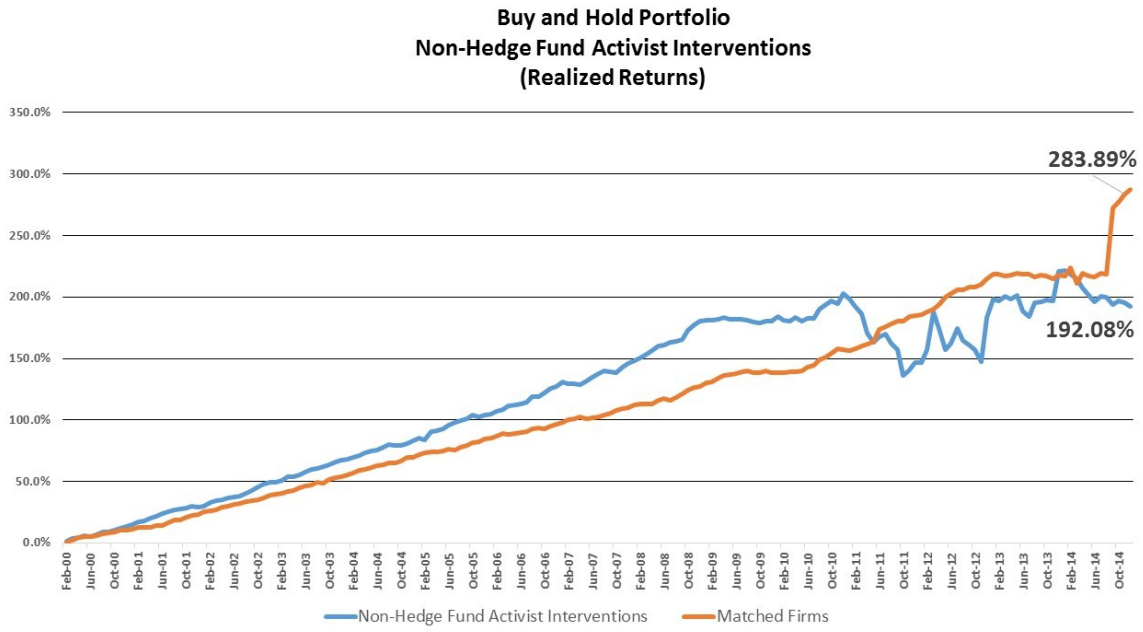


Figure 5.10: Buy and Hold Portfolio Returns: Hedge Fund Board Representation (*Treatment Group*)

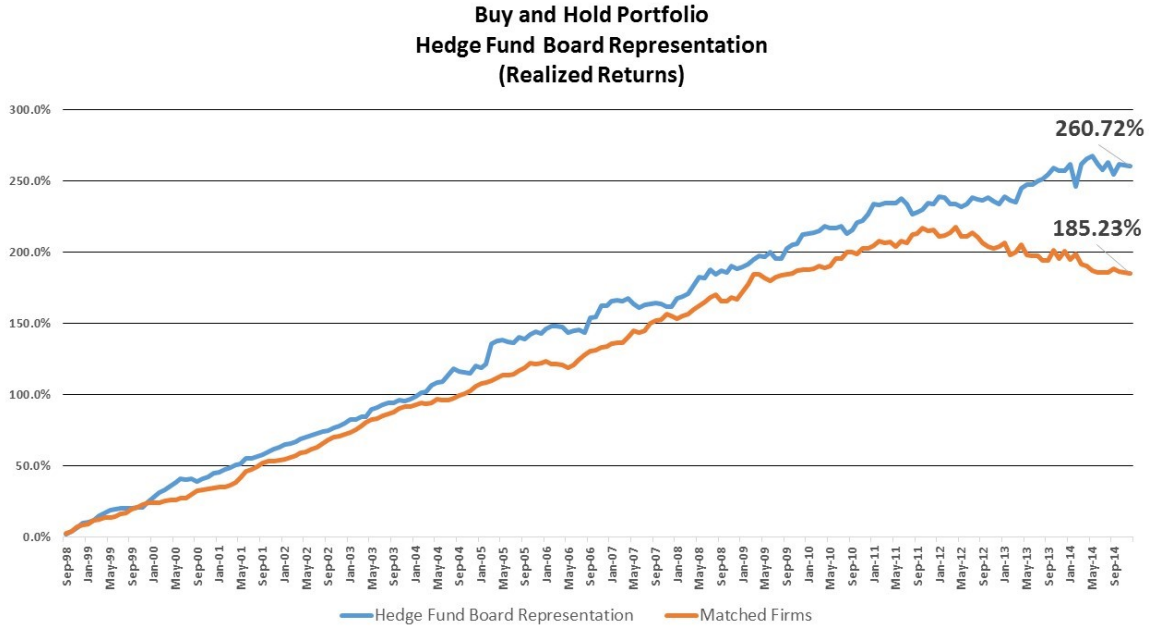


Figure 5.11: Buy and Hold Portfolio Returns: Non-Hedge Fund Board Representation (*Control Group II*)

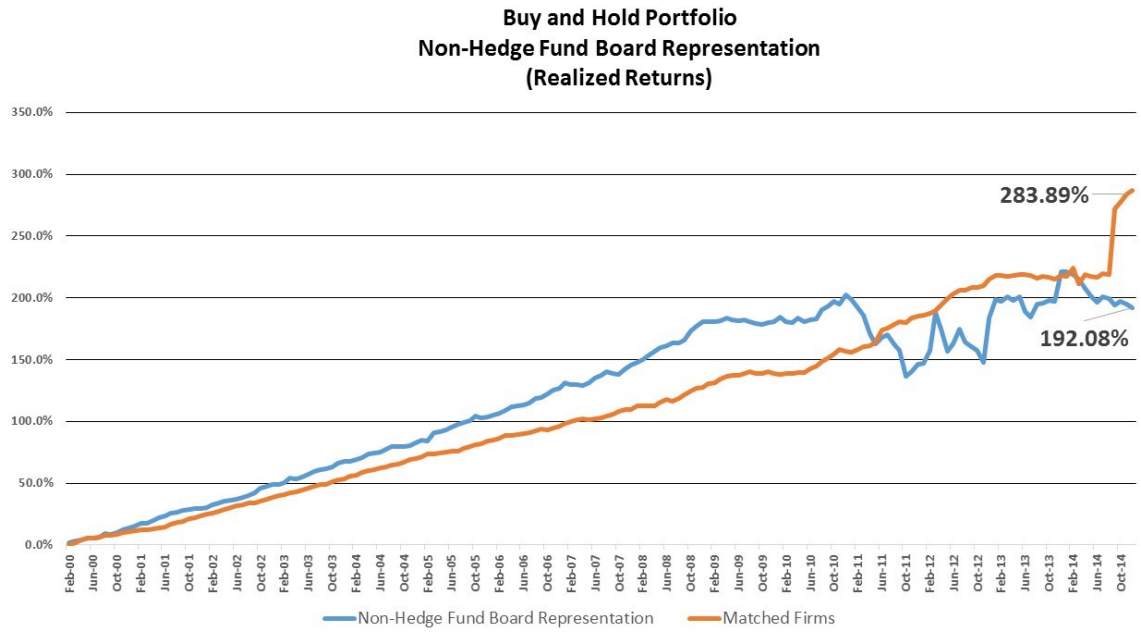
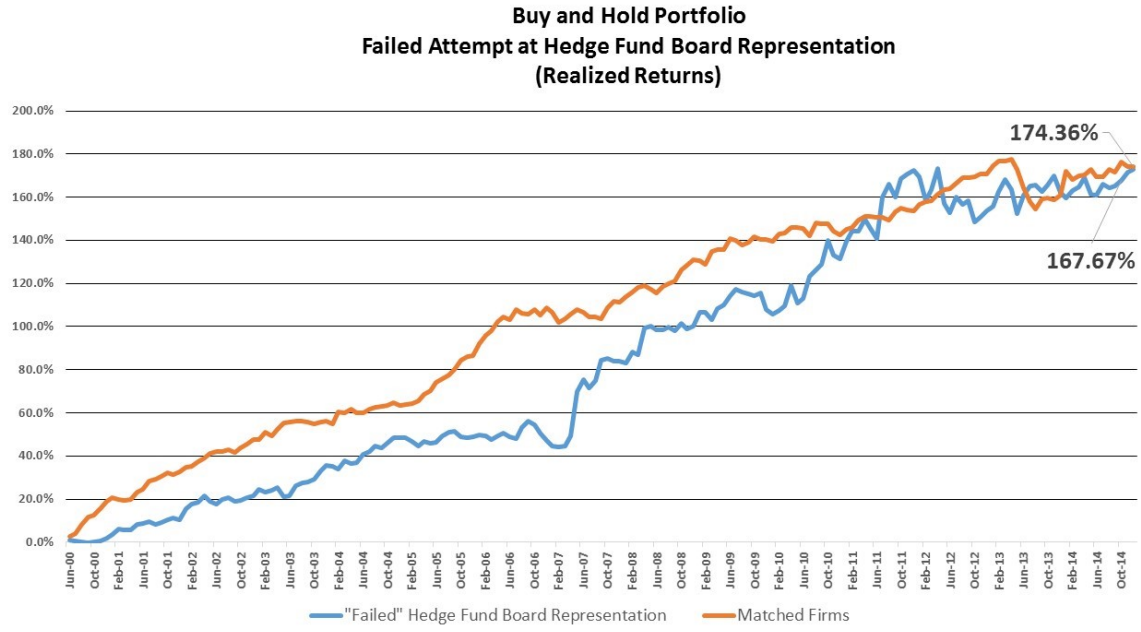


Figure 5.12: Buy and Hold Portfolio Returns: Target Firm "Wins" Proxy Fight: No Hedge Fund Board Representation (*Control Group I*)



Chapter 6

Conclusion

Over the past two decades, Hedge Fund activism has emerged as new form of corporate governance mechanism that brings about operational, financial, and governance reforms to a corporation. Many prominent business executives and legal scholars are convinced that the entire American economy will suffer unless Hedge Fund activism with its perceived short-termism agenda is significantly restricted. Shareholder activists and their proponents claim they function as a disciplinary mechanism to monitor management and are instrumental in mitigating the agency conflict between managers and shareholders.

The vast majority of shareholder activism literature is predicated on Schedule 13D filings. However, I assert that the optimal dataset to test empirically the long-term effects of shareholder activism should be based on *board representation* of Target Firms by a Hedge Fund Activist. My research fills the important void with respect to the shareholder activism initiated by Hedge Funds. My novel approach to inside ownership and short-interest positions as instrumented variables that predict a Target Firm's vulnerability to hedge fund activism contributes to the literature on the determinants of shareholder activism.

My expansive, hand-collected dataset and unique empirical research design

methodology with respect to *board representation* fills an important gap in the literature regarding the long-term efficacy of Hedge Fund Activists serving as a disciplinary mechanism on Target Firms by actively seeking *board representation* to monitor management. Additionally, I am contributing to the literature regarding shareholder activists as self-interested, myopic investors at the expense of the long-term interest of the company and its long-term shareholders. Moreover, my findings have important policy implications related to the ongoing debate on corporate governance and the rights and roles of shareholders. My findings suggest that Hedge Fund Activists generate substantial long-term value for Target Firms and their long-term shareholders when those hedge funds function as a shareholder advocate to monitor management through active board engagement.

Chapter 7

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Chapter 8

Appendices

Appendix A

Literature Review

Table A.1: Literature Overview: Determinants of Shareholder Activism (Ex-ante Activist Intervention)

Authors	Journal	Activism Measure	Period	Firm Size	Firm Performance	CEO Incentives	Board Structure	Ownership	Main Findings
Karpoff, Malatesta, & Walking (1996)	JFE	Governance proposals	1986-1990	X	X	X		X	Firm size, leverage, and number of institutional owners are positively related to shareholder activism, while firm performance is negatively related to activism.
Smith (1996)	JF	CalPERS targets	1987-1993	X	X	X		X	Firm size and institutional ownership are positively related to shareholder activism.
Bizjak & Marquette (1998)	JFQA	Poison pill	1987-1993	X	X	X	X	X	Shareholder activism is positively related to institutional ownership, and negatively to insider and blockholder ownership, as well as to pill adoption- day abnormal returns.
Carleton, Nelson, & Weisbach (1998)	JF	TIAA-CREF proposals	1992-1996		X	X		X	Institutional ownership and ownership by nonactivist institutions are positively related to TIAA-CREF activism, while insider ownership is negatively related.
Faleye (2004)	JF	Proxy contests	1988-2000		X	X		X	Excess cash is positively related to proxy fights, while managerial ownership is negatively related.
Brav, Jiang, Partnoy, & Thomas (2008)	JF	Hedge fund activism	2001-2006	X	X			X	Hedge fund targeting is negatively related to market value, Tobin's Q, and dividends, and positively related to institutional ownership and governance score.
Klein & Zur (2009)	JF	Hedge fund activism	1995-2005		X				Profitability and cash holdings are positively related to hedge fund activism, while debt is negatively related.
Cai & Walkling (2011)	JFQA	Say-on-pay proposals	2006-2008	X	X	X	X	X	Firm size, busy independent directors, independent institutional ownership, and pay-for-performance sensitivity are positively related to activism.
Ertimur, Ferri, & Muslu (2011)	RFS	"Vote no" campaigns, proposals	1997-2007	X	X	X	X	X	CEO pay, firm size, and board independence are positively related to activism, while firm performance and entrenchment index are negatively related to activism.
Edmans, Fang, & Zur (2013)	RFS	Hedge fund activism	2005-2010	X	X				Firm liquidity, Tobin's Q, leverage, and R&D are negatively related to hedge-fund activism.

Table A.2: Literature Overview: Outcomes of Shareholder Activism (Ex-post Intervention)

Authors	Journal	Activism Measure	Period	Market Reaction	Firm Performance	Approval / Adoptions	Governance	Environment	Main Findings
Gordon & Pound (1993)	JF	Governance proposals	1989-1992			X			Shareholder approval varies with the type of activist, proposal, ownership, governance, and performance.
Karpoff, Malatesta, & Walking (1996)	JFE	Governance	1986-1990	X	X		X		Weak negative market reaction on proxy mailing date. Target firms' sales grow slower than peers 1 to 3 years after activism.
Smith (1996)	JF	CalPERS propsals	1987-1993	X		X			Positive market reactions to adoption and for firms that settle with CalPERS; negative for firms that do not.
Strickland, Wiles, & Zenner (1996)	JFE	USA proposals	1986-1993	X		X			Insignificant market reaction, but positive for negotiated settlements. Shareholder approval is negatively related to firm performance and positively related to institutional ownership.
Wahal (1996)	JFQA	Pension fund proposals	1987-1993	X	X	X			Insignificant market reaction and lack of long-term improvement in firm operational and financial performance.
Bizjak & Marquette (1998)	JFQA	Poison pill proposals	1987-1993	X		X			Negative market reaction to proposals to rescind pills; pill revisions associated with increased shareholder wealth. Higher vote in poorly performing firms with more onerous pills.
Carleton, Nelson, & Weisbach	JF	TIAA-CREF propoals	1992-1996	X		X			Insignificant market reaction overall, positive for some proposals. The majority of proposals were negotiated and withdrawn prior to vote. Insider ownership is negatively related to private settlement.
Del Guercio & Hawkins (1999)	JFE	Pension fund proposals	1987-1993	X	X		X	X	Insignificant market reaction and long-term effect. Higher turnover and governance changes for targeted firms. Positively related to subsequent market for corporate control.
Gillan & Starks (2000)	JFE	Governance proposals	1987-1994	X		X			Insignificant market reaction to institutional activism, positive to individual activism. Higher shareholder approval for institutional sponsors and underperforming firms.
Song & Szewczyk (2003)	JFQA	CII focus list	1991-1996	X	X			X	Insignificant differences in returns, mergers, stock repurchases, institutional holdings, and analysts' forecast revisions.
Chen (2004)	JF	Pay proposals, focus lists	1994-1998				X		Compensation proposals or focus-list targeting is not significantly related to repricing-restriction adoption. Focus- list targeting is positively related to abnormal returns on repricing restrictions.
Christoffersen, Geczy, Musto, & Reed (2007)	JF	Governance proposals	1998-1999			X			Governance-related activism is positively related to stock borrowing. Vote trading is positively related to shareholder approval, especially for external (shareholder rights) proposals.
Davis & Kim (2007)	JFE	Governance proposals	2001			X			Mutual funds' business ties with targeted companies have negative impact on their votes for shareholder proposals.

Table A.3: Literature Overview: Outcomes of Shareholder Activism (Ex-post Intervention)

Authors	Journal	Activism Measure	Period	Market Reaction	Firm Performance	Approval / Adoptions	Governance	Firm Practices	Activist	Environment	Main Findings
Brav, Jiang, Partnoy & Thomas (2008)	JF	Hedge-fund activism	2001-2006	X	X				X		Positive market reaction to hedge-fund activism; positive impact on CEO turnover and pay-for-performance. Activists have heterogeneous objectives, and use a variety of tactics.
Del Guercio, Seery, & Woidtke (2008)	JFE	"Vote No" campaigns	1990-2003		X				X		Improved post-campaign performance. "Just vote no" campaigns are positively related to forced CEO turnover.
Becht, Franks, Mayer, & Rossi (2009)	RFS	Hermes UK Focus Fund activism	1998-2004	X	X						Private engagement by the activist fund leads to superior performance of the fund. Insignificant market reaction, but positive effect for restructuring and board changes.
Greenwood & Schor (2009)	JFE	Hedge fund activism	1993-2006	X	X					X	Targeted firms are more likely to be acquired. Positive returns to activism are largely due to subsequent acquisitions. Non-acquired targets reduce capital expenditures and increase leverage.
Klein & Zur (2009)	JF	Hedge fund activism	1995-2005	X	X						Positive market reaction to shareholder activism, particularly when the objective is board representation, buyout, or merger. Positive returns persist over the year, but operational performance declines.
Alexander, Chen, Seppi & Spatt (2010)	RFS	Proxy contests	1992-2005	X		X					Dissident win is positively related to ISS recommendation, CEO tenure, dissident and institutional ownership; negatively related to managerial ownership and CEO duality. Positive market reaction to ISS recommendations, more so if in favor of the dissident.
Cai & Walkling (2011)	JFQA	Say-on-pay proposals	2006-2007	X		X					Insignificant market reaction to say- on-pay proposals, negative for union-sponsored proposals; effect moderated by abnormal CEO cash compensation. Governance, institutional ownership, and union sponsorship affect shareholder approval.
Dimitrov & Jain (2011)	JAR	Governance proposals	1996-2005	X							Higher market returns for targeted firms before the annual shareholder meeting, particularly if their stock underperformed in prior year. Activism interacts positively with underperformance.
Ertimur, Ferri & Muslu (2011)	RFS	"Vote No" campaigns, proposals	1997-2007			X	X				Vote no campaigns are related to reduction of excessive CEO pay. Pay, entrenchment, and institutional proponents are positively related to shareholder approval, while board independence is negatively related. Implementation is positively related to majority vote and negatively to executive ownership.
Klein & Zur (2011)	RFS	Hedge fund activism	1994-2006	X						X	Hedge-fund activism reduces bondholders' wealth and is related to bondholders' wealth and is related to bond-rating downgrades, moreso for confrontational activism.
Agrawal (2012)	RFS	AFL-CIO "Vote No" campaigns	2003-2006					X	X		AFL-CIO activism is associated with reductions in labor-union/management disputes. AFL-CIO is likely to vote against directors at represented firms with Unfair Labor Practice charges.
Ashraf, Jayaraman, & Ryan (2012)	JFQA	Pay proposals	2004-2006			X					Mutual funds that manage corporate retirement plans vote against shareholder proposals, particularly those related to executive pay. Fund families vote with management at client and non-client firms.
Butler & Gurun (2012)	RFS	Mutual fund voting	2004-2007			X					Mutual funds in the same educational network as the CEO are more likely to vote against proposals on executive compensation.
Cunat, Gine & Guadalupe (2012)	JF	Governance proposals	1997-2007	X			X				Positive market reaction to proposals that pass. Higher returns for firms with concentrated ownership, antitakeover provisions, R&D, stronger pressure, and institutional proponents.
Edmans, Fang & Zur (2013)	RFS	Hedge fund activism	1995-2010	X							Liquidity is positively related to hedge funds acquiring blocks, but hedge funds are less likely to use voice in liquid firms. 13-G filings are met with positive market reaction.
Gantchev (2013)	JFE	Hedge fund activism	2000-2007						X		Escalation of activism campaign is positively related to expected benefits for the activist fund, and negatively related to the activist investment in the target and the number of ongoing campaigns.

Appendix B

Hypothesis 1: Hedge Fund Board Representation

Table B.1: H1: Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms (Probit Regression Model)

This table reports the Quarterly Corporate Ownership of Taget Firms 18 months ex ante board representation by an activist hedge fund. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Hedge Fund Board Representation	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Corporate "Insider" Ownership $_{(t-6)}$	-0.0166***						
	(-3.05)						
Corporate "Insider" Ownership $_{(t-5)}$		-0.0148***					
		(-2.76)					
Corporate "Insider" Ownership $_{(t-4)}$			-0.0155***				
			(-2.87)				
Corporate "Insider" Ownership $_{(t-3)}$				-0.0168***			
				(-3.04)			
Corporate "Insider" Ownership $_{(t-2)}$					-0.0167***		
					(-3.02)		
Corporate "Insider" Ownership $_{(t-1)}$						-0.0180***	
						(-3.20)	
Corporate "Insider" Ownership $_{(t)}$							-0.0165***
							(-3.00)
Constant	-0.368	-0.373	-0.369	-0.363	-0.366	-0.354	-0.363
	(-0.48)	(-0.49)	(-0.48)	(-0.47)	(-0.48)	(-0.46)	(-0.48)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	605	611	611	612	612	616	616
Pseudo R^2	0.025	0.025	0.027	0.027	0.027	0.029	0.027

Table B.2: H1: Non-Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms (Probit Regression Model)

This table reports the Quarterly Corporate Ownership of Taget Firms 18 months ex ante board representation by a non-hedge fund activist. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Non-Hedge Fund Board Representation	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Corporate "Insider" Ownership $_{(t-6)}$	-0.00851						
	(-0.86)						
Corporate "Insider" Ownership $_{(t-5)}$		-0.00721					
		(-0.72)					
Corporate "Insider" Ownership $_{(t-4)}$			-0.00788				
			(-0.79)				
Corporate "Insider" Ownership $_{(t-3)}$				-0.0108			
				(-1.09)			
Corporate "Insider" Ownership $_{(t-2)}$					-0.0112		
					(-1.12)		
Corporate "Insider" Ownership $_{(t-1)}$						-0.0126	
						(-1.25)	
Corporate "Insider" Ownership $_{(t)}$							-0.00969
							(-0.96)
Constant	0.271	0.267	0.274	0.286	0.317	0.313	0.298
	(0.58)	(0.57)	(0.59)	(0.61)	(0.68)	(0.67)	(0.64)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	108	108	108	110	111	111	111
Pseudo R^2	0.094	0.092	0.093	0.089	0.091	0.093	0.089

Table B.3: H1: Corporate "Inside" Ownership of Target Firms that "Won" Proxy Fight: No Hedge Fund Board Representation (Probit Regression Model)

This table reports the Quarterly Corporate Ownership of Taget Firms 18 months ex ante a Target Firm that won the proxy fight against a hedge fund activist. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Target "Wins" Proxy Fight	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Corporate "Insider" Ownership $_{(t-6)}$	0.00324						
	(0.24)						
Corporate "Insider" Ownership $_{(t-5)}$		0.00624					
		(0.46)					
Corporate "Insider" Ownership $_{(t-4)}$			0.00664				
			(0.49)				
Corporate "Insider" Ownership $_{(t-3)}$				0.00824			
				(0.62)			
Corporate "Insider" Ownership $_{(t-2)}$					0.00585		
					(0.44)		
Corporate "Insider" Ownership $_{(t-1)}$						0.00609	
						(0.46)	
Corporate "Insider" Ownership $_{(t)}$							0.00672
							(0.51)
Constant	-1.099	-1.062	-1.036	-1.000	-1.028	-1.014	-1.007
	(-1.13)	(-1.09)	(-1.06)	(-1.03)	(-1.05)	(-1.04)	(-1.03)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	151	151	151	154	154	155	155
Pseudo R^2	0.035	0.036	0.034	0.036	0.035	0.031	0.031

Table B.4: H1: Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms (Logistic Regression Model)

This table reports the Quarterly Corporate Ownership of Taget Firms 18 months ex ante board representation by an activist hedge fund. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Hedge Fund Activism	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Corporate "Insider" Ownership $_{(t-6)}$	-0.0270***						
	(-3.02)						
Corporate "Insider" Ownership $_{(t-5)}$		-0.0241***					
		(-2.75)					
Corporate "Insider" Ownership $_{(t-4)}$			-0.0253***				
			(-2.86)				
Corporate "Insider" Ownership $_{(t-3)}$				-0.0273***			
				(-3.02)			
Corporate "Insider" Ownership $_{(t-2)}$					-0.0272***		
					(-3.00)		
Corporate "Insider" Ownership $_{(t-1)}$						-0.0293***	
						(-3.17)	
Corporate "Insider" Ownership $_{(t)}$							-0.0270***
							(-2.98)
Constant	-0.584	-0.592	-0.584	-0.576	-0.580	-0.564	-0.577
	(-0.47)	(-0.48)	(-0.47)	(-0.46)	(-0.47)	(-0.46)	(-0.47)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	605	611	611	612	612	616	616
Pseudo R^2	0.025	0.025	0.027	0.027	0.027	0.029	0.027

Table B.5: H1: Non-Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms (Logistic Regression Model)

This table reports the Quarterly Corporate Ownership of Target Firms 18 months ex ante board representation by a non-hedge fund activist. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Hedge Fund Activism	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Corporate "Insider" Ownership $_{(t-6)}$	-0.0137						
	(-0.85)						
Corporate "Insider" Ownership $_{(t-5)}$		-0.0117					
		(-0.71)					
Corporate "Insider" Ownership $_{(t-4)}$			-0.0127				
			(-0.78)				
Corporate "Insider" Ownership $_{(t-3)}$				-0.0176			
				(-1.08)			
Corporate "Insider" Ownership $_{(t-2)}$					-0.0185		
					(-1.13)		
Corporate "Insider" Ownership $_{(t-1)}$						-0.0207	
						(-1.26)	
Corporate "Insider" Ownership $_{(t)}$							-0.0158
							(-0.96)
Constant	0.434	0.427	0.437	0.459	0.512	0.505	0.478
	(0.58)	(0.57)	(0.59)	(0.62)	(0.68)	(0.68)	(0.64)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	108	108	108	110	111	111	111
Pseudo R^2	0.095	0.093	0.094	0.090	0.092	0.094	0.089

Table B.6: H1: Corporate "Inside" Ownership of Target Firms that "Won" Proxy Fight: No Hedge Fund Board Representation (Logistic Regression Model)

This table reports the Quarterly Corporate Ownership of Target Firms 18 months ex ante a Target Firm that won the proxy fight against a hedge fund activist. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. t statistics in parentheses. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Hedge Fund Activism	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII
Corporate "Insider" Ownership $_{(t-6)}$	0.00510						
	(0.23)						
Corporate "Insider" Ownership $_{(t-5)}$		0.00998					
		(0.46)					
Corporate "Insider" Ownership $_{(t-4)}$			0.0107				
			(0.49)				
Corporate "Insider" Ownership $_{(t-3)}$				0.0133			
				(0.62)			
Corporate "Insider" Ownership $_{(t-2)}$					0.00941		
					(0.44)		
Corporate "Insider" Ownership $_{(t-1)}$						0.00987	
						(0.46)	
Corporate "Insider" Ownership $_{(t)}$							0.0109
							(0.51)
Constant	-1.764	-1.705	-1.668	-1.611	-1.653	-1.630	-1.619
	(-1.10)	(-1.07)	(-1.04)	(-1.01)	(-1.03)	(-1.02)	(-1.01)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	151	151	151	154	154	155	155
Pseudo R^2	0.035	0.035	0.033	0.035	0.034	0.031	0.031

Table B.7: H1: Corporate "Inside" Ownership of Target Firms by Hedge Fund Activists Seeking Board Representation

This table reports the Quarterly Corporate Ownership of Target Firms five years ex ante board representation by an activist hedge fund. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. The table reports the mean, median, and standard error of the Quarterly Corporate Ownership of Taget Firms relative to comparative datasets. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Panel A: Corporate Inside Ownership of Target Firms by Hedge Fund Activists Seeking Board Representation

							Differences between					Differences between	
	Target Firms			Matched Firms			Target and Match		Industry Adjusted			Target and Industry	
Quarter	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)
Event -20	6.1492	2.0765	0.5172	8.6607	3.2796	0.6426	-2.5115***	-1.2031	8.1737	8.0826	0.2271	-2.0245***	-6.0061
Event -19	6.223	2.0876	0.5194	8.7324	3.5403	0.6387	-2.5094***	-1.4527	8.2201	8.0897	0.2267	-1.9971***	-6.0021
Event -18	6.1523	2.3363	0.5121	8.7096	3.5293	0.6339	-2.5573***	-1.1930	8.2963	8.0016	0.2269	-2.144***	-5.6653
Event -17	6.1117	2.44	0.5021	8.5745	3.4852	0.6274	-2.4628***	-1.0452	8.35	8.0082	0.2263	-2.2383***	-5.5682
Event -16	6.0164	2.3753	0.4978	8.7412	3.5327	0.6374	-2.7248***	-1.1574	8.4098	8.1656	0.2267	-2.3934***	-5.7903
Event -15	5.8737	2.425	0.4855	8.5789	3.5098	0.6327	-2.7052***	-1.0848	8.469	8.2997	0.228	-2.5953***	-5.8747
Event -14	5.9359	2.5535	0.4943	8.6395	3.5098	0.6374	-2.7036***	-0.9563	8.5292	8.2974	0.2281	-2.5933***	-5.7439
Event -13	5.9961	2.5581	0.4952	8.6345	3.5146	0.6404	-2.6384***	-0.9565	8.5904	8.3815	0.2293	-2.5943***	-5.8234
Event -12	5.9105	2.375	0.4851	8.6781	3.5214	0.6354	-2.7676***	-1.1464	8.6713	8.4459	0.2307	-2.7608***	-6.0709
Event -11	5.9439	2.3796	0.4805	8.7096	3.6218	0.6359	-2.7657***	-1.2422	8.6194	8.515	0.2317	-2.6755***	-6.1354
Event -10	5.9338	2.4892	0.4818	8.6187	3.5679	0.6311	-2.6849***	-1.0787	8.6771	8.5487	0.2327	-2.7433***	-6.0595
Event -9	5.8211	2.41	0.4741	8.5441	3.5212	0.6273	-2.723***	-1.1112	8.7406	8.6103	0.2342	-2.9195***	-6.2003
Event -8	5.8159	2.44	0.472	8.5369	3.3602	0.6307	-2.721***	-0.9202	8.7837	8.6302	0.2355	-2.9678***	-6.1902
Event -7	5.9297	2.4237	0.4876	8.3147	3.2584	0.6199	-2.385***	-0.8347	8.825	8.6251	0.2359	-2.8953***	-6.2014
Event -6	6.0025	2.4505	0.5001	8.3758	3.0492	0.6243	-2.3733***	-0.5987	8.8743	8.6415	0.2377	-2.8718***	-6.1910
Event -5	6.1294	2.5542	0.5067	8.385	3.1563	0.6261	-2.2556***	-0.6021	8.9212	8.6334	0.2387	-2.7918***	-6.0792
Event -4	6.0404	2.5405	0.4934	8.3522	3.2963	0.623	-2.3118***	-0.7558	8.9573	8.6467	0.2393	-2.9169***	-6.1062
Event -3	5.898	2.5962	0.471	8.3116	3.2908	0.6223	-2.4136***	-0.6946	8.9461	8.6182	0.2329	-3.0481***	-6.0220
Event -2	5.8541	2.5101	0.4678	8.2353	3.1745	0.621	-2.3812***	-0.6644	8.9985	8.679	0.2354	-3.1444***	-6.1689
Event -1	5.6279	2.3182	0.4567	8.1575	2.979	0.6167	-2.5296***	-0.6608	9.0208	8.6965	0.2354	-3.3929***	-6.3783
Event	**5.6988**	**2.18**	**0.4769**	**8.0991**	**2.979**	**0.6175**	**-2.4003*** **	**-0.7990**	**8.9985**	**8.679**	**0.2354**	**-3.2997*** **	**-6.4990**

Table B.8: H1: Corporate "Inside" Ownership of Target Firms by Non-Hedge Fund Activists Seeking Board Representation

This table reports the Quarterly Corporate Ownership of Target Firms five years ex ante board representation by an activist non-hedge fund. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. The table reports the mean, median, and standard error of the Quarterly Corporate Ownership of Taget Firms relative to comparative datasets. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Panel A: Corporate Inside Ownership of Target Firms by Non-Hedge Fund Activists Seeking Board Representation

							Differences between					Differences between	
	Target Firms			Matched Firms			Target and Match		Industry Adjusted			Target and Industry	
Quarter	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)
Event -20	12.2769	7.1543	1.7322	12.7141	7.1141	1.7995	-0.4372	0.0402	9.3537	8.8565	0.6172	2.9232	-1.7022
Event -19	12.1953	7.1543	1.7453	12.7092	6.9715	1.8112	-0.5139	0.1828	9.5273	8.8319	0.6337	2.668	-1.6776
Event -18	12.2151	6.7625	1.7971	13.4115	7.8061	1.8738	-1.1964	-1.0436	9.6294	8.8662	0.6381	2.5857	-2.1037
Event -17	13.1149	8.5983	1.8362	13.5722	7.8061	1.884	-0.4573	0.7922	9.7221	9.0124	0.6375	3.3928*	-0.4141
Event -16	12.7159	7.8961	1.7833	13.3441	7.0124	1.8652	-0.6282	0.8837	9.8083	9.1015	0.634	2.9076	-1.2054
Event -15	12.721	8.525	1.7602	13.8368	8.8934	1.8832	-1.1158	-0.3684	9.8909	9.0895	0.6313	2.8301	-0.5645
Event -14	12.8126	8.7792	1.7594	14.0403	8.9673	1.9087	-1.2277	-0.1881	9.9703	9.1049	0.6294	2.8423	-0.3257
Event -13	13.3697	9.4262	1.8131	14.2952	8.9673	1.902	-0.9255	0.4589	10.0627	9.0536	0.6286	3.307*	0.3726
Event -12	13.7817	8.6404	1.8595	13.5372	8.9673	1.8321	0.2445	-0.3269	10.165	9.093	0.6301	3.6167*	-0.4526
Event -11	14.0314	8.6404	1.8535	14.1216	9.6492	1.8889	-0.0902	-1.0088	10.1695	9.015	0.6332	3.8619**	-0.3746
Event -10	14.0055	8.4372	1.8511	14.6295	10.5138	1.9032	-0.624	-2.0766	10.2069	8.9278	0.6362	3.7986*	-0.4906
Event -9	14.2371	9.0002	1.8582	14.8421	10.1069	1.9028	-0.605	-1.1067	10.0324	8.9104	0.5861	4.2047**	0.0898
Event -8	14.2132	9.0002	1.8588	14.9577	10.2633	1.9094	-0.7445	-1.2631	10.0479	8.9415	0.5821	4.1653**	0.0587
Event -7	13.9631	9.0002	1.8153	15.1081	11.0323	1.9292	-1.145	-2.0321	10.143	9.0068	0.5809	3.8201**	-0.0066
Event -6	14.0088	9.0725	1.8511	15.1206	10.3311	1.9172	-1.1118	-1.2586	10.219	9.4697	0.5847	3.7898*	-0.3972
Event -5	14.0738	9.0725	1.8577	14.7684	11.0304	1.8637	-0.6946	-1.9579	10.2596	9.7688	0.5867	3.8142*	-0.6963
Event -4	13.7876	9.0725	1.8276	15.0064	10.3311	1.9053	-1.2188	-1.2586	10.319	9.8422	0.5934	3.4686*	-0.7697
Event -3	13.5355	9.2229	1.7714	15.5859	10.2258	1.9559	-2.0504	-1.0029	10.3056	9.897	0.5925	3.2299*	-0.6741
Event -2	13.7879	9.3316	1.7457	15.4021	9.6492	1.9545	-1.6142	-0.3176	10.2566	9.7964	0.5932	3.5313*	-0.4648
Event -1	13.873	9.342	1.7716	15.8072	9.996	1.9895	-1.9342	-0.6540	10.2635	9.8858	0.5912	3.6095*	-0.5438
Event	**13.9782**	**9.5583**	**1.7741**	**15.486**	**10.6476**	**1.9389**	**-1.5078**	**-1.0893**	**10.2635**	**9.8858**	**0.5912**	**3.7147****	**-0.3275**

Table B.9: H1: Corporate Inside Ownership of Target Firms that "Won" Proxy Fight: Failed Attempt at Hedge Board Representation

This table reports the Quarterly Corporate Ownership of Target Firms that won the proxy fight against an activist hedge fund seeking board representation. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. FactSet compiles ownership information from public filings by investors (such as 13-F filings, Form 3 and Form 4), company annual reports, stock exchanges, and regulatory agencies around the world. The SEC "Corporate insiders" as a company's officers and directors, and any beneficial owners of more than 10% of a class of the company's equity securities registered under Section 12 of the Securities Exchange Act of 1934 – must file with the SEC a statement of ownership regarding those securities. The data in the table excludes any institutions or noncompany officers and directors that are required to file with the SEC because they are beneficial owners of more than 10% of a class of the company's equity securities. Institutions are defined as professional money managers, including mutual fund companies, investment advisors, pension funds, bank trusts, and insurance companies. All potentially unbounded variables are winsorized at the 1% and 99% extremes. The table reports the mean, median, and standard error of the Quarterly Corporate Ownership of Taget Firms relative to comparative datasets. The significance level, which was determined by the t statistic, is asymptotically normal for paired differences. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

Panel A: Corporate Inside Ownership of Target Firms that "Won" Proxy Fight: Failed Attempt at Hedge Board Representation

							Differences between					Differences between	
	Target Firms			Matched Firms			Target and Match		Industry Adjusted			Target and Industry	
Quarter	Mean	Median	Std. Err.	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)	Mean	Median	Std. Err.	Diff (Mean)	Diff (Median)
Event -20	5.0002	1.4662	0.9772	5.0283	1.1418	0.9190	-0.0281	0.3244	7.4863	1.8709	0.0165	2.4861*	-0.4047
Event -19	5.2755	1.4664	1.0311	5.1395	1.1418	0.9238	0.1360	0.3246	7.4862	1.8709	0.0165	2.2108*	-0.4045
Event -18	4.9003	1.4666	0.9555	5.0245	1.0858	0.9161	-0.1242	0.3808	7.4863	1.8709	0.0165	2.5860**	-0.4043
Event -17	4.9426	1.4900	0.9535	5.1707	1.2558	0.9253	-0.2281	0.2342	7.4863	1.8709	0.0165	2.5437**	-0.3809
Event -16	4.8543	1.4800	0.9431	5.1139	1.2957	0.9671	-0.2596	0.1843	7.4863	1.8709	0.0165	2.6320**	-0.3909
Event -15	4.9331	1.4800	0.9521	5.0942	1.2957	0.9666	-0.1611	0.1843	7.4863	1.8709	0.0165	2.5532**	-0.3909
Event -14	4.9710	1.5200	0.9718	5.1094	1.3662	0.9454	-0.1384	0.1538	7.4863	1.8709	0.0165	2.5153*	-0.3509
Event -13	5.0344	1.5100	0.9750	5.1772	1.3414	0.9585	-0.1428	0.1686	7.4863	1.8709	0.0165	2.4519*	-0.3609
Event -12	4.8855	1.4783	0.9632	5.4689	1.3283	1.0216	-0.5834	0.1500	7.4863	1.8709	0.0165	2.6008**	-0.3926
Event -11	5.0988	1.3844	0.9816	5.2269	1.2800	0.9863	-0.1281	0.1044	7.4863	1.8709	0.0165	2.3875*	-0.4865
Event -10	5.0966	1.4900	0.9785	4.4743	1.1714	0.8584	0.6223	0.3186	7.4863	1.8709	0.0165	2.3897*	-0.3809
Event -9	5.2162	1.4978	0.9620	4.5393	1.3401	0.8556	0.6769	0.1577	7.4863	1.8709	0.0165	2.2700*	-0.3731
Event -8	5.4099	1.5100	0.9642	5.0818	1.3689	0.9476	0.3281	0.1411	7.4862	1.8709	0.0165	2.0763*	-0.3609
Event -7	5.1861	1.3789	0.9546	5.1014	1.3145	0.9395	0.0847	0.0644	7.4863	1.8709	0.0165	2.3002*	-0.4920
Event -6	5.2602	1.3665	0.9648	5.0418	1.2416	0.9419	0.2184	0.1249	7.4863	1.8709	0.0165	2.2261*	-0.5044
Event -5	5.2565	1.3747	0.9936	4.9582	1.2557	0.9621	0.2983	0.1190	7.4863	1.8709	0.0165	2.2298*	-0.4962
Event -4	5.3513	1.4683	0.9939	4.9852	1.1568	0.9756	0.3661	0.3115	7.4863	1.8709	0.0165	2.1350*	-0.4026
Event -3	5.4105	1.4683	0.9964	4.8084	1.1232	0.9490	0.6021	0.3451	7.4863	1.8709	0.0165	2.0758*	-0.4026
Event -2	5.4210	1.4066	1.0041	5.0868	1.1232	0.9568	0.3342	0.2834	7.4863	1.8709	0.0165	2.0653*	-0.4643
Event -1	5.4929	1.4181	0.9950	5.4983	1.3755	1.0230	-0.0054	0.0426	7.4862	1.8709	0.0165	1.9934	-0.4528
Event	**5.5736**	**1.4646**	**0.9945**	**5.5105**	**1.3755**	**1.0224**	**0.0631**	**0.0891**	**7.4862**	**1.8709**	**0.0165**	**1.9126**	**-0.4063**

Appendix C

Hypothesis 2: Short Term Efficacy of Shareholder Activism

Table C.1: H2: Short-term Efficacy of All Activist Interventions (Event Study)

This table reports Cumulative Abnormal Return (CAR) for the 3-day, 5-day, 7-day, 11-day and 21 day windows during the activist intervention. The resulting time series of daily excess returns is regressed using the Market Model (Refer to 4.3.1.1) and the Fama-French (1993) three-factor Model and augmented by the momentum factor as suggested by Carhart (1997). I assume that Target Firm's returns follow a single factor Market Model,

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt}$$

The Four Factor Model for *abnormal return* or (*prediction error*) for a Target Firm and its match (j^{th}) on day t is as follows:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t)$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares estimates of α_j, β_j, s_j h_j and u_j. where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

All Activist Interventions

Target Firms								Matched Firms							
Equally Weighted Index								Equally Weighted Index							
Market Model				Four Factor Model				Market Model				Four Factor Model			
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	4047	2.78%	40.55	(- 1, 1)	4044	2.73%	31.28	(- 1, 1)	4047	0.13%	2.56	(- 1, 1)	4044	0.07%	0.73
(- 2, 2)	4048	3.17%	35.91	(- 2, 2)	4045	3.15%	27.96	(- 2, 2)	4048	0.03%	0.90	(- 2, 2)	4045	-0.02%	-0.15
(- 3, 3)	4048	3.51%	34.25	(- 3, 3)	4045	3.47%	25.96	(- 3, 3)	4048	0.14%	1.45	(- 3, 3)	4045	0.06%	0.40
(- 5, 5)	4048	4.21%	32.15	(- 5, 5)	4045	4.12%	24.62	(- 5, 5)	4048	0.03%	0.67	(- 5, 5)	4045	-0.09%	-0.45
(- 10, 10)	4050	5.13%	27.41	(- 10, 10)	4047	5.08%	21.98	(- 10, 10)	4050	-0.18%	-0.01	(- 10, 10)	4047	-0.15%	-0.55
Value Weighted Index								Value Weighted Index							
Market Model				Four Factor Model				Market Model				Four Factor Model			
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	4047	2.73%	39.33	(- 1, 1)	4044	2.70%	30.45	(- 1, 1)	4047	0.09%	1.86	(- 1, 1)	4044	0.04%	0.39
(- 2, 2)	4048	3.11%	34.71	(- 2, 2)	4045	3.10%	27.08	(- 2, 2)	4048	-0.01%	0.22	(- 2, 2)	4045	-0.07%	-0.57
(- 3, 3)	4048	3.41%	32.62	(- 3, 3)	4045	3.38%	24.99	(- 3, 3)	4048	0.07%	0.50	(- 3, 3)	4045	-0.02%	-0.12
(- 5, 5)	4048	4.09%	30.58	(- 5, 5)	4045	4.02%	23.72	(- 5, 5)	4048	-0.05%	-0.33	(- 5, 5)	4045	-0.19%	-0.97
(- 10, 10)	4050	4.92%	25.51	(- 10, 10)	4047	4.90%	20.91	(- 10, 10)	4050	-0.33%	-1.30	(- 10, 10)	4047	-0.35%	-1.30

Table C.2: H2: Short-term Efficacy of Hedge Fund Activist Interventions (Event Study)

This table reports Cumulative Abnormal Return (CAR) for the 3-day, 5-day, 7-day, 11-day and 21 days during the activist intervention. The resulting time series of daily excess returns is regressed using the Market Model (Refer to 4.3.1.1) and the Fama-French (1993) three-factor Model and augmented by the momentum factor as suggested by Carhart (1997). I assume that Target Firm's returns follow a single factor Market Model,

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt}$$

The Four Factor Model for *abnormal return* or (*prediction error*) for a Target Firm and its match (j^{th}) on day t is as follows:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t)$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares estimates of α_j, β_j, s_j h_j and u_j. where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

Hedge Fund Activist Interventions																
Target Firms								Matched Firms								
Equally Weighted Index								Equally Weighted Index								
Market Model				Four Factor Model				Market Model				Four Factor Model				
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	
(- 1, 1)	3096	2.30%	29.87	(- 1, 1)	3093	2.26%	21.93	(- 1, 1)	3077	0.11%	1.86	(- 1, 1)	3074	0.06%	0.51	
(- 2, 2)	3097	2.66%	26.75	(- 2, 2)	3094	2.60%	19.56	(- 2, 2)	3077	0.01%	0.67	(- 2, 2)	3074	-0.03%	-0.17	
(- 3, 3)	3097	2.93%	25.36	(- 3, 3)	3094	2.83%	18.01	(- 3, 3)	3077	0.15%	1.39	(- 3, 3)	3074	0.10%	0.54	
(- 5, 5)	3097	3.58%	24.42	(- 5, 5)	3094	3.42%	17.34	(- 5, 5)	3078	0.03%	0.58	(- 5, 5)	3075	-0.07%	-0.31	
(- 10, 10)	3099	4.69%	22.40	(- 10, 10)	3096	4.49%	16.51	(- 10, 10)	3078	0.03%	0.69	(- 10, 10)	3075	0.08%	0.24	ff
Value Weighted Index								Value Weighted Index								
Market Model				Four Factor Model				Market Model				Four Factor Model				
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	
(- 1, 1)	3096	2.25%	28.85	(- 1, 1)	3093	2.21%	21.34	(- 1, 1)	3077	0.07%	1.24	(- 1, 1)	3074	0.03%	0.21	
(- 2, 2)	3097	2.58%	25.67	(- 2, 2)	3094	2.53%	18.92	(- 2, 2)	3077	-0.05%	-0.02	(- 2, 2)	3074	-0.09%	-0.58	
(- 3, 3)	3097	2.80%	23.86	(- 3, 3)	3094	2.74%	17.31	(- 3, 3)	3077	0.06%	0.44	(- 3, 3)	3074	0.01%	0.04	
(- 5, 5)	3097	3.43%	23.09	(- 5, 5)	3094	3.31%	16.67	(- 5, 5)	3078	-0.07%	-0.30	(- 5, 5)	3075	-0.19%	-0.83	
(- 10, 10)	3099	4.40%	20.55	(- 10, 10)	3096	4.27%	15.56	(- 10, 10)	3078	-0.24%	-0.69	(- 10, 10)	3075	-0.19%	-0.60	

Table C.3: H2: Short-term Efficacy of Non-Hedge Fund Activist Interventions (Event Study)

This table reports Cumulative Abnormal Return (CAR) for the 3-day, 5-day, 7-day, 11-day and 21 days during the activist intervention. The resulting time series of daily excess returns is regressed using the Market Model (Refer to 4.3.1.1) and the Fama-French (1993) three-factor Model and augmented by the momentum factor as suggested by Carhart (1997). I assume that Target Firm's returns follow a single factor Market Model,

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt}$$

The Four Factor Model for *abnormal return* or (*prediction error*) for a Target Firm and its match (j^{th}) on day t is as follows:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t)$$

where the coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, $\hat{s}_j$, $\hat{h}_j$ and $\hat{u}_j$ are ordinary least squares estimates of α_j, β_j, s_j h_j and u_j. where R_{jt} is the rate of return of the common stock of the j^{th} firm on day t; R_{mt} is the rate of return of a market index on day t; SMB_t is the average return on small market-capitalization portfolios minus the average return on three large market-capitalization portfolios; HML_t is the average return on two high book-to-market equity portfolios minus the average return on two low book-to-market equity portfolios; UMD_t is the average return on two high prior return portfolios minus the average return on two low prior return portfolios. ϵ_{jt} is a random variable that, by construction, must have an expected value of zero, and is assumed to be uncorrelated with R_{mt}, uncorrelated with R_{kt} for $k \neq j$, not autocorrelated, and homoskedastic. β_j is a parameter that measures the sensitivity of R_{jt} to the excess return on the market index; s_j measures the sensitivity of R_{jt} to the difference between small and large capitalization stock returns; h_j measures the sensitivity of R_{jt} to the difference between value and growth stock returns; and u_j measures the sensitivity of R_{jt} to the difference between high prior return stock returns and low prior return stock returns.

Non-Hedge Fund Activist Interventions															
Target Firms								Matched Firms							
Equally Weighted Index								Equally Weighted Index							
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	951	4.32%	29.75	(- 1, 1)	951	4.29%	23.99	(- 1, 1)	951	0.19%	1.92	(- 1, 1)	951	0.11%	0.52
(- 2, 2)	951	4.84%	25.82	(- 2, 2)	951	4.97%	21.53	(- 2, 2)	951	0.09%	0.63	(- 2, 2)	951	-0.01%	-0.03
(- 3, 3)	951	5.39%	24.91	(- 3, 3)	951	5.53%	20.27	(- 3, 3)	951	0.07%	0.44	(- 3, 3)	951	-0.07%	-0.22
(- 5, 5)	951	6.27%	22.25	(- 5, 5)	951	6.41%	18.74	(- 5, 5)	951	-0.03%	0.28	(- 5, 5)	951	-0.16%	-0.40
(- 10, 10)	951	6.55%	16.12	(- 10, 10)	951	6.99%	14.79	(- 10, 10)	951	-0.90%	-1.38	(- 10, 10)	951	-0.92%	-1.70
Value Weighted Index								Value Weighted Index							
Market Model				Four Factor Model				Market Model				Four Factor Model			
Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat	Window	N	CAR	t-stat
(- 1, 1)	951	4.29%	29.08	(- 1, 1)	951	4.27%	23.88	(- 1, 1)	951	0.17%	1.60	(- 1, 1)	951	0.08%	0.39
(- 2, 2)	951	4.84%	25.29	(- 2, 2)	951	4.93%	21.34	(- 2, 2)	951	0.11%	0.45	(- 2, 2)	951	-0.03%	-0.12
(- 3, 3)	951	5.37%	24.25	(- 3, 3)	951	5.47%	19.99	(- 3, 3)	951	0.10%	0.20	(- 3, 3)	951	-0.11%	-0.34
(- 5, 5)	951	6.24%	21.42	(- 5, 5)	951	6.34%	18.51	(- 5, 5)	951	-0.02%	-0.21	(- 5, 5)	951	-0.18%	-0.47
(- 10, 10)	951	6.62%	15.55	(- 10, 10)	951	6.96%	14.69	(- 10, 10)	951	-0.68%	-1.56	(- 10, 10)	951	-0.89%	-1.63

Appendix D

Hypothesis 3: Long Term Returns of Target Firms (Total Shareholder Returns)

I investigate Total Shareholder Return (TSR), a commonly used financial return measure, for Target Firms and Matched Firms. TSR is calculated as follows:

$$\textit{Total Shareholder Return} = \frac{(P_{t+x} - P_0) + \textit{Dividends}}{P_0} \tag{D.1}$$

The formula for the TSR (Equation D.1) is the appreciation in the stock price plus any dividends paid, divided by the original price of the stock. In equation (D.1), P_0 is the initial price of the stock and P_{t+x} is the ending stock price. The return measures both capital appreciation and income from dividends. The first portion of the numerator of the TSR formula measures how much the value of the stock has increased (P_{t+x} - P_0). The denominator of the formula to calculate a stock's total return is the original price of the stock which is used due to being the original amount invested.

First, I compare TSR from Hedge Fund Activist interventions to Non-Hedge Fund Activist interventions. The Event Date (t_0) with respect to the activist intervention is the either the announcement or filing date of the 13D. Figure D.2 illustrates an under-performance of Target Firms of Hedge Fund activism ex ante the intervention compared to Matched Firms. However, there is a discernible change with respect to the return profile ex post the Hedge Fund intervention. Five years ex post Event (t_0), the portfolio of Hedge Fund activism generat 177.5% TSR, whereas, Matched Firms yield 161.3% TSR. This refutes the claim that activist campaigns generate positive abnormal returns in the short run but, ultimately, reverse to yield negative returns.

Figure D.3 depicts the TSR profile of Target Firms and Matched Firms Non-hedge Fund activism. The return profile ex ante the activist intervention was similar to the Hedge Fund Activist targets, however, the Target Firms did not perform as well as the Matched Firms during the same long-term event window ex post the Event.

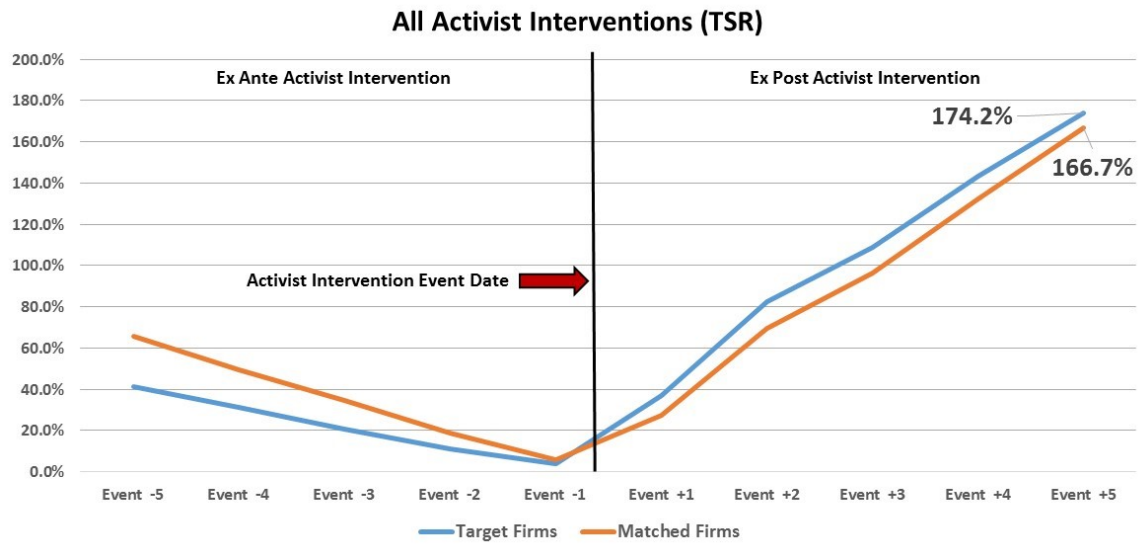

Figure D.1: Total Shareholder Return: All Activist Interventions

Next, I examine the *Treatment Group* (Hedge Fund Board Representation) and both control groups (*Control Group I*: Target Firms that "Won" Proxy Fight) and (*Control Group II*: Non-hedge Fund Board Representation). The Event Date (t_0) with respect to the *Treatment Group* and *Control Group II* is the board seat grant date and for *Control Group I* Event Date (t_0) is the announcement date of the proxy fight results. Figure D.4 illustrates a significant under-performance of Target Firms of the *Treatment Group* ex ante the intervention compared to Matched Firms. However, there is a immediate improvement with respect to the return profile ex post the board seat grant date relative to Matched Firms. Five years ex post Event (t_0), the portfolio of Treatment Target Firms 185.5% TSR, whereas, Matched Firms yield 170.8% TSR. This substantiates that hedge funds generate long-term value for the Target Firms and its long-term shareholders when they function as a disciplinary mechanism to monitor management via *board representation*.

I then examine the TSR profile of both control groups relative to a sample of Matched Firms. Figure D.5 illustrates a under-performance of Target Firms of *Control Group I* ex ante the intervention compared to Matched Firms. However, it

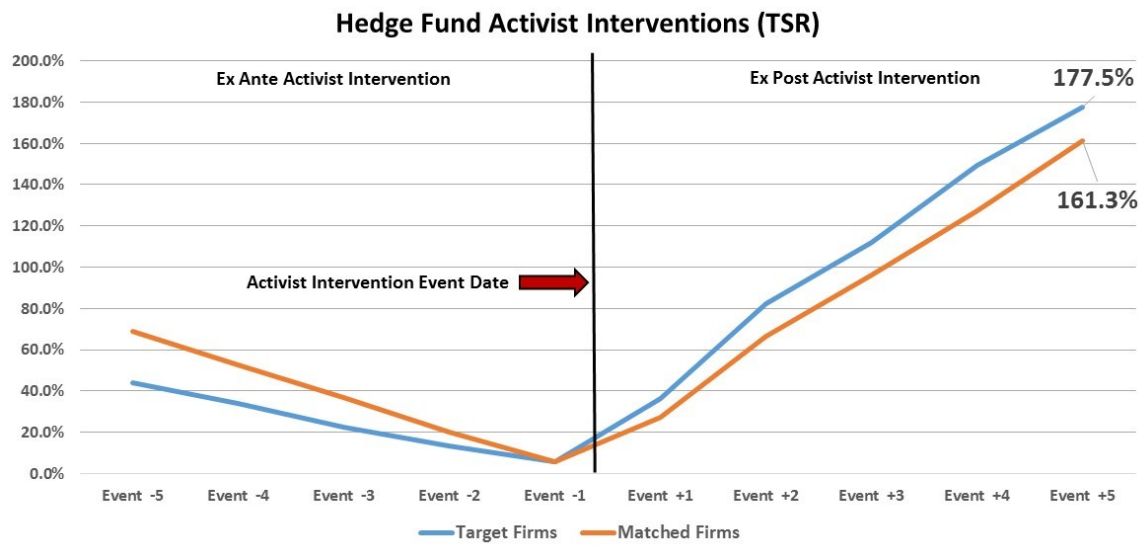

Figure D.2: Total Shareholder Return: Hedge Fund Activism

takes over three years for the Target Firms' TSR to exceed Matched Firms.

Figure D.6 illustrates a similar under-performance of Target Firms of *Control Group II* ex ante the intervention compared to Matched Firms. However, the Target Firms did not perform as well as the Matched Firms during the same long-term event window ex post the Event. Five years ex post Event (t_0), the portfolio of *Control Group II* Target Firms report 129.1% TSR, whereas, Matched Firms yield 182.1% TSR. This provides support that hedge fund *board representation* generates long-term value (refer to Figure D.4), whereas, non-hedge funds yielded lower TSR as a disciplinary mechanism to monitor management via *board representation*.

Table D.1: H3: Calendar-time Portfolio Abnormal Returns: Jensen's Alpha (All Activist Interventions)

This table report Calendar-time Portfolio Abnormal Returns (Jensen's Alpha) for a 5-year period during Ex Post an activist intervention. In each calendar month over the entire sample period, a portfolio was constructed comprising all firms experiencing the event within the previous month. Because the number of event firms is not uniformly distributed over the sample period, the number of firms included in a portfolio is not constant through time. As a result, some new firms are added each month, and some firms exit each month. Accordingly, the portfolios are rebalanced each month, and an equal or value-weighted portfolio excess return is calculated. The resulting time series of monthly excess returns is regressed on the Fama-French (1993) three-factor Model as follows:

- R_{jt} is the equal or value-weighted return for calendar month t for the portfolio of event firms that experienced the event within previous T years,
- R_{ft} is the risk-free rate,
- R_{Mt} is the return on the CRSP value-weight market portfolio,
- SMB_t, is the difference between the return on the portfolio of "small" stocks and "big" stocks;
- HML_t is the difference between the return a portfolio of "high" and "low" book-to-market stocks;
- α is the average monthly abnormal return on a portfolio of firms over the t-month post-event period,
- β is the beta (the sensitivities) of the event portfolio to the three factors.

I report the long-term abnormal returns associated of Target Firms of all activist interventions as well as report regression estimates and level of significance from both equal-weighted and value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add target firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Panel A: Target Firms (All of Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	3974	0.0855***	0.0818***	0.0994***	0.0787***	0.0769***	0.0984***
Event Year +2	3978	0.1275***	0.1621***	0.1544***	0.1245***	0.1567***	0.1583***
Event Year +3	3978	0.151***	0.2136***	0.1983***	0.1378***	0.1894***	0.2072***
Event Year +4	3978	0.1761***	0.2842***	0.2003***	0.151***	0.2381***	0.2159***
Event Year +5	3991	0.1946***	0.3513***	0.219***	0.1608***	0.2899***	0.2387***

Panel B: Matched Firms (All Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	3974	-0.0281***	0.0151***	-0.0419***	-0.031**	0.0092	-0.0350
Event Year +2	3978	-0.0724***	0.0223***	-0.0983***	-0.0605***	0.0222	-0.0798
Event Year +3	3978	-0.0985***	0.0235***	-0.1444***	-0.1022**	0.0177**	-0.1327*
Event Year +4	3978	-0.103***	0.0578***	-0.1674***	-0.1236***	0.0242**	-0.1585
Event Year +5	3991	-0.1131***	0.1068***	-0.1923***	-0.1473***	0.0314**	-0.1772

Panel C: Differences (All Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	3974	0.1136	0.0667	0.1413	0.1097	0.0677	0.1334
Event Year +2	3978	0.1999	0.1398	0.2527	0.1850	0.1345	0.2381
Event Year +3	3978	0.2495	0.1901	0.3427	0.2400	0.1717	0.3399
Event Year +4	3978	0.2791	0.2264	0.3677	0.2746	0.2139	0.3744
Event Year +5	3991	0.3077	0.2445	0.4113	0.3081	0.2585	0.4159

Table D.2: H3: Calendar-time Portfolio Abnormal Returns: Jensen's Alpha (Hedge Fund Activist Interventions)

This table report Calendar-time Portfolio Abnormal Returns (Jensen's Alpha) for a 5-year period during Ex Post an activist intervention. In each calendar month over the entire sample period, a portfolio was constructed comprising all firms experiencing the event within the previous month. Because the number of event firms is not uniformly distributed over the sample period, the number of firms included in a portfolio is not constant through time. As a result, some new firms are added each month, and some firms exit each month. Accordingly, the portfolios are rebalanced each month, and an equal or value-weighted portfolio excess return is calculated. The resulting time series of monthly excess returns is regressed on the Fama-French (1993) three-factor Model as follows:

- R_{jt} is the equal or value-weighted return for calendar month t for the portfolio of event firms that experienced the event within previous T years,
- R_{ft} is the risk-free rate,
- R_{Mt} is the return on the CRSP value-weight market portfolio,
- SMB_t, is the difference between the return on the portfolio of "small" stocks and "big" stocks;
- HML_t is the difference between the return a portfolio of "high" and "low" book-to-market stocks;
- α is the average monthly abnormal return on a portfolio of firms over the t-month post-event period,
- β is the beta (the sensitivities) of the event portfolio to the three factors.

I report the long-term abnormal returns associated of Target Firms of Hedge Fund activist interventions as well as report regression estimates and level of significance from both equal-weighted and value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add target firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Panel A: Target Firms (Hedge Fund Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	3020	0.0833***	0.0856***	0.0856***	0.0746***	0.0774***	0.1083***
Event Year +2	3978	0.1297***	0.1719***	0.1719***	0.1265***	0.1628***	0.173***
Event Year +3	3978	0.1585***	0.2302***	0.2302***	0.1484***	0.2051***	0.2277***
Event Year +4	3978	0.1861***	0.3057***	0.3057***	0.1659***	0.2605***	0.2473***
Event Year +5	3030	0.2052***	0.3743***	0.3743***	0.178***	0.3176***	0.2754***

Panel B: Matched Firms (Hedge Fund Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	3020	-0.03***	0.0224	-0.0377***	-0.0357*	0.0109	-0.0267***
Event Year +2	3978	-0.0794***	0.0331	-0.1001***	-0.0656***	0.0263	-0.0751***
Event Year +3	3978	-0.1044***	0.032*	-0.153***	-0.103**	0.023*	-0.133***
Event Year +4	3978	-0.1064***	0.0768*	-0.1756***	-0.1204***	0.0366*	-0.1557***
Event Year +5	3030	-0.1175***	0.1358**	-0.2091***	-0.1444***	0.0465*	-0.1802***

Panel C: Differences (Hedge Fund Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	3020	0.1133	0.0632	0.1233	0.1103	0.0665	0.1350
Event Year +2	3978	0.2091	0.1388	0.2720	0.1921	0.1365	0.2481
Event Year +3	3978	0.2629	0.1982	0.3832	0.2514	0.1821	0.3607
Event Year +4	3978	0.2925	0.2289	0.4813	0.2863	0.2239	0.4030
Event Year +5	3030	0.3227	0.2385	0.5834	0.3224	0.2711	0.4556

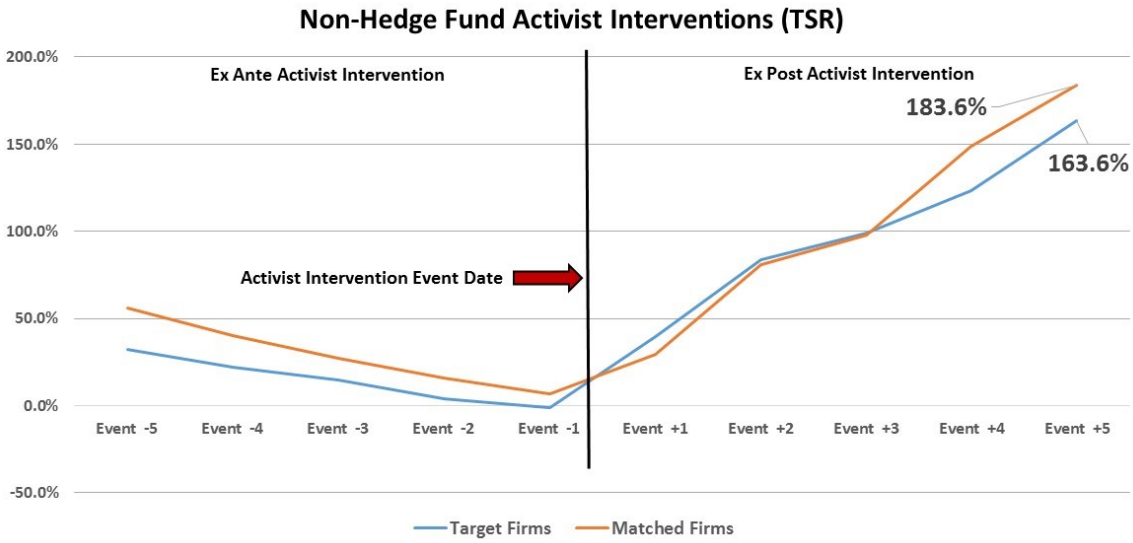

Figure D.3: Total Shareholder Return: Non-Hedge Fund Activism

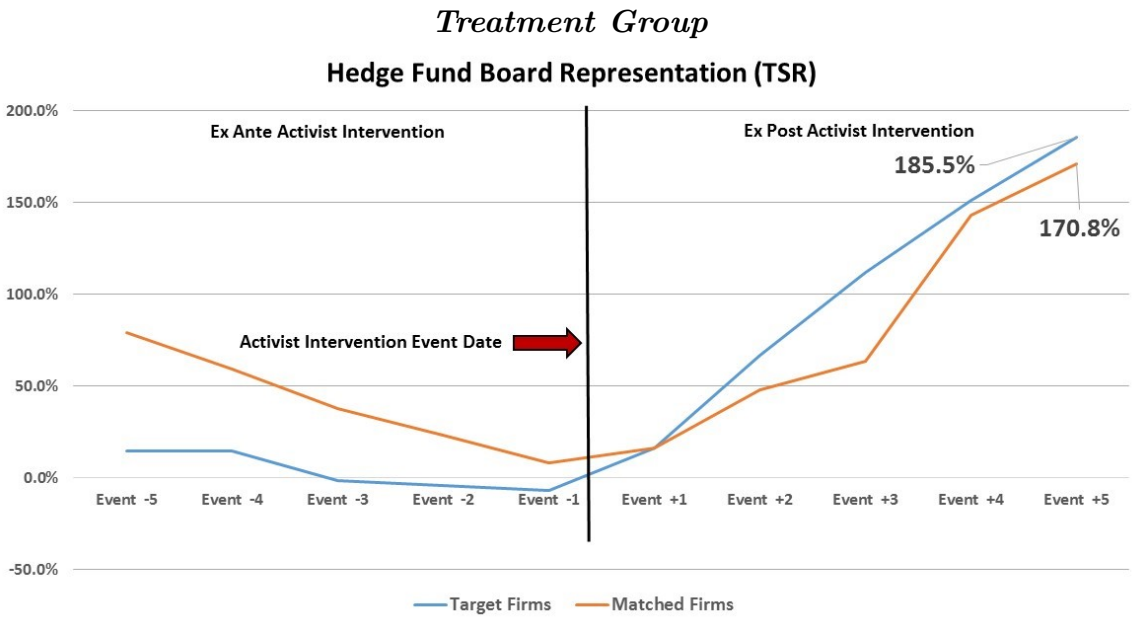

Figure D.4: Total Shareholder Return: Hedge Fund Board Representation (*Treatment Group*)

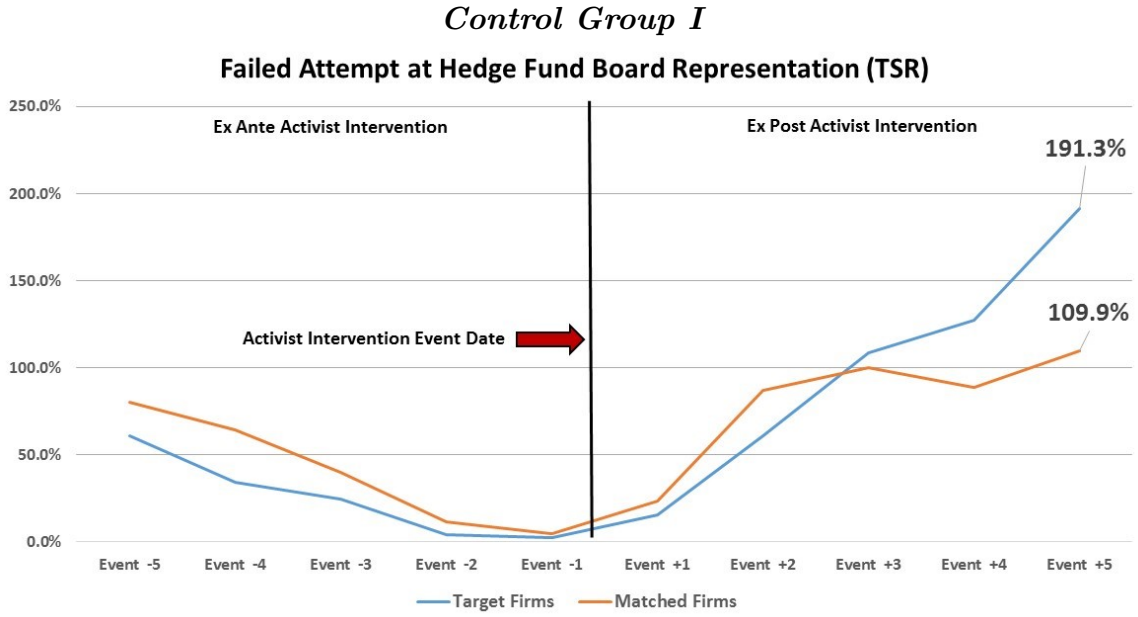

Figure D.5: Total Shareholder Return: Target Firm "Wins" Proxy Fight: No Hedge Fund Board Representation (*Control Group I*)

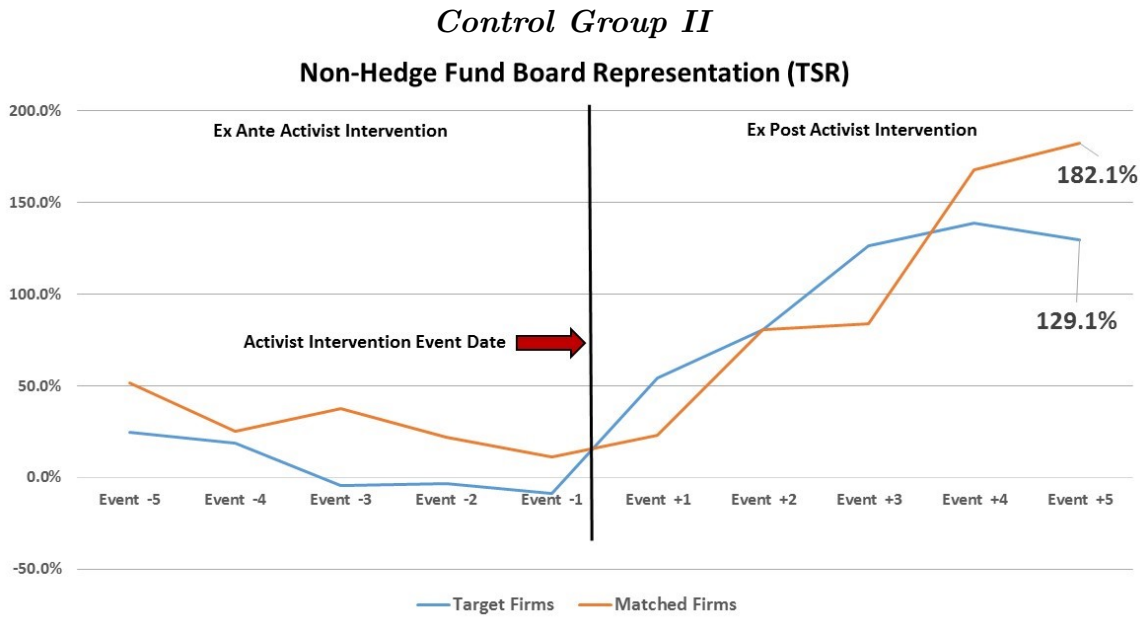

Figure D.6: Total Shareholder Return: Non-Hedge Fund Board Representation (*Control Group I*)

Table D.3: H3: Calendar-time Portfolio Abnormal Returns: Jensen's Alpha (Non-Hedge Fund Activist Interventions)

This table report Calendar-time Portfolio Abnormal Returns (Jensen's Alpha) for a 5-year period during Ex Post an activist intervention. In each calendar month over the entire sample period, a portfolio was constructed comprising all firms experiencing the event within the previous month. Because the number of event firms is not uniformly distributed over the sample period, the number of firms included in a portfolio is not constant through time. As a result, some new firms are added each month, and some firms exit each month. Accordingly, the portfolios are rebalanced each month, and an equal or value-weighted portfolio excess return is calculated. The resulting time series of monthly excess returns is regressed on the Fama-French (1993) three-factor Model as follows:

- R_{jt} is the equal or value-weighted return for calendar month t for the portfolio of event firms that experienced the event within previous T years,
- R_{ft} is the risk-free rate,
- R_{Mt} is the return on the CRSP value-weight market portfolio,
- SMB_t, is the difference between the return on the portfolio of "small" stocks and "big" stocks;
- HML_t is the difference between the return a portfolio of "high" and "low" book-to-market stocks;
- α is the average monthly abnormal return on a portfolio of firms over the t-month post-event period,
- β is the beta (the sensitivities) of the event portfolio to the three factors.

I report the long-term abnormal returns associated of Target Firms of Non-Hedge Fund activist interventions as well as report regression estimates and level of significance from both equal-weighted and value-weighted calendar-time portfolio regressions. The portfolio holding period was determined based on actual trading days and indicates the holding period in years relative to the date that the board seat(s) was granted. For example, the portfolio with holding period [Event +1], will continually add target firms that have added an activist/dissident shareholder to their respective board during the year from the date the seat was granted. The portfolio will hold these firms until the earlier of December 31, 2014, a delisting date as a result of a Chapter 11 filing or a sale/merger. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level. The regression takes the form:

$$R_{jt} - R_{ft} = \alpha + \beta p, R_M - R_{ft} + \beta p, SMB_t, + \beta p, HML_t + \epsilon_{jt}$$

Panel A: Target Firms (Non-Hedge Fund Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	954	0.0925***	0.0709***	0.0986***	0.0918***	0.076***	0.0916***
Event Year +2	955	0.1207***	0.1331***	0.143***	0.118***	0.1396***	0.13***
Event Year +3	957	0.1274***	0.1657***	0.155***	0.1042***	0.1452***	0.124***
Event Year +4	957	0.1444***	0.2225***	0.1696***	0.1039***	0.1749***	0.1151***
Event Year +5	961	0.1609***	0.2852***	0.1745***	0.1066***	0.2115***	0.1034***

Panel B: Matched Firms (Non-Hedge Fund Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	CAR	PWCAAR	Calendar-Time Portfolio CAR
Event Year +1	954	-0.0232	-0.0079	-0.0446	-0.0176	0.0039	-0.0525
Event Year +2	955	-0.0508	-0.0122	-0.0738***	-0.0460	0.0089	-0.0936**
Event Year +3	957	-0.0800	-0.0043*	-0.1178***	-0.1014	0.0004	-0.1679***
Event Year +4	957	-0.0928	-0.0028*	-0.158***	-0.1359	-0.0147**	-0.2403***
Event Year +5	961	-0.1003	0.0144*	-0.1569**	-0.1587	-0.0164**	-0.2594***

Panel C: Differences (Non-Hedge Fund Activist Interventions)

		Equally-Weighted			Value-Weighted		
	N	CAR	PWCAAR	Calendar-Time Portfolio CAR	PWCAR	CAAR	Calendar-Time Portfolio CAR
Event Year +1	954	0.1157	0.0788	0.1432	0.1094	0.0721	0.1441
Event Year +2	955	0.1715	0.1453	0.2168	0.1640	0.1307	0.2236
Event Year +3	957	0.2074	0.1700	0.2728	0.2056	0.1448	0.2919
Event Year +4	957	0.2372	0.2253	0.3276	0.2398	0.1896	0.3554
Event Year +5	961	0.2612	0.2708	0.3314	0.2653	0.2279	0.3628

Appendix E

Hypothesis 4: Long Term Operating Performance and Governance Structure of Target Firms

Table E.1: Long-term Operating Performance: Revenue Growth and Operating Margin Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Revenue Growth is defined as the LTM rolling sales and Operating Margin is (EBITDA/sales). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	3624	0.0437	0.0276	0.0033	NA	NA	-66.36%	-73.55%	3624	0.0429	0.0281	0.0034	NA	NA	-7.69%	-19.57%	0.0008	-0.0005
Event - 4 Year	3670	0.0418	0.0275	0.0032	-4.35%	-0.36%	-64.83%	-73.45%	3670	0.0435	0.0266	0.0034	1.40%	-5.34%	-8.97%	-15.04%	-0.0017	0.0009
Event - 3 Year	3670	0.0376	0.0223	0.0032	-10.05%	-18.91%	-60.90%	-67.26%	3670	0.0456	0.0286	0.0034	4.83%	7.52%	-13.16%	-20.98%	-0.0080*	-0.0063
Event - 2 Year	3672	0.0360	0.0239	0.0031	-4.26%	7.17%	-59.17%	-69.46%	3672	0.0452	0.0254	0.0033	-0.88%	-11.19%	-12.39%	-11.02%	-0.0092**	-0.0015
Event - 1 Year	3707	0.0283	0.0153	0.0029	-21.39%	-35.98%	-48.06%	-52.29%	3707	0.0418	0.0252	0.0033	-7.52%	-0.79%	-5.26%	-10.32%	-0.0136***	-0.0099
Event	3422	0.0147	0.0073	0.0031	-48.06%	-52.29%	NA	NA	3422	0.0396	0.0226	0.0033	-5.26%	-10.32%	NA	NA	-0.0249***	-0.0153
Event + 1 Year	3089	0.0294	0.0140	0.0037	100.00%	91.78%	100.00%	91.78%	3089	0.0405	0.0235	0.0035	2.27%	3.98%	2.27%	3.98%	-0.0110**	-0.0095
Event + 2 Year	3277	0.0372	0.0205	0.0034	26.53%	46.43%	153.06%	180.82%	3277	0.0416	0.0235	0.0035	2.72%	0.00%	5.05%	3.98%	-0.0044	-0.0030
Event + 3 Year	3278	0.0472	0.0256	0.0036	26.88%	24.88%	221.09%	250.68%	3278	0.0490	0.0280	0.0036	17.79%	19.15%	23.74%	23.89%	-0.0018	-0.0024
Event + 4 Year	3301	0.0485	0.0259	0.0036	2.75%	1.17%	229.93%	254.79%	3301	0.0474	0.0257	0.0037	-3.27%	-8.21%	19.70%	13.72%	0.0011	0.0002
Event + 5 Year	3318	0.0474	0.0277	0.0035	-2.27%	6.95%	222.45%	279.45%	3318	0.0450	0.0256	0.0036	-5.06%	-0.39%	13.64%	13.27%	0.0023	0.0021
Operating Margin																		
Event - 5 Year	3467	0.0354	0.1232	0.0097	NA	NA	-32.77%	-14.69%	3467	-0.0197	0.1222	0.0120	NA	NA	-149.24%	3.36%	0.0551***	0.0010
Event - 4 Year	3518	0.0376	0.1214	0.0095	6.21%	-1.46%	-36.70%	-13.43%	3518	-0.0094	0.1266	0.0118	-52.28%	3.60%	-203.19%	-0.24%	0.0470***	-0.0052
Event - 3 Year	3508	0.0481	0.1200	0.0091	27.93%	-1.15%	-50.52%	-12.42%	3508	-0.0040	0.1258	0.0117	-57.45%	-0.63%	-342.50%	0.40%	0.0521***	-0.0058
Event - 2 Year	3534	0.0496	0.1178	0.0088	3.12%	-1.83%	-52.02%	-10.78%	3534	0.0070	0.1280	0.0113	-275.00%	1.75%	38.57%	-1.33%	0.0426***	-0.0102
Event - 1 Year	3557	0.0343	0.1127	0.0093	-30.85%	-4.33%	-30.61%	-6.74%	3557	0.0173	0.1258	0.0109	147.14%	-1.72%	-43.93%	0.40%	0.0170	-0.0131
Event	3264	0.0238	0.1051	0.0098	-30.61%	-6.74%	NA	NA	3264	0.0097	0.1263	0.0113	-43.93%	0.40%	NA	NA	0.0141	-0.0212
Event + 1 Year	3347	-0.0124	0.1117	0.0111	-152.10%	6.28%	-152.10%	6.28%	3347	-0.0173	0.1235	0.0120	-278.35%	-2.22%	-278.35%	-2.22%	0.0049	-0.0118
Event + 2 Year	3372	-0.0183	0.1149	0.0114	47.58%	2.86%	-176.89%	9.32%	3372	-0.0296	0.1245	0.0127	71.10%	0.81%	-405.15%	-1.43%	0.0114	-0.0096
Event + 3 Year	3335	-0.0230	0.1174	0.0120	25.68%	2.18%	-196.64%	11.70%	3335	-0.0294	0.1218	0.0127	-0.68%	-2.17%	-403.09%	-3.56%	0.0065	-0.0044
Event + 4 Year	3294	-0.0062	0.1246	0.0117	-73.04%	6.13%	-126.05%	18.55%	3294	-0.0479	0.1171	0.0130	62.93%	-3.86%	-593.81%	-7.28%	0.0417**	0.0075
Event + 5 Year	3269	0.0006	0.1208	0.0114	-109.68%	-3.05%	-97.48%	14.94%	3269	-0.0428	0.1225	0.0131	-10.65%	4.61%	-541.24%	-3.01%	0.0434**	-0.0017

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	3624	0.0437	0.0276	0.0033	NA	NA	-66.36%	-73.55%	3624	0.1710	0.0555	0.0077	NA	NA	20.18%	-15.50%	-0.1273***	-0.0279
Event - 4 Year	3670	0.0418	0.0275	0.0032	-4.35%	-0.36%	-64.83%	-73.45%	3670	0.1799	0.0571	0.0079	5.20%	2.88%	14.23%	-17.86%	-0.1381***	-0.0296
Event - 3 Year	3670	0.0376	0.0223	0.0032	-10.05%	-18.91%	-60.90%	-67.26%	3670	0.1960	0.0585	0.0083	8.95%	2.45%	4.85%	-19.83%	-0.1584***	-0.0362
Event - 2 Year	3672	0.0360	0.0239	0.0031	-4.26%	7.17%	-59.17%	-69.46%	3672	0.1903	0.0561	0.0081	-2.91%	-4.10%	7.99%	-16.40%	-0.1543***	-0.0322
Event - 1 Year	3707	0.0283	0.0153	0.0029	-21.39%	-35.98%	-48.06%	-52.29%	3707	0.2004	0.0514	0.0087	5.31%	-8.38%	2.54%	-8.75%	-0.1721***	-0.0361
Event	3422	0.0147	0.0073	0.0031	-48.06%	-52.29%	NA	NA	3422	0.2055	0.0469	0.0092	2.54%	-8.75%	NA	NA	-0.1908***	-0.0396
Event + 1 Year	3089	0.0294	0.0140	0.0037	100.00%	91.78%	100.00%	91.78%	3089	0.2078	0.0500	0.0091	1.12%	6.61%	1.12%	6.61%	-0.1784***	-0.0360
Event + 2 Year	3277	0.0372	0.0205	0.0034	26.53%	46.43%	153.06%	180.82%	3277	0.2047	0.0518	0.0090	-1.49%	3.60%	-0.39%	10.45%	-0.1675***	-0.0313
Event + 3 Year	3278	0.0472	0.0256	0.0036	26.88%	24.88%	221.09%	250.68%	3278	0.2218	0.0582	0.0093	8.35%	12.36%	7.93%	24.09%	-0.1746***	-0.0326
Event + 4 Year	3301	0.0485	0.0259	0.0036	2.75%	1.17%	229.93%	254.79%	3301	0.2147	0.0590	0.0090	-3.20%	1.37%	4.48%	25.80%	-0.1662***	-0.0331
Event + 5 Year	3318	0.0474	0.0277	0.0035	-2.27%	6.95%	222.45%	279.45%	3318	0.2199	0.0618	0.0090	2.42%	4.75%	7.01%	31.77%	-0.1725***	-0.0341
Operating Margin																		
Event - 5 Year	3467	0.0354	0.1232	0.0097	NA	NA	-32.77%	-14.69%	3467	-2.1044	0.0442	0.0992	NA	NA	6.83%	38.24%	2.1398***	0.0790
Event - 4 Year	3518	0.0376	0.1214	0.0095	6.21%	-1.46%	-36.70%	-13.43%	3518	-1.9658	0.0522	0.0980	-6.59%	18.10%	14.36%	17.05%	2.0034***	0.0692
Event - 3 Year	3508	0.0481	0.1200	0.0091	27.93%	-1.15%	-50.52%	-12.42%	3508	-1.9994	0.0572	0.1008	1.71%	9.58%	12.44%	6.82%	2.0475***	0.0628
Event - 2 Year	3534	0.0496	0.1178	0.0088	3.12%	-1.83%	-52.02%	-10.78%	3534	-2.1718	0.0582	0.1042	8.62%	1.75%	3.51%	4.98%	2.2214***	0.0596
Event - 1 Year	3557	0.0343	0.1127	0.0093	-30.85%	-4.33%	-30.61%	-6.74%	3557	-2.3088	0.0596	0.1074	6.31%	2.41%	-2.63%	2.52%	2.3431***	0.0531
Event	3264	0.0238	0.1051	0.0098	-30.61%	-6.74%	NA	NA	3264	-2.2481	0.0611	0.1073	-2.63%	2.52%	NA	NA	2.2719***	0.0440
Event + 1 Year	3347	-0.0124	0.1117	0.0111	-152.10%	6.28%	-152.10%	6.28%	3347	-1.9794	0.0619	0.1000	-11.95%	1.31%	-11.95%	1.31%	1.967***	0.0498
Event + 2 Year	3372	-0.0183	0.1149	0.0114	47.58%	2.86%	-176.89%	9.32%	3372	-2.0201	0.0613	0.0990	2.06%	-0.97%	-10.14%	0.33%	2.0018***	0.0536
Event + 3 Year	3335	-0.0230	0.1174	0.0120	25.68%	2.18%	-196.64%	11.70%	3335	-1.9362	0.0600	0.0963	-4.15%	-2.12%	-13.87%	-1.80%	1.9132***	0.0574
Event + 4 Year	3294	-0.0062	0.1246	0.0117	-73.04%	6.13%	-126.05%	18.55%	3294	-1.9401	0.0554	0.0947	0.20%	-7.67%	-13.70%	-9.33%	1.9339***	0.0692
Event + 5 Year	3269	0.0006	0.1208	0.0114	-109.68%	-3.05%	-97.48%	14.94%	3269	-1.9165	0.0554	0.0956	-1.22%	0.00%	-14.75%	-9.33%	1.9171***	0.0654

Table E.2: Long-term Operating Performance: ROA and Tobin's Q Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROA is defined as (EBIT * (1-tax rate)/Book Value of Total Assets) and Tobin's Q is (book value of debt + market value of equity)/(book value of debt + book value of equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	? Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	3390	0.0742	0.0940	0.0028	NA	NA	-31.27%	-19.57%	3390	0.1710	0.0555	0.0077	NA	NA	20.18%	-15.50%	-0.1273***	-0.0279
Event - 4 Year	3438	0.0732	0.0920	0.0027	-1.35%	-2.13%	-30.33%	-17.83%	3438	0.1799	0.0571	0.0079	5.20%	2.88%	14.23%	-17.86%	-0.1381***	-0.0296
Event - 3 Year	3476	0.0713	0.0897	0.0026	-2.60%	-2.50%	-28.47%	-15.72%	3476	0.1960	0.0585	0.0083	8.95%	2.45%	4.85%	-19.83%	-0.1584***	-0.0362
Event - 2 Year	3488	0.0719	0.0900	0.0026	0.84%	0.33%	-29.07%	-16.00%	3488	0.1903	0.0561	0.0081	-2.91%	-4.10%	7.99%	-16.40%	-0.1543***	-0.0322
Event - 1 Year	3510	0.0647	0.0851	0.0026	-10.01%	-5.44%	-21.17%	-11.16%	3510	0.2004	0.0514	0.0087	5.31%	-8.38%	2.54%	-8.75%	-0.1721***	-0.0361
Event	3214	0.0510	0.0756	0.0029	-21.17%	-11.16%	NA	NA	3214	0.2055	0.0469	0.0092	2.54%	-8.75%	NA	NA	-0.1908***	-0.0396
Event + 1 Year	3152	0.0490	0.0770	0.0032	-3.92%	1.85%	-3.92%	1.85%	3152	0.2078	0.0500	0.0091	1.12%	6.61%	1.12%	6.61%	-0.1784***	-0.0360
Event + 2 Year	3218	0.0489	0.0804	0.0033	-0.20%	4.42%	-4.12%	6.35%	3218	0.2047	0.0518	0.0090	-1.49%	3.60%	-0.39%	10.45%	-0.1675***	-0.0313
Event + 3 Year	3178	0.0480	0.0824	0.0034	-1.84%	2.49%	-5.88%	8.99%	3178	0.2218	0.0582	0.0093	8.35%	12.36%	7.93%	24.09%	-0.1746***	-0.0326
Event + 4 Year	3172	0.0549	0.0873	0.0034	14.38%	5.95%	7.65%	15.48%	3172	0.2147	0.0590	0.0090	-3.20%	1.37%	4.48%	25.80%	-0.1662***	-0.0331
Event + 5 Year	3143	0.0559	0.0901	0.0034	1.82%	3.21%	9.61%	19.18%	3143	0.2199	0.0618	0.0090	2.42%	4.75%	7.01%	31.77%	-0.1725***	-0.0341
Tobin's Q																		
Event - 5 Year	3680	2.1293	1.4677	0.0298	NA	NA	-14.76%	-8.54%	3680									
Event - 4 Year	3729	2.0691	1.4500	0.0287	-2.83%	-1.21%	-12.28%	-7.43%	3729	-2.1044	0.0442	0.0992	NA	NA	6.83%	38.24%	2.1398***	0.0790
Event - 3 Year	3702	2.0355	1.4369	0.0281	-1.62%	-0.90%	-10.83%	-6.58%	3702	-1.9658	0.0522	0.0980	-6.59%	18.10%	14.36%	17.05%	2.0034***	0.0692
Event - 2 Year	3745	2.0233	1.4342	0.0278	-0.60%	-0.19%	-10.30%	-6.41%	3745	-1.9994	0.0572	0.1008	1.71%	9.58%	12.44%	6.82%	2.0475***	0.0628
Event - 1 Year	3752	1.9274	1.4109	0.0254	-4.74%	-1.62%	-5.83%	-4.86%	3752	-2.1718	0.0582	0.1042	8.62%	1.75%	3.51%	4.98%	2.2214***	0.0596
Event	3431	1.8150	1.3423	0.0252	-5.83%	-4.86%	NA	NA	3431	-2.3088	0.0596	0.1074	6.31%	2.41%	-2.63%	2.52%	2.3431***	0.0531
Event + 1 Year	3554	2.0427	1.4039	0.0311	12.55%	4.59%	12.55%	4.59%	3554	-2.2481	0.0611	0.1073	-2.63%	2.52%	NA	NA	2.2719***	0.0440
Event + 2 Year	3586	2.1157	1.4083	0.0323	3.57%	0.31%	16.57%	4.92%	3586	-1.9794	0.0619	0.1000	-11.95%	1.31%	-11.95%	1.31%	1.967***	0.0498
Event + 3 Year	3583	2.1600	1.4214	0.0329	2.09%	0.93%	19.01%	5.89%	3583	-2.0201	0.0613	0.0990	2.06%	-0.97%	-10.14%	0.33%	2.0018***	0.0536
Event + 4 Year	3587	2.2401	1.4512	0.0345	3.71%	2.10%	23.42%	8.11%	3587	-1.9362	0.0600	0.0963	-4.15%	-2.12%	-13.87%	-1.80%	1.9132***	0.0574
Event + 5 Year	3584	2.2422	1.4651	0.0337	0.09%	0.96%	23.54%	9.15%	3584	-1.9401	0.0554	0.0947	0.20%	-7.67%	-13.70%	-9.33%	1.9339***	0.0692

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	3390	0.0742	0.0940	0.0028	NA	NA	-31.27%	-19.57%	3390	0.0293	0.0631	0.0023	NA	NA	43.34%	3.80%	0.0449***	0.0309
Event - 4 Year	3438	0.0732	0.0920	0.0027	-1.35%	-2.13%	-30.33%	-17.83%	3438	0.0340	0.0633	0.0022	16.04%	0.32%	23.53%	3.48%	0.0392***	0.0287
Event - 3 Year	3476	0.0713	0.0897	0.0026	-2.60%	-2.50%	-28.47%	-15.72%	3476	0.0374	0.0652	0.0022	10.00%	3.00%	12.30%	0.46%	0.0339***	0.0245
Event - 2 Year	3488	0.0719	0.0900	0.0026	0.84%	0.33%	-29.07%	-16.00%	3488	0.0428	0.0711	0.0021	14.44%	9.05%	-1.87%	-7.88%	0.0291***	0.0189
Event - 1 Year	3510	0.0647	0.0851	0.0026	-10.01%	-5.44%	-21.17%	-11.16%	3510	0.0408	0.0684	0.0021	-4.67%	-3.80%	2.94%	-4.24%	0.0239***	0.0167
Event	3214	0.0510	0.0756	0.0029	-21.17%	-11.16%	NA	NA	3214	0.0420	0.0655	0.0021	2.94%	-4.24%	NA	NA	0.009***	0.0101
Event + 1 Year	3152	0.0490	0.0770	0.0032	-3.92%	1.85%	-3.92%	1.85%	3152	0.0431	0.0704	0.0020	2.62%	7.48%	2.62%	7.48%	0.0059*	0.0066
Event + 2 Year	3218	0.0489	0.0804	0.0033	-0.20%	4.42%	-4.12%	6.35%	3218	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	0.0063*	0.0058
Event + 3 Year	3178	0.0480	0.0824	0.0034	-1.84%	2.49%	-5.88%	8.99%	3178	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	15.11%	0.006*	0.0070
Event + 4 Year	3172	0.0549	0.0873	0.0034	14.38%	5.95%	7.65%	15.48%	3172	0.0418	0.0767	0.0021	-0.48%	1.72%	-0.48%	17.10%	0.0131***	0.0106
Event + 5 Year	3143	0.0559	0.0901	0.0034	1.82%	3.21%	9.61%	19.18%	3143	0.0392	0.0740	0.0021	-6.22%	-3.52%	-6.67%	12.98%	0.0167***	0.0161
Tobin's Q																		
Event - 5 Year	3680	2.1293	1.4677	0.0298	NA	NA	-14.76%	-8.54%	3680	3.2678	1.9922	0.0724	NA	NA	4.79%	3.56%	-1.1385***	-0.5245
Event - 4 Year	3729	2.0691	1.4500	0.0287	-2.83%	-1.21%	-12.28%	-7.43%	3729	3.1860	1.9719	0.0710	-2.50%	-1.02%	7.48%	4.62%	-1.1169***	-0.5219
Event - 3 Year	3702	2.0355	1.4369	0.0281	-1.62%	-0.90%	-10.83%	-6.58%	3702	3.4799	2.0334	0.0790	9.22%	3.12%	-1.60%	1.46%	-1.4444***	-0.5965
Event - 2 Year	3745	2.0233	1.4342	0.0278	-0.60%	-0.19%	-10.30%	-6.41%	3745	3.5334	2.0549	0.0797	1.54%	1.06%	-3.09%	0.40%	-1.5101***	-0.6207
Event - 1 Year	3752	1.9274	1.4109	0.0254	-4.74%	-1.62%	-5.83%	-4.86%	3752	3.5107	2.0684	0.0790	-0.64%	0.66%	-2.46%	-0.26%	-1.5833***	-0.6575
Event	3431	1.8150	1.3423	0.0252	-5.83%	-4.86%	NA	NA	3431	3.4243	2.0631	0.0783	-2.46%	-0.26%	NA	NA	-1.6093***	-0.7208
Event + 1 Year	3554	2.0427	1.4039	0.0311	12.55%	4.59%	12.55%	4.59%	3554	3.2856	1.9551	0.0739	-4.05%	-5.23%	-4.05%	-5.23%	-1.2429***	-0.5512
Event + 2 Year	3586	2.1157	1.4083	0.0323	3.57%	0.31%	16.57%	4.92%	3586	3.1534	1.9450	0.0690	-4.02%	-0.52%	-7.91%	-5.72%	-1.0377***	-0.5367
Event + 3 Year	3583	2.1600	1.4214	0.0329	2.09%	0.93%	19.01%	5.89%	3583	3.1944	1.9602	0.0708	1.30%	0.78%	-6.71%	-4.99%	-1.0344***	-0.5388
Event + 4 Year	3587	2.2401	1.4512	0.0345	3.71%	2.10%	23.42%	8.11%	3587	3.2575	1.9780	0.0714	1.98%	0.91%	-4.87%	-4.12%	-1.0174***	-0.5268
Event + 5 Year	3584	2.2422	1.4651	0.0337	0.09%	0.96%	23.54%	9.15%	3584	3.3098	2.0193	0.0716	1.61%	2.09%	-3.34%	-2.12%	-1.0676***	-0.5542

Table E.3: Long-term Operating Performance: ROE and ROIC Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROE is defined as (Net Income / Book Value of Equity) and ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	3728	-0.0116	0.0705	0.0068	NA	NA	449.14%	-49.93%	3728	-0.0354	0.0710	0.0075	NA	NA	-67.80%	8.87%	0.0238**	-0.0005
Event - 4 Year	3776	-0.0174	0.0709	0.0070	50.00%	0.57%	266.09%	-50.21%	3776	-0.0299	0.0742	0.0076	-15.54%	4.51%	-61.87%	4.18%	0.0125	-0.0033
Event - 3 Year	3782	-0.0074	0.0668	0.0067	-57.47%	-5.78%	760.81%	-47.16%	3782	-0.0136	0.0771	0.0072	-54.52%	3.91%	-16.18%	0.26%	0.0062	-0.0103
Event - 2 Year	3777	-0.0223	0.0618	0.0067	201.35%	-7.49%	185.65%	-42.88%	3777	-0.0105	0.0782	0.0073	-22.79%	1.43%	8.57%	-1.15%	-0.0118	-0.0164
Event - 1 Year	3803	-0.0375	0.0534	0.0068	68.16%	-13.59%	69.87%	-33.90%	3803	-0.0159	0.0791	0.0074	51.43%	1.15%	-28.30%	-2.28%	-0.0215**	-0.0257
Event	3483	-0.0637	0.0353	0.0076	69.87%	-33.90%	NA	NA	3483	-0.0114	0.0773	0.0075	-28.30%	-2.28%	NA	NA	-0.0523***	-0.0420
Event + 1 Year	3424	-0.0710	0.0454	0.0082	11.46%	28.61%	11.46%	28.61%	3424	-0.0255	0.0752	0.0076	123.68%	-2.72%	123.68%	-2.72%	-0.0455***	-0.0298
Event + 2 Year	3531	-0.0626	0.0555	0.0081	-11.83%	22.25%	-1.73%	57.22%	3531	-0.0403	0.0685	0.0078	58.04%	-8.91%	253.51%	-11.38%	-0.0223**	-0.0130
Event + 3 Year	3499	-0.0511	0.0631	0.0080	-18.37%	13.69%	-19.78%	78.75%	3499	-0.0394	0.0702	0.0078	-2.23%	2.48%	245.61%	-9.18%	-0.0116	-0.0071
Event + 4 Year	3525	-0.0453	0.0675	0.0078	-11.35%	6.97%	-28.89%	91.22%	3525	-0.0584	0.0662	0.0083	48.22%	-5.70%	412.28%	-14.36%	0.0131	0.0013
Event + 5 Year	3526	-0.0261	0.0734	0.0076	-42.38%	8.74%	-59.03%	107.93%	3526	-0.0495	0.0726	0.0081	-15.24%	9.67%	334.21%	-6.08%	0.0234**	0.0008
ROIC																		
Event - 5 Year	3622	0.0326	0.0516	0.0025	NA	NA	-69.94%	-27.71%	3622	0.0222	0.0539	0.0029	NA	NA	42.79%	5.57%	0.0104***	-0.0023
Event - 4 Year	3656	0.0292	0.0504	0.0025	-10.43%	-2.33%	-66.44%	-25.99%	3656	0.0211	0.0530	0.0029	-4.95%	-1.67%	50.24%	7.36%	0.0081**	-0.0026
Event - 3 Year	3663	0.0297	0.0496	0.0024	1.71%	-1.59%	-67.00%	-24.80%	3663	0.0282	0.0552	0.0028	33.65%	4.15%	12.41%	3.08%	0.0016	-0.0056
Event - 2 Year	3649	0.0299	0.0490	0.0024	0.67%	-1.21%	-67.22%	-23.88%	3649	0.0297	0.0556	0.0028	5.32%	0.72%	6.73%	2.34%	0.0002	-0.0066
Event - 1 Year	3679	0.0233	0.0448	0.0024	-22.07%	-8.57%	-57.94%	-16.74%	3679	0.0293	0.0565	0.0028	-1.35%	1.62%	8.19%	0.71%	-0.0061	-0.0117
Event	3360	0.0098	0.0373	0.0027	-57.94%	-16.74%	NA	NA	3360	0.0317	0.0569	0.0028	8.19%	0.71%	NA	NA	-0.0219***	-0.0196
Event + 1 Year	3309	0.0106	0.0418	0.0029	8.16%	12.06%	8.16%	12.06%	3309	0.0256	0.0560	0.0029	-19.24%	-1.58%	-19.24%	-1.58%	-0.0150***	-0.0142
Event + 2 Year	3410	0.0130	0.0466	0.0030	22.64%	11.48%	32.65%	24.93%	3410	0.0191	0.0531	0.0030	-25.39%	-5.18%	-39.75%	-6.68%	-0.0061	-0.0065
Event + 3 Year	3397	0.0128	0.0490	0.0031	-1.54%	5.15%	30.61%	31.37%	3397	0.0190	0.0534	0.0031	-0.52%	0.56%	-40.06%	-6.15%	-0.0062	-0.0044
Event + 4 Year	3406	0.0185	0.0531	0.0030	44.53%	8.37%	88.78%	42.36%	3406	0.0126	0.0504	0.0031	-33.68%	-5.62%	-60.25%	-11.42%	0.0059	0.0027
Event + 5 Year	3412	0.0196	0.0532	0.0030	5.95%	0.19%	100.00%	42.63%	3412	0.0132	0.0527	0.0031	4.76%	4.56%	-58.36%	-7.38%	0.0064	0.0005

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	3728	-0.0116	0.0705	0.0068	NA	NA	449.14%	-49.93%	3728	-0.0002	0.0047	0.0089	NA	NA	-8000.00%	317.02%	-0.0114	0.0658
Event - 4 Year	3776	-0.0174	0.0709	0.0070	50.00%	0.57%	266.09%	-50.21%	3776	0.0029	0.0065	0.0089	-1550.00%	38.30%	444.83%	201.54%	-0.0203*	0.0644
Event - 3 Year	3782	-0.0074	0.0668	0.0067	-57.47%	-5.78%	760.81%	-47.16%	3782	0.0297	0.0150	0.0089	924.14%	130.77%	-46.80%	30.67%	-0.0371***	0.0518
Event - 2 Year	3777	-0.0223	0.0618	0.0067	201.35%	-7.49%	185.65%	-42.88%	3777	0.0272	0.0202	0.0087	-8.42%	34.67%	-41.91%	-2.97%	-0.0495***	0.0416
Event - 1 Year	3803	-0.0375	0.0534	0.0068	68.16%	-13.59%	69.87%	-33.90%	3803	0.0209	0.0166	0.0086	-23.16%	-17.82%	-24.40%	18.07%	-0.0584***	0.0368
Event	3483	-0.0637	0.0353	0.0076	69.87%	-33.90%	NA	NA	3483	0.0158	0.0196	0.0085	-24.40%	18.07%	NA	NA	-0.0795***	0.0157
Event + 1 Year	3424	-0.0710	0.0454	0.0082	11.46%	28.61%	11.46%	28.61%	3424	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	-0.103***	0.0246
Event + 2 Year	3531	-0.0626	0.0555	0.0081	-11.83%	22.25%	-1.73%	57.22%	3531	0.0008	0.0202	0.0083	-97.50%	-2.88%	-94.94%	3.06%	-0.0634***	0.0353
Event + 3 Year	3499	-0.0511	0.0631	0.0080	-18.37%	13.69%	-19.78%	78.75%	3499	0.0148	0.0232	0.0085	1750.00%	14.85%	-6.33%	18.37%	-0.0659***	0.0399
Event + 4 Year	3525	-0.0453	0.0675	0.0078	-11.35%	6.97%	-28.89%	91.22%	3525	0.0241	0.0232	0.0086	62.84%	0.00%	52.53%	18.37%	-0.0694***	0.0443
Event + 5 Year	3526	-0.0261	0.0734	0.0076	-42.38%	8.74%	-59.03%	107.93%	3526	0.0161	0.0181	0.0085	-33.20%	-21.98%	1.90%	-7.65%	-0.0422***	0.0553
ROIC																		
Event - 5 Year	3622	0.0326	0.0516	0.0025	NA	NA	-69.94%	-27.71%	3622	0.0318	0.0434	0.0030	NA	NA	21.70%	8.06%	0.0008	0.0082
Event - 4 Year	3656	0.0292	0.0504	0.0025	-10.43%	-2.33%	-66.44%	-25.99%	3656	0.0354	0.0445	0.0029	11.32%	2.53%	9.32%	5.39%	-0.0062*	0.0059
Event - 3 Year	3663	0.0297	0.0496	0.0024	1.71%	-1.59%	-67.00%	-24.80%	3663	0.0380	0.0453	0.0028	7.34%	1.80%	1.84%	3.53%	-0.0083**	0.0043
Event - 2 Year	3649	0.0299	0.0490	0.0024	0.67%	-1.21%	-67.22%	-23.88%	3649	0.0401	0.0469	0.0028	5.53%	3.53%	-3.49%	0.00%	-0.0102***	0.0021
Event - 1 Year	3679	0.0233	0.0448	0.0024	-22.07%	-8.57%	-57.94%	-16.74%	3679	0.0387	0.0475	0.0027	-3.49%	1.28%	0.00%	-1.26%	-0.0154***	-0.0027
Event	3360	0.0098	0.0373	0.0027	-57.94%	-16.74%	NA	NA	3360	0.0387	0.0469	0.0026	0.00%	-1.26%	NA	NA	-0.0289***	-0.0096
Event + 1 Year	3309	0.0106	0.0418	0.0029	8.16%	12.06%	8.16%	12.06%	3309	0.0398	0.0480	0.0027	2.84%	2.35%	2.84%	2.35%	-0.0292***	-0.0062
Event + 2 Year	3410	0.0130	0.0466	0.0030	22.64%	11.48%	32.65%	24.93%	3410	0.0361	0.0500	0.0026	-9.30%	4.17%	-6.72%	6.61%	-0.0231***	-0.0034
Event + 3 Year	3397	0.0128	0.0490	0.0031	-1.54%	5.15%	30.61%	31.37%	3397	0.0373	0.0500	0.0026	3.32%	0.00%	-3.62%	6.61%	-0.0245***	-0.0010
Event + 4 Year	3406	0.0185	0.0531	0.0030	44.53%	8.37%	88.78%	42.36%	3406	0.0382	0.0498	0.0027	2.41%	-0.40%	-1.29%	6.18%	-0.0197***	0.0033
Event + 5 Year	3412	0.0196	0.0532	0.0030	5.95%	0.19%	100.00%	42.63%	3412	0.0352	0.0486	0.0027	-7.85%	-2.41%	-9.04%	3.62%	-0.0156***	0.0046

Table E.4: Long-term Operating Performance: Enterprise Value / LTM EBITDA Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EV / EBITDA is ((book value of debt + book value of equity − cash) / LTM EBITDA). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	3299	7.9167	7.4668	0.2676	NA	NA	-11.72%	-2.45%	3299	7.1117	7.0870	0.2646	NA	NA	-2.17%	3.28%	0.8049**	0.3798
Event - 4 Year	3357	7.4075	7.3473	0.2596	-6.43%	-1.60%	-5.66%	-0.86%	3357	6.9159	7.0893	0.2664	-2.75%	0.03%	0.60%	3.24%	0.4916	0.2580
Event - 3 Year	3387	6.9591	7.3992	0.2614	-6.05%	0.71%	0.42%	-1.56%	3387	7.0680	7.2655	0.2615	2.20%	2.49%	-1.57%	0.74%	-0.1089	0.1337
Event - 2 Year	3417	7.2456	7.3126	0.2573	4.12%	-1.17%	-3.55%	-0.39%	3417	6.7148	7.2847	0.2631	-5.00%	0.26%	3.61%	0.47%	0.5307	0.0279
Event - 1 Year	3433	7.5565	7.3750	0.2498	4.29%	0.85%	-7.52%	-1.24%	3433	7.3030	7.3891	0.2605	8.76%	1.43%	-4.74%	-0.95%	0.2535	-0.0141
Event	3132	6.9885	7.2838	0.2734	-7.52%	-1.24%	NA	NA	3132	6.9571	7.3192	0.2525	-4.74%	-0.95%	NA	NA	0.0314	-0.0354
Event + 1 Year	3128	6.4050	6.6249	0.2684	-8.35%	-9.05%	-8.35%	-9.05%	3128	6.6881	7.0990	0.2626	-3.87%	-3.01%	-3.87%	-3.01%	-0.2832	-0.4741
Event + 2 Year	3164	6.3093	6.4980	0.2704	-1.49%	-1.92%	-9.72%	-10.79%	3164	6.5543	6.8909	0.2595	-2.00%	-2.93%	-5.79%	-5.85%	-0.2450	-0.3929
Event + 3 Year	3140	6.0574	6.6173	0.2704	-3.99%	1.84%	-13.32%	-9.15%	3140	6.4953	6.8725	0.2660	-0.90%	-0.27%	-6.64%	-6.10%	-0.4379	-0.2552
Event + 4 Year	3124	6.6868	6.7511	0.2726	10.39%	2.02%	-4.32%	-7.31%	3124	6.0997	6.7409	0.2715	-6.09%	-1.91%	-12.32%	-7.90%	0.5871	0.0102
Event + 5 Year	3094	6.3927	6.8210	0.2764	-4.40%	1.04%	-8.53%	-6.35%	3094	5.7593	6.6782	0.2696	-5.58%	-0.93%	-17.22%	-8.76%	0.6334	0.1428

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	3299	7.9167	7.4668	0.2676	NA	NA	-11.72%	-2.45%	3299	6.4108	6.7441	0.0874	NA	NA	-0.21%	4.38%	1.5059***	0.7227
Event - 4 Year	3357	7.4075	7.3473	0.2596	-6.43%	-1.60%	-5.66%	-0.86%	3357	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.8584***	0.3335
Event - 3 Year	3387	6.9591	7.3992	0.2614	-6.05%	0.71%	0.42%	-1.56%	3387	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.5593**	0.3734
Event - 2 Year	3417	7.2456	7.3126	0.2573	4.12%	-1.17%	-3.55%	-0.39%	3417	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	0.96***	0.3668
Event - 1 Year	3433	7.5565	7.3750	0.2498	4.29%	0.85%	-7.52%	-1.24%	3433	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	1.2535***	0.3395
Event	3132	6.9885	7.2838	0.2734	-7.52%	-1.24%	NA	NA	3132	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	0.5913**	0.2441
Event + 1 Year	3128	6.4050	6.6249	0.2684	-8.35%	-9.05%	-8.35%	-9.05%	3128	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	0.2388	-0.1440
Event + 2 Year	3164	6.3093	6.4980	0.2704	-1.49%	-1.92%	-9.72%	-10.79%	3164	5.9542	6.6791	0.0896	-3.44%	-1.33%	-6.92%	-5.12%	0.3551	-0.1811
Event + 3 Year	3140	6.0574	6.6173	0.2704	-3.99%	1.84%	-13.32%	-9.15%	3140	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	0.17	-0.0354
Event + 4 Year	3124	6.6868	6.7511	0.2726	10.39%	2.02%	-4.32%	-7.31%	3124	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	0.8668***	0.1248
Event + 5 Year	3094	6.3927	6.8210	0.2764	-4.40%	1.04%	-8.53%	-6.35%	3094	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	0.5143**	0.2794

Table E.5: Long-term Operating Performance: Cash-to-Market Capitalization and Cash-to-Assets Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Cash/Market Cap is defined as (Total Cash / Market Capitalization) and Cash/Assets is (Total Cash / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	3726	0.2556	0.1322	0.0060	NA	NA	25.63%	24.74%	3726	0.3079	0.1350	0.0077	NA	NA	5.07%	6.96%	-0.0524***	-0.0028
Event - 4 Year	3771	0.2726	0.1403	0.0063	6.65%	6.13%	17.79%	17.53%	3771	0.3128	0.1401	0.0078	1.59%	3.78%	3.42%	3.07%	-0.0402***	0.0002
Event - 3 Year	3759	0.2778	0.1451	0.0064	1.91%	3.42%	15.59%	13.65%	3759	0.3148	0.1426	0.0077	0.64%	1.78%	2.76%	1.26%	-0.0370***	0.0025
Event - 2 Year	3796	0.2793	0.1481	0.0063	0.54%	2.07%	14.97%	11.34%	3796	0.3115	0.1432	0.0077	-1.05%	0.42%	3.85%	0.84%	-0.0322***	0.0049
Event - 1 Year	3807	0.2871	0.1560	0.0063	2.79%	5.33%	11.84%	5.71%	3807	0.3175	0.1430	0.0079	1.93%	-0.14%	1.89%	0.98%	-0.0304***	0.0130
Event	3484	0.3211	0.1649	0.0074	11.84%	5.71%	NA	NA	3484	0.3235	0.1444	0.0081	1.89%	0.98%	NA	NA	-0.0024	0.0205
Event + 1 Year	3604	0.3240	0.1604	0.0075	0.90%	-2.73%	0.90%	-2.73%	3604	0.3337	0.1446	0.0082	3.15%	0.14%	3.15%	0.14%	-0.0097	0.0158
Event + 2 Year	3632	0.3171	0.1468	0.0075	-2.13%	-8.48%	-1.25%	-10.98%	3632	0.3341	0.1511	0.0083	0.12%	4.50%	3.28%	4.64%	-0.0170	-0.0043
Event + 3 Year	3624	0.3037	0.1402	0.0073	-4.23%	-4.50%	-5.42%	-14.98%	3624	0.3216	0.1437	0.0080	-3.74%	-4.90%	-0.59%	-0.48%	-0.0180*	-0.0035
Event + 4 Year	3631	0.2900	0.1319	0.0072	-4.51%	-5.92%	-9.69%	-20.01%	3631	0.3153	0.1374	0.0079	-1.96%	-4.38%	-2.53%	-4.85%	-0.0253**	-0.0055
Event + 5 Year	3616	0.2808	0.1272	0.0072	-3.17%	-3.56%	-12.55%	-22.86%	3616	0.3151	0.1362	0.0081	-0.06%	-0.87%	-2.60%	-5.68%	-0.0343***	-0.0090
Cash / Assets																		
Event - 5 Year	3812	0.1878	0.0944	0.0035	NA	NA	-3.25%	3.71%	3812	0.2010	0.1019	0.0037	NA	NA	-2.99%	6.48%	-0.0132***	-0.0075
Event - 4 Year	3850	0.1887	0.0996	0.0034	0.48%	5.51%	-3.71%	-1.71%	3850	0.2041	0.1058	0.0037	1.54%	3.83%	-4.46%	2.55%	-0.0154***	-0.0062
Event - 3 Year	3834	0.1927	0.1026	0.0035	2.12%	3.01%	-5.71%	-4.58%	3834	0.2004	0.1073	0.0036	-1.81%	1.42%	-2.69%	1.12%	-0.0077	-0.0047
Event - 2 Year	3856	0.1933	0.1062	0.0034	0.31%	3.51%	-6.00%	-7.82%	3856	0.2011	0.1076	0.0036	0.35%	0.28%	-3.03%	0.84%	-0.0078	-0.0014
Event - 1 Year	3873	0.1920	0.1057	0.0034	-0.67%	-0.47%	-5.36%	-7.38%	3873	0.2007	0.1130	0.0036	-0.20%	5.02%	-2.84%	-3.98%	-0.0087*	-0.0073
Event	3543	0.1817	0.0979	0.0034	-5.36%	-7.38%	NA	NA	3543	0.1950	0.1085	0.0035	-2.84%	-3.98%	NA	NA	-0.0133***	-0.0106
Event + 1 Year	3682	0.1983	0.1014	0.0037	9.14%	3.58%	9.14%	3.58%	3682	0.2024	0.1076	0.0037	3.79%	-0.83%	3.79%	-0.83%	-0.0040	-0.0062
Event + 2 Year	3716	0.1965	0.1007	0.0036	-0.91%	-0.69%	8.15%	2.86%	3716	0.2031	0.1087	0.0037	0.35%	1.02%	4.15%	0.18%	-0.0066	-0.0080
Event + 3 Year	3708	0.1966	0.0968	0.0037	0.05%	-3.87%	8.20%	-1.12%	3708	0.2012	0.1062	0.0037	-0.94%	-2.30%	3.18%	-2.12%	-0.0047	-0.0094
Event + 4 Year	3710	0.1957	0.0983	0.0037	-0.46%	1.55%	7.71%	0.41%	3710	0.2016	0.1017	0.0037	0.20%	-4.24%	3.38%	-6.27%	-0.0058	-0.0034
Event + 5 Year	3694	0.1928	0.0938	0.0037	-1.48%	-4.58%	6.11%	-4.19%	3694	0.1981	0.1003	0.0037	-1.74%	-1.38%	1.59%	-7.56%	-0.0053	-0.0065

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	3726	0.2556	0.1322	0.0060	NA	NA	25.63%	24.74%	3726	0.6269	0.3307	0.0137	NA	NA	-3.88%	-2.99%	-0.3713***	-0.1985
Event - 4 Year	3771	0.2726	0.1403	0.0063	6.65%	6.13%	17.79%	17.53%	3771	0.6285	0.3267	0.0137	0.26%	-1.21%	-4.12%	-1.81%	-0.3559***	-0.1864
Event - 3 Year	3759	0.2778	0.1451	0.0064	1.91%	3.42%	15.59%	13.65%	3759	0.6341	0.3303	0.0138	0.89%	1.10%	-4.97%	-2.88%	-0.3563***	-0.1852
Event - 2 Year	3796	0.2793	0.1481	0.0063	0.54%	2.07%	14.97%	11.34%	3796	0.6199	0.3308	0.0136	-2.24%	0.15%	-2.79%	-3.02%	-0.3406***	-0.1827
Event - 1 Year	3807	0.2871	0.1560	0.0063	2.79%	5.33%	11.84%	5.71%	3807	0.5986	0.3214	0.0132	-3.44%	-2.84%	0.67%	-0.19%	-0.3115***	-0.1654
Event	3484	0.3211	0.1649	0.0074	11.84%	5.71%	NA	NA	3484	0.6026	0.3208	0.0134	0.67%	-0.19%	NA	NA	-0.2815***	-0.1559
Event + 1 Year	3604	0.3240	0.1604	0.0075	0.90%	-2.73%	0.90%	-2.73%	3604	0.6397	0.3155	0.0144	6.16%	-1.65%	6.16%	-1.65%	-0.3157***	-0.1551
Event + 2 Year	3632	0.3171	0.1468	0.0075	-2.13%	-8.48%	-1.25%	-10.98%	3632	0.6466	0.3135	0.0149	1.08%	-0.63%	7.30%	-2.28%	-0.3295***	-0.1667
Event + 3 Year	3624	0.3037	0.1402	0.0073	-4.23%	-4.50%	-5.42%	-14.98%	3624	0.6510	0.3018	0.0152	0.68%	-3.73%	8.03%	-5.92%	-0.3473***	-0.1616
Event + 4 Year	3631	0.2900	0.1319	0.0072	-4.51%	-5.92%	-9.69%	-20.01%	3631	0.6464	0.2914	0.0152	-0.71%	-3.45%	7.27%	-9.16%	-0.3564***	-0.1595
Event + 5 Year	3616	0.2808	0.1272	0.0072	-3.17%	-3.56%	-12.55%	-22.86%	3616	0.6350	0.2908	0.0151	-1.76%	-0.21%	5.38%	-9.35%	-0.3542***	-0.1636
Cash / Assets																		
Event - 5 Year	3812	0.1878	0.0944	0.0035	NA	NA	-3.25%	3.71%	3812	0.1889	0.1324	0.0022	NA	NA	10.43%	10.80%	-0.0011	-0.0380
Event - 4 Year	3850	0.1887	0.0996	0.0034	0.48%	5.51%	-3.71%	-1.71%	3850	0.1909	0.1345	0.0022	1.06%	1.59%	9.27%	9.07%	-0.0022	-0.0349
Event - 3 Year	3834	0.1927	0.1026	0.0035	2.12%	3.01%	-5.71%	-4.58%	3834	0.1907	0.1350	0.0022	-0.10%	0.37%	9.39%	8.67%	0.002	-0.0324
Event - 2 Year	3856	0.1933	0.1062	0.0034	0.31%	3.51%	-6.00%	-7.82%	3856	0.1940	0.1388	0.0022	1.73%	2.81%	7.53%	5.69%	-0.0007	-0.0326
Event - 1 Year	3873	0.1920	0.1057	0.0034	-0.67%	-0.47%	-5.36%	-7.38%	3873	0.1997	0.1399	0.0023	2.94%	0.79%	4.46%	4.86%	-0.0077*	-0.0342
Event	3543	0.1817	0.0979	0.0034	-5.36%	-7.38%	NA	NA	3543	0.2086	0.1467	0.0023	4.46%	4.86%	NA	NA	-0.0269***	-0.0488
Event + 1 Year	3682	0.1983	0.1014	0.0037	9.14%	3.58%	9.14%	3.58%	3682	0.1997	0.1399	0.0023	-4.27%	-4.64%	-4.27%	-4.64%	-0.0014	-0.0385
Event + 2 Year	3716	0.1965	0.1007	0.0036	-0.91%	-0.69%	8.15%	2.86%	3716	0.1940	0.1388	0.0022	-2.85%	-0.79%	-7.00%	-5.39%	0.0025	-0.0381
Event + 3 Year	3708	0.1966	0.0968	0.0037	0.05%	-3.87%	8.20%	-1.12%	3708	0.1907	0.1350	0.0022	-1.70%	-2.74%	-8.58%	-7.98%	0.0059	-0.0382
Event + 4 Year	3710	0.1957	0.0983	0.0037	-0.46%	1.55%	7.71%	0.41%	3710	0.1909	0.1345	0.0022	0.10%	-0.37%	-8.49%	-8.32%	0.0048	-0.0362
Event + 5 Year	3694	0.1928	0.0938	0.0037	-1.48%	-4.58%	6.11%	-4.19%	3694	0.1889	0.1324	0.0022	-1.05%	-1.56%	-9.44%	-9.75%	0.0039	-0.0386

Table E.6: Long-term Operating Performance: Debt-to-EBITDA and Net Leverage Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Debt / EBITDA is (Total Debt / EBITDA) and Leverage (net) is defined as a ((Total Debt - Cash) / Total Equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	3372	2.4538	1.1809	0.0721	NA	NA	7.60%	9.28%	3372	2.2136	0.9313	0.0716	NA	NA	-3.28%	4.45%	0.2402**	0.2496
Event - 4 Year	3423	2.3501	1.1144	0.0710	-4.23%	-5.63%	12.34%	15.80%	3423	2.1899	0.9361	0.0706	-1.07%	0.52%	-2.23%	3.91%	0.1602	0.1783
Event - 3 Year	3444	2.5671	1.1835	0.0754	9.23%	6.20%	2.85%	9.04%	3444	2.2295	0.9885	0.0712	1.81%	5.60%	-3.97%	-1.60%	0.3377***	0.1950
Event - 2 Year	3460	2.5445	1.1799	0.0747	-0.88%	-0.30%	3.76%	9.37%	3460	2.2085	0.9479	0.0699	-0.94%	-4.11%	-3.06%	2.62%	0.3360***	0.2320
Event - 1 Year	3483	2.5749	1.2251	0.0746	1.19%	3.83%	2.54%	5.34%	3483	2.2380	0.9881	0.0719	1.34%	4.24%	-4.33%	-1.56%	0.3370***	0.2370
Event	3183	2.6402	1.2905	0.0818	2.54%	5.34%	NA	NA	3183	2.1410	0.9727	0.0720	-4.33%	-1.56%	NA	NA	0.4992***	0.3178
Event + 1 Year	3185	2.5180	1.2153	0.0800	-4.63%	-5.83%	-4.63%	-5.83%	3185	2.1759	0.9043	0.0731	1.63%	-7.03%	1.63%	-7.03%	0.3421***	0.3110
Event + 2 Year	3230	2.3692	1.1406	0.0779	-5.91%	-6.15%	-10.26%	-11.62%	3230	2.1784	0.9551	0.0714	0.11%	5.62%	1.75%	-1.81%	0.1909*	0.1855
Event + 3 Year	3202	2.4358	1.2109	0.0759	2.81%	6.16%	-7.74%	-6.17%	3202	2.1789	0.9098	0.0726	0.02%	-4.74%	1.77%	-6.47%	0.2569**	0.3011
Event + 4 Year	3179	2.3015	1.0829	0.0735	-5.51%	-10.57%	-12.83%	-16.09%	3179	2.0933	0.8442	0.0722	-3.93%	-7.21%	-2.23%	-13.21%	0.2082**	0.2387
Event + 5 Year	3156	2.2563	1.0779	0.0729	-1.96%	-0.46%	-14.54%	-16.47%	3156	2.1203	0.9766	0.0739	1.29%	15.68%	-0.97%	0.40%	0.1360	0.1013
Leverage (net)																		
Event - 5 Year	3732	0.4355	0.1336	0.0227	NA	NA	2.50%	1.72%	3732	0.3599	0.0875	0.0218	NA	NA	-10.09%	-20.80%	0.0756**	0.0461
Event - 4 Year	3779	0.4338	0.1088	0.0229	-0.39%	-18.56%	2.90%	24.91%	3779	0.3405	0.0688	0.0219	-5.39%	-21.37%	-4.96%	0.73%	0.0933***	0.0400
Event - 3 Year	3754	0.4034	0.0925	0.0227	-7.01%	-14.98%	10.66%	46.92%	3754	0.3471	0.0740	0.0218	1.94%	7.56%	-6.77%	-6.35%	0.0562*	0.0185
Event - 2 Year	3777	0.3933	0.0957	0.0225	-2.50%	3.46%	13.50%	42.01%	3777	0.3169	0.0736	0.0210	-8.70%	-0.54%	2.11%	-5.84%	0.0763**	0.0221
Event - 1 Year	3799	0.4177	0.1090	0.0226	6.20%	13.90%	6.87%	24.68%	3799	0.3287	0.0685	0.0213	3.72%	-6.93%	-1.55%	1.17%	0.0889***	0.0405
Event	3482	0.4464	0.1359	0.0239	6.87%	24.68%	NA	NA	3482	0.3236	0.0693	0.0217	-1.55%	1.17%	NA	NA	0.1228***	0.0666
Event + 1 Year	3549	0.3771	0.1104	0.0230	-15.52%	-18.76%	-15.52%	-18.76%	3549	0.3289	0.0448	0.0222	1.64%	-35.35%	1.64%	-35.35%	0.0482	0.0656
Event + 2 Year	3598	0.3494	0.0751	0.0228	-7.35%	-31.97%	-21.73%	-44.74%	3598	0.3200	0.0438	0.0220	-2.71%	-2.23%	-1.11%	-36.80%	0.0295	0.0313
Event + 3 Year	3584	0.3782	0.0920	0.0236	8.24%	22.50%	-15.28%	-32.30%	3584	0.3515	0.0514	0.0225	9.84%	17.35%	8.62%	-25.83%	0.0267	0.0406
Event + 4 Year	3603	0.3528	0.0876	0.0223	-6.72%	-4.78%	-20.97%	-35.54%	3603	0.3235	0.0510	0.0221	-7.97%	-0.78%	-0.03%	-26.41%	0.0293	0.0366
Event + 5 Year	3586	0.3557	0.0981	0.0224	0.82%	11.99%	-20.32%	-27.81%	3586	0.3454	0.0600	0.0227	6.77%	17.65%	6.74%	-13.42%	0.0102	0.0381

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	3372	2.4538	1.1809	0.0721	NA	NA	7.60%	9.28%	3372	2.1439	1.4325	0.0554	NA	NA	-4.18%	1.19%	0.3099***	-0.2516
Event - 4 Year	3423	2.3501	1.1144	0.0710	-4.23%	-5.63%	12.34%	15.80%	3423	2.2049	1.4900	0.0554	2.85%	4.01%	-6.83%	-2.71%	0.1452*	-0.3756
Event - 3 Year	3444	2.5671	1.1835	0.0754	9.23%	6.20%	2.85%	9.04%	3444	2.0611	1.3719	0.0537	-6.52%	-7.93%	-0.33%	5.66%	0.506***	-0.1884
Event - 2 Year	3460	2.5445	1.1799	0.0747	-0.88%	-0.30%	3.76%	9.37%	3460	2.0217	1.3719	0.0535	-1.91%	0.00%	1.61%	5.66%	0.5228***	-0.1920
Event - 1 Year	3483	2.5749	1.2251	0.0746	1.19%	3.83%	2.54%	5.34%	3483	2.0661	1.4410	0.0562	2.20%	5.04%	-0.57%	0.60%	0.5088***	-0.2159
Event	3183	2.6402	1.2905	0.0818	2.54%	5.34%	NA	NA	3183	2.0543	1.4496	0.0553	-0.57%	0.60%	NA	NA	0.5859***	-0.1591
Event + 1 Year	3185	2.5180	1.2153	0.0800	-4.63%	-5.83%	-4.63%	-5.83%	3185	2.2315	1.5676	0.0570	8.63%	8.14%	8.63%	8.14%	0.2865***	-0.3523
Event + 2 Year	3230	2.3692	1.1406	0.0779	-5.91%	-6.15%	-10.26%	-11.62%	3230	2.1867	1.5601	0.0570	-2.01%	-0.48%	6.45%	7.62%	0.1825**	-0.4195
Event + 3 Year	3202	2.4358	1.2109	0.0759	2.81%	6.16%	-7.74%	-6.17%	3202	2.1071	1.5187	0.0571	-3.64%	-2.65%	2.57%	4.77%	0.3287***	-0.3078
Event + 4 Year	3179	2.3015	1.0829	0.0735	-5.51%	-10.57%	-12.83%	-16.09%	3179	2.0493	1.4874	0.0551	-2.74%	-2.06%	-0.24%	2.61%	0.2522***	-0.4045
Event + 5 Year	3156	2.2563	1.0779	0.0729	-1.96%	-0.46%	-14.54%	-16.47%	3156	2.0443	1.4774	0.0555	-0.24%	-0.67%	-0.49%	1.92%	0.212**	-0.3995
Leverage (net)																		
Event - 5 Year	3732	0.4355	0.1336	0.0227	NA	NA	2.50%	1.72%	3732	0.3885	0.1651	0.0206	NA	NA	4.53%	-20.05%	0.047	-0.0315
Event - 4 Year	3779	0.4338	0.1088	0.0229	-0.39%	-18.56%	2.90%	24.91%	3779	0.4268	0.1711	0.0210	9.86%	3.63%	-4.85%	-22.85%	0.007	-0.0623
Event - 3 Year	3754	0.4034	0.0925	0.0227	-7.01%	-14.98%	10.66%	46.92%	3754	0.4198	0.1161	0.0211	-1.64%	-32.14%	-3.26%	13.70%	-0.0164	-0.0236
Event - 2 Year	3777	0.3933	0.0957	0.0225	-2.50%	3.46%	13.50%	42.01%	3777	0.3721	0.1178	0.0211	-11.36%	1.46%	9.14%	12.05%	0.0212	-0.0221
Event - 1 Year	3799	0.4177	0.1090	0.0226	6.20%	13.90%	6.87%	24.68%	3799	0.3955	0.1320	0.0214	6.29%	12.05%	2.68%	0.00%	0.0222	-0.0230
Event	3482	0.4464	0.1359	0.0239	6.87%	24.68%	NA	NA	3482	0.4061	0.1320	0.0223	2.68%	0.00%	NA	NA	0.0403	0.0039
Event + 1 Year	3549	0.3771	0.1104	0.0230	-15.52%	-18.76%	-15.52%	-18.76%	3549	0.4383	0.2193	0.0222	7.93%	66.14%	7.93%	66.14%	-0.0612**	-0.1089
Event + 2 Year	3598	0.3494	0.0751	0.0228	-7.35%	-31.97%	-21.73%	-44.74%	3598	0.4649	0.2447	0.0214	6.07%	11.58%	14.48%	85.38%	-0.1155***	-0.1696
Event + 3 Year	3584	0.3782	0.0920	0.0236	8.24%	22.50%	-15.28%	-32.30%	3584	0.4489	0.2204	0.0213	-3.44%	-9.93%	10.54%	66.97%	-0.0707**	-0.1284
Event + 4 Year	3603	0.3528	0.0876	0.0223	-6.72%	-4.78%	-20.97%	-35.54%	3603	0.4390	0.2312	0.0202	-2.21%	4.90%	8.10%	75.15%	-0.0862***	-0.1436
Event + 5 Year	3586	0.3557	0.0981	0.0224	0.82%	11.99%	-20.32%	-27.81%	3586	0.4210	0.2312	0.0203	-4.10%	0.00%	3.67%	75.15%	-0.0653**	-0.1331

Table E.7: Long-term Operating Performance: Capital Expenditure Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Capital Expenditures is defined as (CAPEX / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Targetand Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	3554	0.0175	0.0097	0.0004	NA	NA	-19.43%	-25.77%	3554	0.0171	0.0091	0.0004	NA	NA	-9.94%	-12.09%	0.0004	0.0006
Event - 4 Year	3610	0.0165	0.0087	0.0004	-5.71%	-10.31%	-14.55%	-17.24%	3610	0.0161	0.0086	0.0004	-5.85%	-5.49%	-4.35%	-6.98%	0.0003	0.0001
Event - 3 Year	3633	0.0161	0.0087	0.0003	-2.42%	0.00%	-12.42%	-17.24%	3633	0.0161	0.0084	0.0004	0.00%	-2.33%	-4.35%	-4.76%	0.0000	0.0003
Event - 2 Year	3667	0.0157	0.0083	0.0003	-2.48%	-4.60%	-10.19%	-13.25%	3667	0.0158	0.0082	0.0004	-1.86%	-2.38%	-2.53%	-2.44%	-0.0001	0.0001
Event - 1 Year	3721	0.0154	0.0082	0.0003	-1.91%	-1.20%	-8.44%	-12.20%	3721	0.0157	0.0080	0.0004	-0.63%	-2.44%	-1.91%	0.00%	-0.0003	0.0002
Event	3390	0.0141	0.0072	0.0003	-8.44%	-12.20%	NA	NA	3390	0.0154	0.0080	0.0004	-1.91%	0.00%	NA	NA	-0.0012**	-0.0008
Event + 1 Year	3270	0.0162	0.0082	0.0004	14.89%	13.89%	14.89%	13.89%	3270	0.0163	0.0082	0.0004	5.84%	2.50%	5.84%	2.50%	-0.0001	0.0000
Event + 2 Year	3317	0.0167	0.0085	0.0004	3.09%	3.66%	18.44%	18.06%	3317	0.0163	0.0082	0.0004	0.00%	0.00%	5.84%	2.50%	0.0004	0.0003
Event + 3 Year	3263	0.0165	0.0088	0.0004	-1.20%	3.53%	17.02%	22.22%	3263	0.0168	0.0085	0.0004	3.07%	3.66%	9.09%	6.25%	-0.0004	0.0003
Event + 4 Year	3276	0.0174	0.0094	0.0004	5.45%	6.82%	23.40%	30.56%	3276	0.0170	0.0083	0.0004	1.19%	-2.35%	10.39%	3.75%	0.0004	0.0011
Event + 5 Year	3244	0.0180	0.0096	0.0004	3.45%	2.13%	27.66%	33.33%	3244	0.0175	0.0092	0.0004	2.94%	10.84%	13.64%	15.00%	0.0006	0.0004

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	3554	0.0175	0.0097	0.0004	NA	NA	-19.43%	-25.77%	3554	0.0169	0.0137	0.0002	NA	NA	-11.83%	-11.68%	0.0006	-0.0040
Event - 4 Year	3610	0.0165	0.0087	0.0004	-5.71%	-10.31%	-14.55%	-17.24%	3610	0.0163	0.0130	0.0002	-3.55%	-5.11%	-8.59%	-6.92%	0.0002	-0.0043
Event - 3 Year	3633	0.0161	0.0087	0.0003	-2.42%	0.00%	-12.42%	-17.24%	3633	0.0157	0.0126	0.0002	-3.68%	-3.08%	-5.10%	-3.97%	0.0004	-0.0039
Event - 2 Year	3667	0.0157	0.0083	0.0003	-2.48%	-4.60%	-10.19%	-13.25%	3667	0.0155	0.0124	0.0002	-1.27%	-1.59%	-3.87%	-2.42%	0.0002	-0.0041
Event - 1 Year	3721	0.0154	0.0082	0.0003	-1.91%	-1.20%	-8.44%	-12.20%	3721	0.0152	0.0122	0.0002	-1.94%	-1.61%	-1.97%	-0.82%	0.0002	-0.0040
Event	3390	0.0141	0.0072	0.0003	-8.44%	-12.20%	NA	NA	3390	0.0149	0.0121	0.0002	-1.97%	-0.82%	NA	NA	-0.0008**	-0.0049
Event + 1 Year	3270	0.0162	0.0082	0.0004	14.89%	13.89%	14.89%	13.89%	3270	0.0165	0.0132	0.0002	10.74%	9.09%	10.74%	9.09%	-0.0003	-0.0050
Event + 2 Year	3317	0.0167	0.0085	0.0004	3.09%	3.66%	18.44%	18.06%	3317	0.0169	0.0142	0.0002	2.42%	7.58%	13.42%	17.36%	-0.0002	-0.0057
Event + 3 Year	3263	0.0165	0.0088	0.0004	-1.20%	3.53%	17.02%	22.22%	3263	0.0171	0.0144	0.0002	1.18%	1.41%	14.77%	19.01%	-0.0006	-0.0056
Event + 4 Year	3276	0.0174	0.0094	0.0004	5.45%	6.82%	23.40%	30.56%	3276	0.0179	0.0154	0.0002	4.68%	6.94%	20.13%	27.27%	-0.0005	-0.0060
Event + 5 Year	3244	0.0180	0.0096	0.0004	3.45%	2.13%	27.66%	33.33%	3244	0.0181	0.0157	0.0002	1.12%	1.95%	21.48%	29.75%	-0.0001	-0.0061

Table E.8: Long-term Operating Performance: Dividend Yield and Share Repurchase Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Dividend Yield is defined as (Common Dividend / Market Capitalization) and Share Repurchase is the annualized share repurchase activity. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	2939	1.4109	0.0000	0.0452	NA	NA	-5.96%	NA	2939	1.5244	0.0000	0.0452	NA	NA	-0.07%	NA	-0.1135*	0.0000
Event - 4 Year	2946	1.3806	0.0000	0.0441	-2.15%	NA	-3.90%	NA	2946	1.5161	0.0000	0.0444	-0.54%	NA	0.48%	NA	-0.1355**	0.0000
Event - 3 Year	2925	1.3747	0.0000	0.0439	-0.43%	NA	-3.48%	NA	2925	1.5261	0.0000	0.0444	0.66%	NA	-0.18%	NA	-0.1514**	0.0000
Event - 2 Year	2917	1.4057	0.0000	0.0448	2.26%	NA	-5.61%	NA	2917	1.5129	0.0000	0.0438	-0.86%	NA	0.69%	NA	-0.1072*	0.0000
Event - 1 Year	2911	1.3678	0.0000	0.0435	-2.70%	NA	-3.00%	NA	2911	1.5066	0.0000	0.0432	-0.42%	NA	1.12%	NA	-0.1388**	0.0000
Event	2918	1.3268	0.0000	0.0423	-3.00%	NA	NA	NA	2918	1.5234	0.0000	0.0436	1.12%	NA	NA	NA	-0.1967***	0.0000
Event + 1 Year	2766	1.3434	0.0000	0.0454	1.25%	NA	1.25%	NA	2766	1.4709	0.0000	0.0442	-3.45%	NA	-3.45%	NA	-0.1275**	0.0000
Event + 2 Year	2688	1.4227	0.0000	0.0483	5.90%	NA	7.23%	NA	2688	1.5149	0.0000	0.0466	2.99%	NA	-0.56%	NA	-0.0922	0.0000
Event + 3 Year	2609	1.4063	0.0000	0.0490	-1.15%	NA	5.99%	NA	2609	1.5486	0.0000	0.0484	2.22%	NA	1.65%	NA	-0.1423**	0.0000
Event + 4 Year	2541	1.4530	0.0000	0.0514	3.32%	NA	9.51%	NA	2541	1.5214	0.0000	0.0490	-1.76%	NA	-0.13%	NA	-0.0685	0.0000
Event + 5 Year	2470	1.4840	0.0000	0.0520	2.13%	NA	11.85%	NA	2470	1.5687	0.0000	0.0502	3.11%	NA	2.97%	NA	-0.0847	0.0000
Share Repurchase																		
Event - 5 Year	4016	0.0035	0.0000	0.0002	NA	NA	65.71%	NA	4016	0.0033	0.0000	0.0002	NA	NA	100.00%	NA	0.0001	0.0000
Event - 4 Year	4054	0.0039	0.0000	0.0002	11.43%	NA	48.72%	NA	4054	0.0039	0.0000	0.0002	18.18%	NA	69.23%	NA	0.0001	0.0000
Event - 3 Year	4066	0.0046	0.0000	0.0002	17.95%	NA	26.09%	NA	4066	0.0044	0.0000	0.0002	12.82%	NA	50.00%	NA	0.0002	0.0000
Event - 2 Year	4069	0.0054	0.0000	0.0002	17.39%	NA	7.41%	NA	4069	0.0049	0.0000	0.0002	11.36%	NA	34.69%	NA	0.0005	0.0000
Event - 1 Year	4090	0.0060	0.0000	0.0002	11.11%	NA	-3.33%	NA	4090	0.0058	0.0000	0.0002	18.37%	NA	13.79%	NA	0.0002	0.0000
Event	3760	0.0058	0.0000	0.0002	-3.33%	NA	NA	NA	3760	0.0066	0.0000	0.0002	13.79%	NA	NA	NA	-0.0007**	0.0000
Event + 1 Year	3699	0.0054	0.0000	0.0002	-6.90%	NA	-6.90%	NA	3699	0.0053	0.0000	0.0002	-19.70%	NA	-19.70%	NA	0.0001	0.0000
Event + 2 Year	3797	0.0043	0.0000	0.0002	-20.37%	NA	-25.86%	NA	3797	0.0049	0.0000	0.0002	-7.55%	NA	-25.76%	NA	-0.0007**	0.0000
Event + 3 Year	3765	0.0039	0.0000	0.0002	-9.30%	NA	-32.76%	NA	3765	0.0043	0.0000	0.0002	-12.24%	NA	-34.85%	NA	-0.0004	0.0000
Event + 4 Year	3801	0.0034	0.0000	0.0002	-12.82%	NA	-41.38%	NA	3801	0.0040	0.0000	0.0002	-6.98%	NA	-39.39%	NA	-0.0006**	0.0000
Event + 5 Year	3781	0.0034	0.0000	0.0002	0.00%	NA	-41.38%	NA	3781	0.0039	0.0000	0.0002	-2.50%	NA	-40.91%	NA	-0.0005**	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	2939	1.4109	0.0000	0.0452	NA	NA	-5.96%	NA	2939	1.5687	0.7399	0.0314	NA	NA	5.76%	24.37%	-0.1578***	-0.7399
Event - 4 Year	2946	1.3806	0.0000	0.0441	-2.15%	NA	-3.90%	NA	2946	1.5430	0.7311	0.0305	-1.64%	-1.19%	7.52%	25.87%	-0.1624***	-0.7311
Event - 3 Year	2925	1.3747	0.0000	0.0439	-0.43%	NA	-3.48%	NA	2925	1.5661	0.7659	0.0307	1.50%	4.76%	5.94%	20.15%	-0.1914***	-0.7659
Event - 2 Year	2917	1.4057	0.0000	0.0448	2.26%	NA	-5.61%	NA	2917	1.5818	0.8220	0.0307	1.00%	7.32%	4.89%	11.95%	-0.1761***	-0.8220
Event - 1 Year	2911	1.3678	0.0000	0.0435	-2.70%	NA	-3.00%	NA	2911	1.6152	0.8608	0.0303	2.11%	4.72%	2.72%	6.90%	-0.2474***	-0.8608
Event	2918	1.3268	0.0000	0.0423	-3.00%	NA	NA	NA	2918	1.6591	0.9202	0.0301	2.72%	6.90%	NA	NA	-0.3323***	-0.9202
Event + 1 Year	2766	1.3434	0.0000	0.0454	1.25%	NA	1.25%	NA	2766	1.5292	0.7978	0.0297	-7.83%	-13.30%	-7.83%	-13.30%	-0.1858***	-0.7978
Event + 2 Year	2688	1.4227	0.0000	0.0483	5.90%	NA	7.23%	NA	2688	1.4195	0.7295	0.0288	-7.17%	-8.56%	-14.44%	-20.72%	0.0032	-0.7295
Event + 3 Year	2609	1.4063	0.0000	0.0490	-1.15%	NA	5.99%	NA	2609	1.3899	0.6794	0.0287	-2.09%	-6.87%	-16.23%	-26.17%	0.0164	-0.6794
Event + 4 Year	2541	1.4530	0.0000	0.0514	3.32%	NA	9.51%	NA	2541	1.3923	0.6856	0.0289	0.17%	0.91%	-16.08%	-25.49%	0.0607	-0.6856
Event + 5 Year	2470	1.4840	0.0000	0.0520	2.13%	NA	11.85%	NA	2470	1.4168	0.7042	0.0291	1.76%	2.71%	-14.60%	-23.47%	0.0672	-0.7042
Share Repurchase																		
Event - 5 Year	4016	0.0035	0.0000	0.0002	NA	NA	65.71%	NA	4016	0.0057	0.0003	0.0001	NA	NA	71.93%	2866.67%	-0.0022***	-0.0003
Event - 4 Year	4054	0.0039	0.0000	0.0002	11.43%	NA	48.72%	NA	4054	0.0064	0.0027	0.0001	12.28%	800.00%	53.13%	229.63%	-0.0025***	-0.0027
Event - 3 Year	4066	0.0046	0.0000	0.0002	17.95%	NA	26.09%	NA	4066	0.0072	0.0049	0.0001	12.50%	81.48%	36.11%	81.63%	-0.0026***	-0.0049
Event - 2 Year	4069	0.0054	0.0000	0.0002	17.39%	NA	7.41%	NA	4069	0.0081	0.0063	0.0001	12.50%	28.57%	20.99%	41.27%	-0.0027***	-0.0063
Event - 1 Year	4090	0.0060	0.0000	0.0002	11.11%	NA	-3.33%	NA	4090	0.0091	0.0079	0.0001	12.35%	25.40%	7.69%	12.66%	-0.0031***	-0.0079
Event	3760	0.0058	0.0000	0.0002	-3.33%	NA	NA	NA	3760	0.0098	0.0089	0.0001	7.69%	12.66%	NA	NA	-0.004***	-0.0089
Event + 1 Year	3699	0.0054	0.0000	0.0002	-6.90%	NA	-6.90%	NA	3699	0.0076	0.0045	0.0001	-22.45%	-49.44%	-22.45%	-49.44%	-0.0022***	-0.0045
Event + 2 Year	3797	0.0043	0.0000	0.0002	-20.37%	NA	-25.86%	NA	3797	0.0063	0.0021	0.0001	-17.11%	-53.33%	-35.71%	-76.40%	-0.002***	-0.0021
Event + 3 Year	3765	0.0039	0.0000	0.0002	-9.30%	NA	-32.76%	NA	3765	0.0056	0.0005	0.0001	-11.11%	-76.19%	-42.86%	-94.38%	-0.0017***	-0.0005
Event + 4 Year	3801	0.0034	0.0000	0.0002	-12.82%	NA	-41.38%	NA	3801	0.0052	0.0000	0.0001	-7.14%	-100.00%	-46.94%	-100.00%	-0.0018***	0.0000
Event + 5 Year	3781	0.0034	0.0000	0.0002	0.00%	NA	-41.38%	NA	3781	0.0048	0.0000	0.0001	-7.69%	NA	-51.02%	-100.00%	-0.0014***	0.0000

Table E.9: Long-term Operating Performance: EPS Estimates and Research Analyst Recommendations Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EPS Estimate Miss is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S and Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	2528	0.4371	0.0000	0.0099	NA	NA	18.62%	NA	2528	0.4322	0.0000	0.0102	NA	NA	-2.61%	NA	0.0049	0.0000
Event - 4 Year	2613	0.4282	0.0000	0.0097	-2.04%	NA	21.09%	NA	2613	0.4353	0.0000	0.0101	0.72%	NA	-3.31%	NA	-0.0071	0.0000
Event - 3 Year	2636	0.4454	0.0000	0.0097	4.02%	NA	16.41%	NA	2636	0.4301	0.0000	0.0101	-1.19%	NA	-2.14%	NA	0.0153	0.0000
Event - 2 Year	2717	0.4523	0.0000	0.0096	1.55%	NA	14.64%	NA	2717	0.4108	0.0000	0.0099	-4.49%	NA	2.46%	NA	0.0415***	0.0000
Event - 1 Year	2775	0.4750	0.0000	0.0095	5.02%	NA	9.16%	NA	2775	0.3995	0.0000	0.0097	-2.75%	NA	5.36%	NA	0.0754***	0.0000
Event	2723	0.5185	1.0000	0.0096	9.16%	NA	NA	NA	2723	0.4209	0.0000	0.0097	5.36%	NA	NA	NA	0.0977***	1.0000
Event + 1 Year	2370	0.4342	0.0000	0.0102	-16.26%	NA	-16.26%	NA	2370	0.4250	0.0000	0.0099	0.97%	NA	0.97%	NA	0.0092	0.0000
Event + 2 Year	2286	0.4195	0.0000	0.0103	-3.39%	NA	-19.09%	NA	2286	0.4330	0.0000	0.0100	1.88%	NA	2.87%	NA	-0.0135	0.0000
Event + 3 Year	2240	0.4241	0.0000	0.0104	1.10%	NA	-18.21%	NA	2240	0.4391	0.0000	0.0102	1.41%	NA	4.32%	NA	-0.0149	0.0000
Event + 4 Year	2252	0.4449	0.0000	0.0105	4.90%	NA	-14.19%	NA	2252	0.4127	0.0000	0.0102	-6.01%	NA	-1.95%	NA	0.0323**	0.0000
Event + 5 Year	2239	0.4350	0.0000	0.0105	-2.23%	NA	-16.10%	NA	2239	0.4313	0.0000	0.0104	4.51%	NA	2.47%	NA	0.0037	0.0000
Analyst Sell Recommendation																		
Event - 5 Year	4190	0.2947	0.0000	0.0070	NA	NA	42.28%	NA	4190	0.2774	0.0000	0.0069	NA	NA	18.53%	NA	0.0173*	0.0000
Event - 4 Year	4190	0.3172	0.0000	0.0072	7.63%	NA	32.19%	NA	4190	0.2762	0.0000	0.0069	-0.43%	NA	19.04%	NA	0.0410***	0.0000
Event - 3 Year	4190	0.3224	0.0000	0.0072	1.64%	NA	30.06%	NA	4190	0.3047	0.0000	0.0071	10.32%	NA	7.91%	NA	0.0178*	0.0000
Event - 2 Year	4190	0.3310	0.0000	0.0073	2.67%	NA	26.68%	NA	4190	0.3171	0.0000	0.0072	4.07%	NA	3.69%	NA	0.0139	0.0000
Event - 1 Year	4190	0.3532	0.0000	0.0074	6.71%	NA	18.71%	NA	4190	0.3204	0.0000	0.0072	1.04%	NA	2.62%	NA	0.0328***	0.0000
Event	4190	0.4193	0.0000	0.0076	18.71%	NA	NA	NA	4190	0.3288	0.0000	0.0073	2.62%	NA	NA	NA	0.0905***	0.0000
Event + 1 Year	4190	0.2878	0.0000	0.0070	-31.36%	NA	-31.36%	NA	4190	0.2891	0.0000	0.0070	-12.07%	NA	-12.07%	NA	-0.0013	0.0000
Event + 2 Year	4190	0.2427	0.0000	0.0066	-15.67%	NA	-42.12%	NA	4190	0.2700	0.0000	0.0069	-6.61%	NA	-17.88%	NA	-0.0273***	0.0000
Event + 3 Year	4190	0.2222	0.0000	0.0064	-8.45%	NA	-47.01%	NA	4190	0.2576	0.0000	0.0068	-4.59%	NA	-21.65%	NA	-0.0354***	0.0000
Event + 4 Year	4190	0.2158	0.0000	0.0064	-2.88%	NA	-48.53%	NA	4190	0.2409	0.0000	0.0066	-6.48%	NA	-26.73%	NA	-0.0251***	0.0000
Event + 5 Year	4190	0.2308	0.0000	0.0065	6.95%	NA	-44.96%	NA	4190	0.2303	0.0000	0.0065	-4.40%	NA	-29.96%	NA	0.0004	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	2528	0.4371	0.0000	0.0099	NA	NA	18.62%	NA	2528	0.4276	0.4254	0.0018	NA	NA	-1.22%	-1.15%	0.0095	-0.4254
Event - 4 Year	2613	0.4282	0.0000	0.0097	-2.04%	NA	21.09%	NA	2613	0.4257	0.4242	0.0018	-0.44%	-0.28%	-0.78%	-0.87%	0.0025	-0.4242
Event - 3 Year	2636	0.4454	0.0000	0.0097	4.02%	NA	16.41%	NA	2636	0.4258	0.4236	0.0018	0.02%	-0.14%	-0.80%	-0.73%	0.0196**	-0.4236
Event - 2 Year	2717	0.4523	0.0000	0.0096	1.55%	NA	14.64%	NA	2717	0.4271	0.4269	0.0018	0.31%	0.78%	-1.10%	-1.50%	0.0252***	-0.4269
Event - 1 Year	2775	0.4750	0.0000	0.0095	5.02%	NA	9.16%	NA	2775	0.4280	0.4265	0.0018	0.21%	-0.09%	-1.31%	-1.41%	0.047***	-0.4265
Event	2723	0.5185	1.0000	0.0096	9.16%	NA	NA	NA	2723	0.4224	0.4205	0.0017	-1.31%	-1.41%	NA	NA	0.0961***	0.5795
Event + 1 Year	2370	0.4342	0.0000	0.0102	-16.26%	NA	-16.26%	NA	2370	0.4280	0.4265	0.0018	1.33%	1.43%	1.33%	1.43%	0.0062	-0.4265
Event + 2 Year	2286	0.4195	0.0000	0.0103	-3.39%	NA	-19.09%	NA	2286	0.4271	0.4269	0.0018	-0.21%	0.09%	1.11%	1.52%	-0.0076	-0.4269
Event + 3 Year	2240	0.4241	0.0000	0.0104	1.10%	NA	-18.21%	NA	2240	0.4258	0.4236	0.0018	-0.30%	-0.77%	0.80%	0.74%	-0.0017	-0.4236
Event + 4 Year	2252	0.4449	0.0000	0.0105	4.90%	NA	-14.19%	NA	2252	0.4257	0.4242	0.0018	-0.02%	0.14%	0.78%	0.88%	0.0192**	-0.4242
Event + 5 Year	2239	0.4350	0.0000	0.0105	-2.23%	NA	-16.10%	NA	2239	0.4276	0.4254	0.0018	0.45%	0.28%	1.23%	1.17%	0.0074	-0.4254
Analyst Sell Recommendation																		
Event - 5 Year	4190	0.2947	0.0000	0.0070	NA	NA	42.28%	NA	4190	0.2973	0.3018	0.0024	NA	NA	13.96%	9.71%	-0.0026	-0.3018
Event - 4 Year	4190	0.3172	0.0000	0.0072	7.63%	NA	32.19%	NA	4190	0.3098	0.3149	0.0023	4.20%	4.34%	9.36%	5.14%	0.0074	-0.3149
Event - 3 Year	4190	0.3224	0.0000	0.0072	1.64%	NA	30.06%	NA	4190	0.3172	0.3184	0.0022	2.39%	1.11%	6.81%	3.99%	0.0052	-0.3184
Event - 2 Year	4190	0.3310	0.0000	0.0073	2.67%	NA	26.68%	NA	4190	0.3259	0.3225	0.0022	2.74%	1.29%	3.96%	2.67%	0.0051	-0.3225
Event - 1 Year	4190	0.3532	0.0000	0.0074	6.71%	NA	18.71%	NA	4190	0.3339	0.3289	0.0022	2.45%	1.98%	1.47%	0.67%	0.0193**	-0.3289
Event	4190	0.4193	0.0000	0.0076	18.71%	NA	NA	NA	4190	0.3388	0.3311	0.0022	1.47%	0.67%	NA	NA	0.0805***	-0.3311
Event + 1 Year	4190	0.2878	0.0000	0.0070	-31.36%	NA	-31.36%	NA	4190	0.2870	0.2981	0.0027	-15.29%	-9.97%	-15.29%	-9.97%	0.0008	-0.2981
Event + 2 Year	4190	0.2427	0.0000	0.0066	-15.67%	NA	-42.12%	NA	4190	0.2616	0.2702	0.0027	-8.85%	-9.36%	-22.79%	-18.39%	-0.0189***	-0.2702
Event + 3 Year	4190	0.2222	0.0000	0.0064	-8.45%	NA	-47.01%	NA	4190	0.2473	0.2526	0.0027	-5.47%	-6.51%	-27.01%	-23.71%	-0.0251***	-0.2526
Event + 4 Year	4190	0.2158	0.0000	0.0064	-2.88%	NA	-48.53%	NA	4190	0.2397	0.2438	0.0026	-3.07%	-3.48%	-29.25%	-26.37%	-0.0239***	-0.2438
Event + 5 Year	4190	0.2308	0.0000	0.0065	6.95%	NA	-44.96%	NA	4190	0.2399	0.2398	0.0026	0.08%	-1.64%	-29.19%	-27.57%	-0.0091	-0.2398

Table E.10: Long-term Operating Performance: Multiple Business Segments and Herfindahl-Hirschman Index Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event and Herfindahl-Hirschman Index is a measure of the size of Target Firm in relation to the industry and an indicator of the amount of competition among them. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	4190	0.1506	0.0000	0.0055	NA	NA	16.00%	NA	4190	0.1240	0.0000	0.0051	NA	NA	20.40%	NA	0.0266***	0.0000
Event - 4 Year	4190	0.1556	0.0000	0.0056	3.32%	NA	12.28%	NA	4190	0.1274	0.0000	0.0052	2.74%	NA	17.19%	NA	0.0282***	0.0000
Event - 3 Year	4190	0.1604	0.0000	0.0057	3.08%	NA	8.92%	NA	4190	0.1362	0.0000	0.0053	6.91%	NA	9.62%	NA	0.0242***	0.0000
Event - 2 Year	4190	0.1654	0.0000	0.0057	3.12%	NA	5.62%	NA	4190	0.1417	0.0000	0.0054	4.04%	NA	5.36%	NA	0.0237***	0.0000
Event - 1 Year	4190	0.1718	0.0000	0.0058	3.87%	NA	1.69%	NA	4190	0.1465	0.0000	0.0055	3.39%	NA	1.91%	NA	0.0254***	0.0000
Event	4190	0.1747	0.0000	0.0059	1.69%	NA	NA	NA	4190	0.1493	0.0000	0.0055	1.91%	NA	NA	NA	0.0254***	0.0000
Event + 1 Year	4190	0.1389	0.0000	0.0053	-20.49%	NA	-20.49%	NA	4190	0.1329	0.0000	0.0052	-10.98%	NA	-10.98%	NA	0.0060	0.0000
Event + 2 Year	4190	0.1229	0.0000	0.0051	-11.52%	NA	-29.65%	NA	4190	0.1254	0.0000	0.0051	-5.64%	NA	-16.01%	NA	-0.0025	0.0000
Event + 3 Year	4190	0.1165	0.0000	0.0050	-5.21%	NA	-33.31%	NA	4190	0.1147	0.0000	0.0049	-8.53%	NA	-23.17%	NA	0.0018	0.0000
Event + 4 Year	4190	0.1095	0.0000	0.0048	-6.01%	NA	-37.32%	NA	4190	0.1111	0.0000	0.0049	-3.14%	NA	-25.59%	NA	-0.0016	0.0000
Event + 5 Year	4190	0.1064	0.0000	0.0048	-2.83%	NA	-39.10%	NA	4190	0.1049	0.0000	0.0047	-5.58%	NA	-29.74%	NA	0.0015	0.0000
Herfindahl-Hirschman Index																		
Event - 5 Year	4190	0.0994	0.0520	0.0030	NA	NA	6.04%	1.35%	4190	0.1055	0.0527	0.0032	NA	NA	0.00%	0.00%	-0.0060	-0.0007
Event - 4 Year	4190	0.0959	0.0520	0.0028	-3.52%	0.00%	9.91%	1.35%	4190	0.1007	0.0522	0.0030	-4.55%	-0.95%	4.77%	0.96%	-0.0048	-0.0002
Event - 3 Year	4190	0.0981	0.0528	0.0029	2.29%	1.54%	7.44%	-0.19%	4190	0.0991	0.0524	0.0029	-1.59%	0.38%	6.46%	0.57%	-0.0010	0.0004
Event - 2 Year	4190	0.1005	0.0528	0.0030	2.45%	0.00%	4.88%	-0.19%	4190	0.1027	0.0528	0.0031	3.63%	0.76%	2.73%	-0.19%	-0.0023	0.0000
Event - 1 Year	4190	0.0992	0.0524	0.0030	-1.29%	-0.76%	6.25%	0.57%	4190	0.1014	0.0523	0.0030	-1.27%	-0.95%	4.04%	0.76%	-0.0022	0.0001
Event	4190	0.1054	0.0527	0.0032	6.25%	0.57%	NA	NA	4190	0.1055	0.0527	0.0032	4.04%	0.76%	NA	NA	-0.0001	0.0000
Event + 1 Year	4190	0.1078	0.0531	0.0031	2.28%	0.76%	2.28%	0.76%	4190	0.1077	0.0531	0.0032	2.09%	0.76%	2.09%	0.76%	0.0001	0.0000
Event + 2 Year	4190	0.1056	0.0529	0.0030	-2.04%	-0.38%	0.19%	0.38%	4190	0.1126	0.0531	0.0033	4.55%	0.00%	6.73%	0.76%	-0.0070	-0.0002
Event + 3 Year	4190	0.1059	0.0529	0.0030	0.28%	0.00%	0.47%	0.38%	4190	0.1144	0.0532	0.0033	1.60%	0.19%	8.44%	0.95%	-0.0085*	-0.0003
Event + 4 Year	4190	0.1046	0.0528	0.0030	-1.23%	-0.19%	-0.76%	0.19%	4190	0.1135	0.0533	0.0033	-0.79%	0.19%	7.58%	1.14%	-0.0089**	-0.0005
Event + 5 Year	4190	0.1034	0.0531	0.0029	-1.15%	0.57%	-1.90%	0.76%	4190	0.1125	0.0530	0.0033	-0.88%	-0.56%	6.64%	0.57%	-0.0091**	0.0001

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	4190	0.1506	0.0000	0.0055	NA	NA	16.00%	NA	4190	0.1437	0.1282	0.0017	NA	NA	3.76%	3.04%	0.0069	-0.1282
Event - 4 Year	4190	0.1556	0.0000	0.0056	3.32%	NA	12.28%	NA	4190	0.1459	0.1318	0.0017	1.53%	2.81%	2.19%	0.23%	0.0097*	-0.1318
Event - 3 Year	4190	0.1604	0.0000	0.0057	3.08%	NA	8.92%	NA	4190	0.1464	0.1307	0.0017	0.34%	-0.83%	1.84%	1.07%	0.014**	-0.1307
Event - 2 Year	4190	0.1654	0.0000	0.0057	3.12%	NA	5.62%	NA	4190	0.1479	0.1321	0.0017	1.02%	1.07%	0.81%	0.00%	0.0175***	-0.1321
Event - 1 Year	4190	0.1718	0.0000	0.0058	3.87%	NA	1.69%	NA	4190	0.1489	0.1320	0.0018	0.68%	-0.08%	0.13%	0.08%	0.0229***	-0.1320
Event	4190	0.1747	0.0000	0.0059	1.69%	NA	NA	NA	4190	0.1491	0.1321	0.0018	0.13%	0.08%	NA	NA	0.0256***	-0.1321
Event + 1 Year	4190	0.1389	0.0000	0.0053	-20.49%	NA	-20.49%	NA	4190	0.1321	0.1112	0.0018	-11.40%	-15.82%	-11.40%	-15.82%	0.0068	-0.1112
Event + 2 Year	4190	0.1229	0.0000	0.0051	-11.52%	NA	-29.65%	NA	4190	0.1250	0.1034	0.0017	-5.37%	-7.01%	-16.16%	-21.73%	-0.0021	-0.1034
Event + 3 Year	4190	0.1165	0.0000	0.0050	-5.21%	NA	-33.31%	NA	4190	0.1215	0.0999	0.0017	-2.80%	-3.38%	-18.51%	-24.38%	-0.005	-0.0999
Event + 4 Year	4190	0.1095	0.0000	0.0048	-6.01%	NA	-37.32%	NA	4190	0.1190	0.0999	0.0016	-2.06%	0.00%	-20.19%	-24.38%	-0.0095*	-0.0999
Event + 5 Year	4190	0.1064	0.0000	0.0048	-2.83%	NA	-39.10%	NA	4190	0.1165	0.0975	0.0016	-2.10%	-2.40%	-21.86%	-26.19%	-0.0101**	-0.0975
Herfindahl-Hirschman Index																		
Event - 5 Year	4190	0.0994	0.0520	0.0030	NA	NA	6.04%	1.35%	4190	0.1032	0.0549	0.0028	NA	NA	1.26%	-4.01%	-0.0038	-0.0029
Event - 4 Year	4190	0.0959	0.0520	0.0028	-3.52%	0.00%	9.91%	1.35%	4190	0.1038	0.0547	0.0028	0.58%	-0.36%	0.67%	-3.66%	-0.0079**	-0.0027
Event - 3 Year	4190	0.0981	0.0528	0.0029	2.29%	1.54%	7.44%	-0.19%	4190	0.1056	0.0543	0.0029	1.73%	-0.73%	-1.04%	-2.95%	-0.0075*	-0.0015
Event - 2 Year	4190	0.1005	0.0528	0.0030	2.45%	0.00%	4.88%	-0.19%	4190	0.1061	0.0543	0.0029	0.47%	0.00%	-1.51%	-2.95%	-0.0056	-0.0015
Event - 1 Year	4190	0.0992	0.0524	0.0030	-1.29%	-0.76%	6.25%	0.57%	4190	0.1077	0.0543	0.0030	1.51%	0.00%	-2.97%	-2.95%	-0.0085**	-0.0019
Event	4190	0.1054	0.0527	0.0032	6.25%	0.57%	NA	NA	4190	0.1045	0.0527	0.0031	-2.97%	-2.95%	NA	NA	0.0009	0.0000
Event + 1 Year	4190	0.1078	0.0531	0.0031	2.28%	0.76%	2.28%	0.76%	4190	0.1077	0.0543	0.0030	3.06%	3.04%	3.06%	3.04%	0.0001	-0.0012
Event + 2 Year	4190	0.1056	0.0529	0.0030	-2.04%	-0.38%	0.19%	0.38%	4190	0.1061	0.0543	0.0029	-1.49%	0.00%	1.53%	3.04%	-0.0005	-0.0014
Event + 3 Year	4190	0.1059	0.0529	0.0030	0.28%	0.00%	0.47%	0.38%	4190	0.1056	0.0543	0.0029	-0.47%	0.00%	1.05%	3.04%	0.0003	-0.0014
Event + 4 Year	4190	0.1046	0.0528	0.0030	-1.23%	-0.19%	-0.76%	0.19%	4190	0.1038	0.0547	0.0028	-1.70%	0.74%	-0.67%	3.80%	0.0008	-0.0019
Event + 5 Year	4190	0.1034	0.0531	0.0029	-1.15%	0.57%	-1.90%	0.76%	4190	0.1032	0.0549	0.0028	-0.58%	0.37%	-1.24%	4.17%	0.0002	-0.0018

Table E.11: Corporate Governance: 13D Filings Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	4190	0.0224	0.0000	0.0023	NA	NA	1460.71%	NA	4190	0.0201	0.0000	0.0022	NA	NA	28.36%	NA	0.0024	0.0000
Event - 4 Year	4190	0.0272	0.0000	0.0025	21.43%	NA	1185.29%	NA	4190	0.0208	0.0000	0.0022	3.48%	NA	24.04%	NA	0.0064*	0.0000
Event - 3 Year	4190	0.0274	0.0000	0.0025	0.74%	NA	1175.91%	NA	4190	0.0251	0.0000	0.0024	20.67%	NA	2.79%	NA	0.0024	0.0000
Event - 2 Year	4190	0.0286	0.0000	0.0026	4.38%	NA	1122.38%	NA	4190	0.0249	0.0000	0.0024	-0.80%	NA	3.61%	NA	0.0038	0.0000
Event - 1 Year	4190	0.0403	0.0000	0.0030	40.91%	NA	767.49%	NA	4190	0.0222	0.0000	0.0023	-10.84%	NA	16.22%	NA	0.0181***	0.0000
Event	4190	0.3496	0.0000	0.0074	767.49%	NA	NA	NA	4190	0.0258	0.0000	0.0025	16.22%	NA	NA	NA	0.3238***	0.0000
Event + 1 Year	4190	0.0327	0.0000	0.0027	-90.65%	NA	-90.65%	NA	4190	0.0301	0.0000	0.0026	16.67%	NA	16.67%	NA	0.0026	0.0000
Event + 2 Year	4190	0.0243	0.0000	0.0024	-25.69%	NA	-93.05%	NA	4190	0.0215	0.0000	0.0022	-28.57%	NA	-16.67%	NA	0.0028	0.0000
Event + 3 Year	4190	0.0222	0.0000	0.0023	-8.64%	NA	-93.65%	NA	4190	0.0182	0.0000	0.0021	-15.35%	NA	-29.46%	NA	0.0040	0.0000
Event + 4 Year	4190	0.0246	0.0000	0.0024	10.81%	NA	-92.96%	NA	4190	0.0196	0.0000	0.0021	7.69%	NA	-24.03%	NA	0.0050	0.0000
Event + 5 Year	4190	0.0174	0.0000	0.0020	-29.27%	NA	-95.02%	NA	4190	0.0196	0.0000	0.0021	0.00%	NA	-24.03%	NA	-0.0022	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	4190	0.0224	0.0000	0.0023	NA	NA	1460.71%	NA	4190	0.0171	0.0152	0.0002	NA	NA	42.11%	56.58%	0.0053**	-0.0152
Event - 4 Year	4190	0.0272	0.0000	0.0025	21.43%	NA	1185.29%	NA	4190	0.0185	0.0164	0.0002	8.19%	7.89%	31.35%	45.12%	0.0087***	-0.0164
Event - 3 Year	4190	0.0274	0.0000	0.0025	0.74%	NA	1175.91%	NA	4190	0.0194	0.0176	0.0002	4.86%	7.32%	25.26%	35.23%	0.008***	-0.0176
Event - 2 Year	4190	0.0286	0.0000	0.0026	4.38%	NA	1122.38%	NA	4190	0.0203	0.0191	0.0002	4.64%	8.52%	19.70%	24.61%	0.0083***	-0.0191
Event - 1 Year	4190	0.0403	0.0000	0.0030	40.91%	NA	767.49%	NA	4190	0.0211	0.0199	0.0002	3.94%	4.19%	15.17%	19.60%	0.0192***	-0.0199
Event	4190	0.3496	0.0000	0.0074	767.49%	NA	NA	NA	4190	0.0243	0.0238	0.0002	15.17%	19.60%	NA	NA	0.3253***	-0.0238
Event + 1 Year	4190	0.0327	0.0000	0.0027	-90.65%	NA	-90.65%	NA	4190	0.0188	0.0168	0.0002	-22.63%	-29.41%	-22.63%	-29.41%	0.0139***	-0.0168
Event + 2 Year	4190	0.0243	0.0000	0.0024	-25.69%	NA	-93.05%	NA	4190	0.0167	0.0136	0.0002	-11.17%	-19.05%	-31.28%	-42.86%	0.0076***	-0.0136
Event + 3 Year	4190	0.0222	0.0000	0.0023	-8.64%	NA	-93.65%	NA	4190	0.0158	0.0119	0.0002	-5.39%	-12.50%	-34.98%	-50.00%	0.0064***	-0.0119
Event + 4 Year	4190	0.0246	0.0000	0.0024	10.81%	NA	-92.96%	NA	4190	0.0148	0.0105	0.0002	-6.33%	-11.76%	-39.09%	-55.88%	0.0098***	-0.0105
Event + 5 Year	4190	0.0174	0.0000	0.0020	-29.27%	NA	-95.02%	NA	4190	0.0144	0.0100	0.0002	-2.70%	-4.76%	-40.74%	-57.98%	0.003	-0.0100

Table E.12: Corporate Governance: Classified Board and Poison Pill Ex Ante and Ex Post All Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Classified Board is a dummy variable if the firm had a staggered board prior to the even and Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	4190	0.1363	0.0000	0.0053	NA	NA	236.02%	NA	4190	0.1288	0.0000	0.0052	NA	NA	-1.32%	NA	0.0075	0.0000
Event - 4 Year	4190	0.1389	0.0000	0.0053	1.91%	NA	229.73%	NA	4190	0.1352	0.0000	0.0053	4.97%	NA	-5.99%	NA	0.0037	0.0000
Event - 3 Year	4190	0.1401	0.0000	0.0054	0.86%	NA	226.91%	NA	4190	0.1326	0.0000	0.0052	-1.92%	NA	-4.15%	NA	0.0075	0.0000
Event - 2 Year	4190	0.1389	0.0000	0.0053	-0.86%	NA	229.73%	NA	4190	0.1336	0.0000	0.0053	0.75%	NA	-4.87%	NA	0.0053	0.0000
Event - 1 Year	4190	0.1363	0.0000	0.0053	-1.87%	NA	236.02%	NA	4190	0.1369	0.0000	0.0053	2.47%	NA	-7.16%	NA	-0.0006	0.0000
Event	4190	0.4580	0.0000	0.0077	236.02%	NA	NA	NA	4190	0.1271	0.0000	0.0051	-7.16%	NA	NA	NA	0.3309***	0.0000
Event + 1 Year	4190	0.0995	0.0000	0.0046	-78.28%	NA	-78.28%	NA	4190	0.1173	0.0000	0.0050	-7.71%	NA	-7.71%	NA	-0.0178***	0.0000
Event + 2 Year	4190	0.0862	0.0000	0.0043	-13.37%	NA	-81.18%	NA	4190	0.1123	0.0000	0.0049	-4.26%	NA	-11.64%	NA	-0.0261***	0.0000
Event + 3 Year	4190	0.0728	0.0000	0.0040	-15.55%	NA	-84.10%	NA	4190	0.1049	0.0000	0.0047	-6.59%	NA	-17.47%	NA	-0.0321***	0.0000
Event + 4 Year	4190	0.0706	0.0000	0.0040	-3.02%	NA	-84.59%	NA	4190	0.0963	0.0000	0.0046	-8.20%	NA	-24.23%	NA	-0.0257***	0.0000
Event + 5 Year	4190	0.0687	0.0000	0.0039	-2.69%	NA	-85.00%	NA	4190	0.0867	0.0000	0.0044	-9.97%	NA	-31.79%	NA	-0.0180***	0.0000
Poison Pill																		
Event - 5 Year	4190	0.1611	0.0000	0.0057	NA	NA	13.78%	NA	4190	0.1355	0.0000	0.0053	NA	NA	-10.04%	NA	0.0256***	0.0000
Event - 4 Year	4190	0.1652	0.0000	0.0057	2.55%	NA	10.96%	NA	4190	0.1352	0.0000	0.0053	-0.22%	NA	-9.84%	NA	0.0299***	0.0000
Event - 3 Year	4190	0.1652	0.0000	0.0057	0.00%	NA	10.96%	NA	4190	0.1321	0.0000	0.0052	-2.29%	NA	-7.72%	NA	0.0330***	0.0000
Event - 2 Year	4190	0.1668	0.0000	0.0058	0.97%	NA	9.89%	NA	4190	0.1266	0.0000	0.0051	-4.16%	NA	-3.71%	NA	0.0402***	0.0000
Event - 1 Year	4190	0.1616	0.0000	0.0057	-3.12%	NA	13.43%	NA	4190	0.1238	0.0000	0.0051	-2.21%	NA	-1.53%	NA	0.0378***	0.0000
Event	4190	0.1833	0.0000	0.0060	13.43%	NA	NA	NA	4190	0.1219	0.0000	0.0051	-1.53%	NA	NA	NA	0.0614***	0.0000
Event + 1 Year	4190	0.1322	0.0000	0.0052	-27.88%	NA	-27.88%	NA	4190	0.1080	0.0000	0.0048	-11.40%	NA	-11.40%	NA	0.0242***	0.0000
Event + 2 Year	4190	0.1088	0.0000	0.0048	-17.70%	NA	-40.64%	NA	4190	0.0977	0.0000	0.0046	-9.54%	NA	-19.85%	NA	0.0111*	0.0000
Event + 3 Year	4190	0.0928	0.0000	0.0045	-14.71%	NA	-49.37%	NA	4190	0.0846	0.0000	0.0043	-13.41%	NA	-30.60%	NA	0.0083	0.0000
Event + 4 Year	4190	0.0854	0.0000	0.0043	-7.97%	NA	-53.41%	NA	4190	0.0746	0.0000	0.0041	-11.82%	NA	-38.80%	NA	0.0109*	0.0000
Event + 5 Year	4190	0.0826	0.0000	0.0043	-3.28%	NA	-54.94%	NA	4190	0.0695	0.0000	0.0039	-6.84%	NA	-42.99%	NA	0.0130**	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	4190	0.1363	0.0000	0.0053	NA	NA	236.02%	NA	4190	0.1095	0.0922	0.0014	NA	NA	17.53%	22.78%	0.0268***	-0.0922
Event - 4 Year	4190	0.1389	0.0000	0.0053	1.91%	NA	229.73%	NA	4190	0.1154	0.1013	0.0014	5.39%	9.87%	11.53%	11.75%	0.0235***	-0.1013
Event - 3 Year	4190	0.1401	0.0000	0.0054	0.86%	NA	226.91%	NA	4190	0.1205	0.1067	0.0014	4.42%	5.33%	6.80%	6.09%	0.0196***	-0.1067
Event - 2 Year	4190	0.1389	0.0000	0.0053	-0.86%	NA	229.73%	NA	4190	0.1251	0.1118	0.0014	3.82%	4.78%	2.88%	1.25%	0.0138**	-0.1118
Event - 1 Year	4190	0.1363	0.0000	0.0053	-1.87%	NA	236.02%	NA	4190	0.1292	0.1144	0.0014	3.28%	2.33%	-0.39%	-1.05%	0.0071	-0.1144
Event	4190	0.4580	0.0000	0.0077	236.02%	NA	NA	NA	4190	0.1287	0.1132	0.0014	-0.39%	-1.05%	NA	NA	0.3293***	-0.1132
Event + 1 Year	4190	0.0995	0.0000	0.0046	-78.28%	NA	-78.28%	NA	4190	0.1116	0.0958	0.0014	-13.29%	-15.37%	-13.29%	-15.37%	-0.0121**	-0.0958
Event + 2 Year	4190	0.0862	0.0000	0.0043	-13.37%	NA	-81.18%	NA	4190	0.1043	0.0906	0.0014	-6.54%	-5.43%	-18.96%	-19.96%	-0.0181***	-0.0906
Event + 3 Year	4190	0.0728	0.0000	0.0040	-15.55%	NA	-84.10%	NA	4190	0.0991	0.0834	0.0014	-4.99%	-7.95%	-23.00%	-26.33%	-0.0263***	-0.0834
Event + 4 Year	4190	0.0706	0.0000	0.0040	-3.02%	NA	-84.59%	NA	4190	0.0948	0.0773	0.0014	-4.34%	-7.31%	-26.34%	-31.71%	-0.0242***	-0.0773
Event + 5 Year	4190	0.0687	0.0000	0.0039	-2.69%	NA	-85.00%	NA	4190	0.0904	0.0719	0.0013	-4.64%	-6.99%	-29.76%	-36.48%	-0.0217***	-0.0719
Poison Pill																		
Event - 5 Year	4190	0.1611	0.0000	0.0057	NA	NA	13.78%	NA	4190	0.1220	0.1170	0.0013	NA	NA	-2.21%	-3.25%	0.0391***	-0.1170
Event - 4 Year	4190	0.1652	0.0000	0.0057	2.55%	NA	10.96%	NA	4190	0.1258	0.1253	0.0013	3.11%	7.09%	-5.17%	-9.66%	0.0394***	-0.1253
Event - 3 Year	4190	0.1652	0.0000	0.0057	0.00%	NA	10.96%	NA	4190	0.1267	0.1253	0.0013	0.72%	0.00%	-5.84%	-9.66%	0.0385***	-0.1253
Event - 2 Year	4190	0.1668	0.0000	0.0058	0.97%	NA	9.89%	NA	4190	0.1264	0.1250	0.0013	-0.24%	-0.24%	-5.62%	-9.44%	0.0404***	-0.1250
Event - 1 Year	4190	0.1616	0.0000	0.0057	-3.12%	NA	13.43%	NA	4190	0.1232	0.1188	0.0013	-2.53%	-4.96%	-3.17%	-4.71%	0.0384***	-0.1188
Event	4190	0.1833	0.0000	0.0060	13.43%	NA	NA	NA	4190	0.1193	0.1132	0.0013	-3.17%	-4.71%	NA	NA	0.064***	-0.1132
Event + 1 Year	4190	0.1322	0.0000	0.0052	-27.88%	NA	-27.88%	NA	4190	0.1009	0.0925	0.0013	-15.42%	-18.29%	-15.42%	-18.29%	0.0313***	-0.0925
Event + 2 Year	4190	0.1088	0.0000	0.0048	-17.70%	NA	-40.64%	NA	4190	0.0915	0.0747	0.0013	-9.32%	-19.24%	-23.30%	-34.01%	0.0173***	-0.0747
Event + 3 Year	4190	0.0928	0.0000	0.0045	-14.71%	NA	-49.37%	NA	4190	0.0856	0.0647	0.0012	-6.45%	-13.39%	-28.25%	-42.84%	0.0072	-0.0647
Event + 4 Year	4190	0.0854	0.0000	0.0043	-7.97%	NA	-53.41%	NA	4190	0.0812	0.0569	0.0012	-5.14%	-12.06%	-31.94%	-49.73%	0.0042	-0.0569
Event + 5 Year	4190	0.0826	0.0000	0.0043	-3.28%	NA	-54.94%	NA	4190	0.0775	0.0526	0.0012	-4.56%	-7.56%	-35.04%	-53.53%	0.0051	-0.0526

Table E.13: Long-term Operating Performance: Revenue Growth and Operating Margin Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Revenue Growth is defined as the LTM rolling sales and Operating Margin is (EBITDA/sales). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	2730	0.0439	0.0273	0.0038	NA	NA	-57.86%	-63.74%	2630	0.0461	0.0322	0.0039	NA	NA	-9.76%	-25.78%	-0.0022	-0.0049
Event - 4 Year	2776	0.0391	0.0267	0.0037	-10.93%	-2.20%	-52.69%	-62.92%	2637	0.0454	0.0276	0.0039	-1.52%	-14.29%	-8.37%	-13.41%	-0.0063	-0.0009
Event - 3 Year	2768	0.0356	0.0219	0.0036	-8.95%	-17.98%	-48.03%	-54.79%	2678	0.0465	0.0300	0.0038	2.42%	8.70%	-10.54%	-20.33%	-0.0109**	-0.0081
Event - 2 Year	2766	0.0358	0.0251	0.0035	0.56%	14.61%	-48.32%	-60.56%	2674	0.0458	0.0263	0.0038	-1.51%	-12.33%	-9.17%	-9.13%	-0.0100*	-0.0012
Event - 1 Year	2788	0.0290	0.0149	0.0034	-18.99%	-40.64%	-36.21%	-33.56%	2682	0.0444	0.0274	0.0037	-3.06%	4.18%	-6.31%	-12.77%	-0.0154***	-0.0125
Event	2523	0.0185	0.0099	0.0037	-36.21%	-33.56%	NA	NA	2583	0.0416	0.0239	0.0038	-6.31%	-12.77%	NA	NA	-0.0230***	-0.0140
Event + 1 Year	2348	0.0329	0.0150	0.0043	77.84%	51.52%	77.84%	51.52%	2440	0.0421	0.0253	0.0040	1.20%	5.86%	1.20%	5.86%	-0.0092	-0.0103
Event + 2 Year	2473	0.0411	0.0207	0.0041	24.92%	38.00%	122.16%	109.09%	2469	0.0463	0.0272	0.0042	9.98%	7.51%	11.30%	13.81%	-0.0052	-0.0065
Event + 3 Year	2489	0.0512	0.0263	0.0043	24.57%	27.05%	176.76%	165.66%	2460	0.0468	0.0298	0.0041	1.08%	9.56%	12.50%	24.69%	0.0044	-0.0035
Event + 4 Year	2505	0.0511	0.0273	0.0043	-0.20%	3.80%	176.22%	175.76%	2481	0.0462	0.0284	0.0042	-1.28%	-4.70%	11.06%	18.83%	0.0049	-0.0011
Event + 5 Year	2507	0.0492	0.0311	0.0041	-3.72%	13.92%	165.95%	214.14%	2479	0.0457	0.0293	0.0042	-1.08%	3.17%	9.86%	22.59%	0.0036	0.0018
Operating Margin																		
Event - 5 Year	2636	0.0355	0.1183	0.0107	NA	NA	-33.52%	-14.37%	2497	-0.0320	0.1207	0.0142	NA	NA	-120.94%	4.81%	0.0675***	-0.0024
Event - 4 Year	2670	0.0396	0.1172	0.0106	11.55%	-0.93%	-40.40%	-13.57%	2670	-0.0195	0.1247	0.0137	-39.06%	3.31%	-134.36%	1.44%	0.0591***	-0.0075
Event - 3 Year	2655	0.0477	0.1163	0.0103	20.45%	-0.77%	-50.52%	-12.90%	2655	-0.0146	0.1222	0.0136	-25.13%	-2.00%	-145.89%	3.52%	0.0623***	-0.0059
Event - 2 Year	2672	0.0480	0.1163	0.0101	0.63%	0.00%	-50.83%	-12.90%	2672	0.0058	0.1256	0.0129	-139.73%	2.78%	15.52%	0.72%	0.0422***	-0.0093
Event - 1 Year	2670	0.0305	0.1102	0.0107	-36.46%	-5.25%	-22.62%	-8.08%	2670	0.0135	0.1250	0.0125	132.76%	-0.48%	-50.37%	1.20%	0.0170	-0.0148
Event	2419	0.0236	0.1013	0.0113	-22.62%	-8.08%	NA	NA	2419	0.0067	0.1265	0.0132	-50.37%	1.20%	NA	NA	0.0169	-0.0252
Event + 1 Year	2529	-0.0189	0.1087	0.0130	-180.08%	7.31%	-180.08%	7.31%	2529	-0.0210	0.1234	0.0138	-413.43%	-2.45%	-413.43%	-2.45%	0.0021	-0.0147
Event + 2 Year	2542	-0.0256	0.1115	0.0132	35.45%	2.58%	-208.47%	10.07%	2542	-0.0223	0.1223	0.0140	6.19%	-0.89%	-432.84%	-3.32%	-0.0033	-0.0108
Event + 3 Year	2527	-0.0358	0.1132	0.0142	39.84%	1.52%	-251.69%	11.75%	2527	-0.0272	0.1217	0.0143	21.97%	-0.49%	-505.97%	-3.79%	-0.0086	-0.0085
Event + 4 Year	2487	-0.0166	0.1214	0.0137	-53.63%	7.24%	-170.34%	19.84%	2487	-0.0446	0.1147	0.0146	63.97%	-5.75%	-765.67%	-9.33%	0.0280	0.0067
Event + 5 Year	2473	-0.0075	0.1185	0.0132	-54.82%	-2.39%	-131.78%	16.98%	2473	-0.0420	0.1210	0.0147	-5.83%	5.49%	-726.87%	-4.35%	0.0345*	-0.0025

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	2730	0.0439	0.0273	0.0038	NA	NA	-57.86%	-63.74%	3206	0.1706	0.0554	0.0089	NA	NA	21.28%	-15.34%	-0.1267***	-0.0281
Event - 4 Year	2776	0.0391	0.0267	0.0037	-10.93%	-2.20%	-52.69%	-62.92%	3206	0.1919	0.0560	0.0096	12.49%	1.08%	7.82%	-16.25%	-0.1528***	-0.0293
Event - 3 Year	2768	0.0356	0.0219	0.0036	-8.95%	-17.98%	-48.03%	-54.79%	3206	0.2063	0.0595	0.0100	7.50%	6.25%	0.29%	-21.18%	-0.1707***	-0.0376
Event - 2 Year	2766	0.0358	0.0251	0.0035	0.56%	14.61%	-48.32%	-60.56%	3206	0.1898	0.0580	0.0093	-8.00%	-2.52%	9.01%	-19.14%	-0.154***	-0.0329
Event - 1 Year	2788	0.0290	0.0149	0.0034	-18.99%	-40.64%	-36.21%	-33.56%	3206	0.2044	0.0516	0.0102	7.69%	-11.03%	1.22%	-9.11%	-0.1754***	-0.0367
Event	2523	0.0185	0.0099	0.0037	-36.21%	-33.56%	NA	NA	3206	0.2069	0.0469	0.0107	1.22%	-9.11%	NA	NA	-0.1884***	-0.0370
Event + 1 Year	2348	0.0329	0.0150	0.0043	77.84%	51.52%	77.84%	51.52%	3196	0.2083	0.0501	0.0105	0.68%	6.82%	0.68%	6.82%	-0.1754***	-0.0351
Event + 2 Year	2473	0.0411	0.0207	0.0041	24.92%	38.00%	122.16%	109.09%	3197	0.2027	0.0529	0.0102	-2.69%	5.59%	-2.03%	12.79%	-0.1616***	-0.0322
Event + 3 Year	2489	0.0512	0.0263	0.0043	24.57%	27.05%	176.76%	165.66%	3203	0.2225	0.0590	0.0107	9.77%	11.53%	7.54%	25.80%	-0.1713***	-0.0327
Event + 4 Year	2505	0.0511	0.0273	0.0043	-0.20%	3.80%	176.22%	175.76%	3200	0.2221	0.0606	0.0106	-0.18%	2.71%	7.35%	29.21%	-0.171***	-0.0333
Event + 5 Year	2507	0.0492	0.0311	0.0041	-3.72%	13.92%	165.95%	214.14%	3202	0.2136	0.0632	0.0101	-3.83%	4.29%	3.24%	34.75%	-0.1644***	-0.0321
Operating Margin																		
Event - 5 Year	2636	0.0355	0.1183	0.0107	NA	NA	-33.52%	-14.37%	3206	-2.0914	0.0348	0.1113	NA	NA	6.06%	63.79%	2.1269***	0.0835
Event - 4 Year	2670	0.0396	0.1172	0.0106	11.55%	-0.93%	-40.40%	-13.57%	3206	-1.9476	0.0407	0.1094	-6.88%	16.95%	13.89%	40.05%	1.9872***	0.0765
Event - 3 Year	2655	0.0477	0.1163	0.0103	20.45%	-0.77%	-50.52%	-12.90%	3206	-1.9737	0.0517	0.1134	1.34%	27.03%	12.38%	10.25%	2.0214***	0.0646
Event - 2 Year	2672	0.0480	0.1163	0.0101	0.63%	0.00%	-50.83%	-12.90%	3206	-2.1079	0.0523	0.1154	6.80%	1.16%	5.23%	8.99%	2.1559***	0.0640
Event - 1 Year	2670	0.0305	0.1102	0.0107	-36.46%	-5.25%	-22.62%	-8.08%	3206	-2.2817	0.0562	0.1203	8.25%	7.46%	-2.79%	1.42%	2.3122***	0.0540
Event	2419	0.0236	0.1013	0.0113	-22.62%	-8.08%	NA	NA	3206	-2.2181	0.0570	0.1204	-2.79%	1.42%	NA	NA	2.2417***	0.0443
Event + 1 Year	2529	-0.0189	0.1087	0.0130	-180.08%	7.31%	-180.08%	7.31%	3206	-1.9059	0.0618	0.1111	-14.08%	8.42%	-14.08%	8.42%	1.887***	0.0469
Event + 2 Year	2542	-0.0256	0.1115	0.0132	35.45%	2.58%	-208.47%	10.07%	3204	-1.9894	0.0595	0.1111	4.38%	-3.72%	-10.31%	4.39%	1.9638***	0.0520
Event + 3 Year	2527	-0.0358	0.1132	0.0142	39.84%	1.52%	-251.69%	11.75%	3204	-1.8680	0.0575	0.1078	-6.10%	-3.36%	-15.78%	0.88%	1.8322***	0.0557
Event + 4 Year	2487	-0.0166	0.1214	0.0137	-53.63%	7.24%	-170.34%	19.84%	3203	-1.9250	0.0532	0.1085	3.05%	-7.48%	-13.21%	-6.67%	1.9084***	0.0682
Event + 5 Year	2473	-0.0075	0.1185	0.0132	-54.82%	-2.39%	-131.78%	16.98%	3203	-1.8713	0.0554	0.1068	-2.79%	4.14%	-15.64%	-2.81%	1.8638***	0.0631

Table E.14: Long-term Operating Performance: ROA and Tobin's Q Ex Ante and Ex Post Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROA is defined as (EBIT * (1-tax rate)/Book Value of Total Assets) and Tobin's Q is (book value of debt + market value of equity)/(book value of debt + book value of equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	2578	0.0751	0.0949	0.0032	NA	NA	-31.03%	-20.44%	2428	0.0599	0.0932	0.0039	NA	NA	20.53%	8.48%	0.0152***	0.0017
Event - 4 Year	2613	0.0735	0.0917	0.0031	-2.13%	-3.37%	-29.52%	-17.67%	2449	0.0597	0.0915	0.0038	-0.33%	-1.82%	20.94%	10.49%	0.0138***	0.0002
Event - 3 Year	2633	0.0722	0.0905	0.0030	-1.77%	-1.31%	-28.25%	-16.57%	2477	0.0651	0.0924	0.0037	9.05%	0.98%	10.91%	9.42%	0.0071	-0.0019
Event - 2 Year	2642	0.0726	0.0913	0.0030	0.55%	0.88%	-28.65%	-17.31%	2494	0.0664	0.0947	0.0037	2.00%	2.49%	8.73%	6.76%	0.0061	-0.0034
Event - 1 Year	2627	0.0645	0.0854	0.0030	-11.16%	-6.46%	-19.69%	-11.59%	2497	0.0695	0.0993	0.0037	4.67%	4.86%	3.88%	1.81%	-0.0050	-0.0139
Event	2373	0.0518	0.0755	0.0033	-19.69%	-11.59%	NA	NA	2407	0.0722	0.1011	0.0037	3.88%	1.81%	NA	NA	-0.0203***	-0.0256
Event + 1 Year	2376	0.0485	0.0756	0.0036	-6.37%	0.13%	-6.37%	0.13%	2369	0.0634	0.0958	0.0038	-12.19%	-5.24%	-12.19%	-5.24%	-0.0148***	-0.0202
Event + 2 Year	2419	0.0485	0.0794	0.0038	0.00%	5.03%	-6.37%	5.17%	2370	0.0556	0.0935	0.0039	-12.30%	-2.40%	-22.99%	-7.52%	-0.0071	-0.0141
Event + 3 Year	2406	0.0472	0.0823	0.0039	-2.68%	3.65%	-8.88%	9.01%	2367	0.0565	0.0933	0.0040	1.62%	-0.21%	-21.75%	-7.72%	-0.0093*	-0.0110
Event + 4 Year	2396	0.0518	0.0840	0.0039	9.75%	2.07%	0.00%	11.26%	2384	0.0480	0.0849	0.0041	-15.04%	-9.00%	-33.52%	-16.02%	0.0038	-0.0009
Event + 5 Year	2388	0.0530	0.0868	0.0039	2.32%	3.33%	2.32%	14.97%	2368	0.0486	0.0874	0.0040	1.25%	2.94%	-32.69%	-13.55%	0.0044	-0.0006
Tobin's Q																		
Event - 5 Year	2779	2.0964	1.4602	0.0337	NA	NA	-14.25%	-8.15%	2735	2.2084	1.5302	0.0371	NA	NA	0.36%	1.83%	-0.1120**	-0.0700
Event - 4 Year	2816	2.0374	1.4354	0.0325	-2.81%	-1.70%	-11.77%	-6.56%	2746	2.2587	1.5233	0.0385	2.28%	-0.45%	-1.88%	2.29%	-0.2213***	-0.0879
Event - 3 Year	2795	2.0108	1.4232	0.0320	-1.31%	-0.85%	-10.60%	-5.76%	2773	2.1836	1.5048	0.0363	-3.32%	-1.21%	1.50%	3.55%	-0.1728***	-0.0816
Event - 2 Year	2825	1.9967	1.4313	0.0313	-0.70%	0.57%	-9.97%	-6.29%	2784	2.2407	1.4937	0.0372	2.61%	-0.74%	-1.09%	4.32%	-0.2440***	-0.0624
Event - 1 Year	2826	1.9245	1.4147	0.0292	-3.62%	-1.16%	-6.59%	-5.20%	2794	2.2520	1.5491	0.0365	0.50%	3.71%	-1.59%	0.59%	-0.3275***	-0.1344
Event	2541	1.7976	1.3412	0.0288	-6.59%	-5.20%	NA	NA	2696	2.2163	1.5582	0.0366	-1.59%	0.59%	NA	NA	-0.4187***	-0.2170
Event + 1 Year	2691	2.0419	1.3862	0.0358	13.59%	3.36%	13.59%	3.36%	2716	2.2473	1.5056	0.0383	1.40%	-3.38%	1.40%	-3.38%	-0.2054***	-0.1194
Event + 2 Year	2704	2.1261	1.3923	0.0378	4.12%	0.44%	18.27%	3.81%	2677	2.1884	1.4923	0.0377	-2.62%	-0.88%	-1.26%	-4.23%	-0.0623	-0.1000
Event + 3 Year	2712	2.1834	1.4185	0.0385	2.70%	1.88%	21.46%	5.76%	2674	2.1945	1.4788	0.0383	0.28%	-0.90%	-0.98%	-5.10%	-0.0111	-0.0603
Event + 4 Year	2713	2.2494	1.4515	0.0401	3.02%	2.33%	25.13%	8.22%	2703	2.2909	1.5069	0.0394	4.39%	1.90%	3.37%	-3.29%	-0.0416	-0.0554
Event + 5 Year	2714	2.2372	1.4507	0.0388	-0.54%	-0.06%	24.45%	8.16%	2687	2.2908	1.4813	0.0405	0.00%	-1.70%	3.36%	-4.94%	-0.0535	-0.0306

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	2578	0.0751	0.0949	0.0032	NA	NA	-31.03%	-20.44%	2578	0.0293	0.0631	0.0023	NA	NA	43.34%	3.80%	0.0449***	0.0309
Event - 4 Year	2613	0.0735	0.0917	0.0031	-2.13%	-3.37%	-29.52%	-17.67%	2613	0.0340	0.0633	0.0022	16.04%	0.32%	23.53%	3.48%	0.0392***	0.0287
Event - 3 Year	2633	0.0722	0.0905	0.0030	-1.77%	-1.31%	-28.25%	-16.57%	2633	0.0374	0.0652	0.0022	10.00%	3.00%	12.30%	0.46%	0.0339***	0.0245
Event - 2 Year	2642	0.0726	0.0913	0.0030	0.55%	0.88%	-28.65%	-17.31%	2642	0.0428	0.0711	0.0021	14.44%	9.05%	-1.87%	-7.88%	0.0291***	0.0189
Event - 1 Year	2627	0.0645	0.0854	0.0030	-11.16%	-6.46%	-19.69%	-11.59%	2627	0.0408	0.0684	0.0021	-4.67%	-3.80%	2.94%	-4.24%	0.0239***	0.0167
Event	2373	0.0518	0.0755	0.0033	-19.69%	-11.59%	NA	NA	2373	0.0420	0.0655	0.0021	2.94%	-4.24%	NA	NA	0.009***	0.0101
Event + 1 Year	2376	0.0485	0.0756	0.0036	-6.37%	0.13%	-6.37%	0.13%	2376	0.0431	0.0704	0.0020	2.62%	7.48%	2.62%	7.48%	0.0059*	0.0066
Event + 2 Year	2419	0.0485	0.0794	0.0038	0.00%	5.03%	-6.37%	5.17%	2419	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	0.0063*	0.0058
Event + 3 Year	2406	0.0472	0.0823	0.0039	-2.68%	3.65%	-8.88%	9.01%	2406	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	15.11%	0.006*	0.0070
Event + 4 Year	2396	0.0518	0.0840	0.0039	9.75%	2.07%	0.00%	11.26%	2396	0.0418	0.0767	0.0021	-0.48%	1.72%	-0.48%	17.10%	0.0131***	0.0106
Event + 5 Year	2388	0.0530	0.0868	0.0039	2.32%	3.33%	2.32%	14.97%	2388	0.0392	0.0740	0.0021	-6.22%	-3.52%	-6.67%	12.98%	0.0167***	0.0161
Tobin's Q																		
Event - 5 Year	2779	2.0964	1.4602	0.0337	NA	NA	-14.25%	-8.15%	3206	3.2849	2.0375	0.0833	NA	NA	6.04%	3.62%	-1.1885***	-0.5773
Event - 4 Year	2816	2.0374	1.4354	0.0325	-2.81%	-1.70%	-11.77%	-6.56%	3206	3.2572	2.0058	0.0830	-0.84%	-1.56%	6.94%	5.25%	-1.2198***	-0.5704
Event - 3 Year	2795	2.0108	1.4232	0.0320	-1.31%	-0.85%	-10.60%	-5.76%	3206	3.5273	2.0599	0.0904	8.29%	2.70%	-1.25%	2.49%	-1.5165***	-0.6367
Event - 2 Year	2825	1.9967	1.4313	0.0313	-0.70%	0.57%	-9.97%	-6.29%	3206	3.6582	2.1086	0.0935	3.71%	2.36%	-4.78%	0.12%	-1.6615***	-0.6773
Event - 1 Year	2826	1.9245	1.4147	0.0292	-3.62%	-1.16%	-6.59%	-5.20%	3206	3.5966	2.1089	0.0917	-1.68%	0.01%	-3.15%	0.11%	-1.6721***	-0.6942
Event	2541	1.7976	1.3412	0.0288	-6.59%	-5.20%	NA	NA	3206	3.4832	2.1112	0.0897	-3.15%	0.11%	NA	NA	-1.6856***	-0.7700
Event + 1 Year	2691	2.0419	1.3862	0.0358	13.59%	3.36%	13.59%	3.36%	3206	3.3602	2.0201	0.0849	-3.53%	-4.32%	-3.53%	-4.32%	-1.3183***	-0.6339
Event + 2 Year	2704	2.1261	1.3923	0.0378	4.12%	0.44%	18.27%	3.81%	3206	3.2339	1.9810	0.0811	-3.76%	-1.94%	-7.16%	-6.17%	-1.1078***	-0.5887
Event + 3 Year	2712	2.1834	1.4185	0.0385	2.70%	1.88%	21.46%	5.76%	3205	3.2882	1.9803	0.0837	1.68%	-0.04%	-5.60%	-6.20%	-1.1048***	-0.5618
Event + 4 Year	2713	2.2494	1.4515	0.0401	3.02%	2.33%	25.13%	8.22%	3205	3.3339	1.9961	0.0834	1.39%	0.80%	-4.29%	-5.45%	-1.0845***	-0.5446
Event + 5 Year	2714	2.2372	1.4507	0.0388	-0.54%	-0.06%	24.45%	8.16%	3205	3.3359	2.0065	0.0829	0.06%	0.52%	-4.23%	-4.96%	-1.0987***	-0.5558

Table E.15: Long-term Operating Performance: ROE and ROIC Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROE is defined as (Net Income / Book Value of Equity) and ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	2817	-0.0203	0.0644	0.0080	NA	NA	216.75%	-50.78%	2723	-0.0392	0.0673	0.0086	NA	NA	-86.48%	11.74%	0.0189	-0.0029
Event - 4 Year	2856	-0.0198	0.0645	0.0080	-2.46%	0.16%	224.75%	-50.85%	2739	-0.0370	0.0710	0.0090	-5.61%	5.50%	-85.68%	5.92%	0.0172	-0.0065
Event - 3 Year	2858	-0.0086	0.0627	0.0076	-56.57%	-2.79%	647.67%	-49.44%	2751	-0.0187	0.0743	0.0084	-49.46%	4.65%	-71.66%	1.21%	0.0101	-0.0116
Event - 2 Year	2849	-0.0342	0.0552	0.0079	297.67%	-11.96%	88.01%	-42.57%	2767	-0.0189	0.0738	0.0086	1.07%	-0.67%	-71.96%	1.90%	-0.0153	-0.0186
Event - 1 Year	2861	-0.0434	0.0485	0.0079	26.90%	-12.14%	48.16%	-34.64%	2752	-0.0181	0.0766	0.0086	-4.23%	3.79%	-70.72%	-1.83%	-0.0253**	-0.0281
Event	2568	-0.0643	0.0317	0.0088	48.16%	-34.64%	NA	NA	2652	-0.0053	0.0752	0.0086	-70.72%	-1.83%	NA	NA	-0.0590***	-0.0435
Event + 1 Year	2586	-0.0691	0.0416	0.0094	7.47%	31.23%	7.47%	31.23%	2632	-0.0239	0.0747	0.0088	350.94%	-0.66%	350.94%	-0.66%	-0.0452***	-0.0331
Event + 2 Year	2658	-0.0641	0.0527	0.0093	-7.24%	26.68%	-0.31%	66.25%	2632	-0.0437	0.0671	0.0090	82.85%	-10.17%	724.53%	-10.77%	-0.0203	-0.0144
Event + 3 Year	2649	-0.0464	0.0622	0.0091	-27.61%	18.03%	-27.84%	96.21%	2617	-0.0423	0.0697	0.0089	-3.20%	3.87%	698.11%	-7.31%	-0.0041	-0.0075
Event + 4 Year	2668	-0.0476	0.0652	0.0088	2.59%	4.82%	-25.97%	105.68%	2640	-0.0574	0.0662	0.0095	35.70%	-5.02%	983.02%	-11.97%	0.0098	-0.0010
Event + 5 Year	2681	-0.0285	0.0712	0.0087	-40.13%	9.20%	-55.68%	124.61%	2639	-0.0566	0.0698	0.0093	-1.39%	5.44%	967.92%	-7.18%	0.0281**	0.0014
ROIC																		
Event - 5 Year	2740	0.0303	0.0495	0.0029	NA	NA	-72.94%	-26.26%	2649	0.0205	0.0523	0.0034	NA	NA	71.22%	11.66%	0.0097**	-0.0028
Event - 4 Year	2765	0.0275	0.0486	0.0029	-9.24%	-1.82%	-70.18%	-24.90%	2653	0.0184	0.0512	0.0034	-10.24%	-2.10%	90.76%	14.06%	0.0091**	-0.0026
Event - 3 Year	2771	0.0285	0.0490	0.0028	3.64%	0.82%	-71.23%	-25.51%	2678	0.0273	0.0534	0.0032	48.37%	4.30%	28.57%	9.36%	0.0011	-0.0044
Event - 2 Year	2749	0.0291	0.0483	0.0028	2.11%	-1.43%	-71.82%	-24.43%	2706	0.0293	0.0533	0.0032	7.33%	-0.19%	19.80%	9.57%	-0.0003	-0.0050
Event - 1 Year	2760	0.0217	0.0439	0.0028	-25.43%	-9.11%	-62.21%	-16.86%	2690	0.0308	0.0575	0.0032	5.12%	7.88%	13.96%	1.57%	-0.0092**	-0.0136
Event	2478	0.0082	0.0365	0.0031	-62.21%	-16.86%	NA	NA	2602	0.0351	0.0584	0.0032	13.96%	1.57%	NA	NA	-0.0269***	-0.0219
Event + 1 Year	2493	0.0097	0.0402	0.0034	18.29%	10.14%	18.29%	10.14%	2549	0.0260	0.0559	0.0033	-25.93%	-4.28%	-25.93%	-4.28%	-0.0164***	-0.0157
Event + 2 Year	2559	0.0130	0.0455	0.0034	34.02%	13.18%	58.54%	24.66%	2540	0.0172	0.0522	0.0035	-33.85%	-6.62%	-51.00%	-10.62%	-0.0042	-0.0067
Event + 3 Year	2566	0.0118	0.0479	0.0035	-9.23%	5.27%	43.90%	31.23%	2530	0.0190	0.0535	0.0035	10.47%	2.49%	-45.87%	-8.39%	-0.0072	-0.0056
Event + 4 Year	2579	0.0165	0.0526	0.0034	39.83%	9.81%	101.22%	44.11%	2550	0.0123	0.0504	0.0036	-35.26%	-5.79%	-64.96%	-13.70%	0.0042	0.0022
Event + 5 Year	2597	0.0163	0.0521	0.0035	-1.21%	-0.95%	98.78%	42.74%	2561	0.0107	0.0512	0.0036	-13.01%	1.59%	-69.52%	-12.33%	0.0055	0.0009

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	2817	-0.0203	0.0644	0.0080	NA	NA	216.75%	-50.78%	2817	-0.0002	0.0047	0.0089	NA	NA	-8000.00%	317.02%	-0.0114	0.0658
Event - 4 Year	2856	-0.0198	0.0645	0.0080	-2.46%	0.16%	224.75%	-50.85%	2856	0.0029	0.0065	0.0089	-1550.00%	38.30%	444.83%	201.54%	-0.0203*	0.0644
Event - 3 Year	2858	-0.0086	0.0627	0.0076	-56.57%	-2.79%	647.67%	-49.44%	2858	0.0297	0.0150	0.0089	924.14%	130.77%	-46.80%	30.67%	-0.0371***	0.0518
Event - 2 Year	2849	-0.0342	0.0552	0.0079	297.67%	-11.96%	88.01%	-42.57%	2849	0.0272	0.0202	0.0087	-8.42%	34.67%	-41.91%	-2.97%	-0.0495***	0.0416
Event - 1 Year	2861	-0.0434	0.0485	0.0079	26.90%	-12.14%	48.16%	-34.64%	2861	0.0209	0.0166	0.0086	-23.16%	-17.82%	-24.40%	18.07%	-0.0584***	0.0368
Event	2568	-0.0643	0.0317	0.0088	48.16%	-34.64%	NA	NA	2568	0.0158	0.0196	0.0085	-24.40%	18.07%	NA	NA	-0.0795***	0.0157
Event + 1 Year	2586	-0.0691	0.0416	0.0094	7.47%	31.23%	7.47%	31.23%	2586	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	-0.103***	0.0246
Event + 2 Year	2658	-0.0641	0.0527	0.0093	-7.24%	26.68%	-0.31%	66.25%	2658	0.0008	0.0202	0.0083	-97.50%	-2.88%	-94.94%	3.06%	-0.0634***	0.0353
Event + 3 Year	2649	-0.0464	0.0622	0.0091	-27.61%	18.03%	-27.84%	96.21%	2649	0.0148	0.0232	0.0085	1750.00%	14.85%	-6.33%	18.37%	-0.0659***	0.0399
Event + 4 Year	2668	-0.0476	0.0652	0.0088	2.59%	4.82%	-25.97%	105.68%	2668	0.0241	0.0232	0.0086	62.84%	0.00%	52.53%	18.37%	-0.0694***	0.0443
Event + 5 Year	2681	-0.0285	0.0712	0.0087	-40.13%	9.20%	-55.68%	124.61%	2681	0.0161	0.0181	0.0085	-33.20%	-21.98%	1.90%	-7.65%	-0.0422***	0.0553
ROIC																		
Event - 5 Year	2740	0.0303	0.0495	0.0029	NA	NA	-72.94%	-26.26%	3206	0.0284	0.0405	0.0034	NA	NA	31.34%	11.36%	0.0019	0.0090
Event - 4 Year	2765	0.0275	0.0486	0.0029	-9.24%	-1.82%	-70.18%	-24.90%	3206	0.0331	0.0412	0.0034	16.55%	1.73%	12.69%	9.47%	-0.0056	0.0074
Event - 3 Year	2771	0.0285	0.0490	0.0028	3.64%	0.82%	-71.23%	-25.51%	3206	0.0333	0.0424	0.0032	0.60%	2.91%	12.01%	6.37%	-0.0048	0.0066
Event - 2 Year	2749	0.0291	0.0483	0.0028	2.11%	-1.43%	-71.82%	-24.43%	3206	0.0393	0.0439	0.0032	18.02%	3.54%	-5.09%	2.73%	-0.0102**	0.0044
Event - 1 Year	2760	0.0217	0.0439	0.0028	-25.43%	-9.11%	-62.21%	-16.86%	3206	0.0355	0.0448	0.0032	-9.67%	2.05%	5.07%	0.67%	-0.0138***	-0.0009
Event	2478	0.0082	0.0365	0.0031	-62.21%	-16.86%	NA	NA	3205	0.0373	0.0451	0.0030	5.07%	0.67%	NA	NA	-0.0291***	-0.0086
Event + 1 Year	2493	0.0097	0.0402	0.0034	18.29%	10.14%	18.29%	10.14%	3201	0.0397	0.0469	0.0030	6.43%	3.99%	6.43%	3.99%	-0.03***	-0.0067
Event + 2 Year	2559	0.0130	0.0455	0.0034	34.02%	13.18%	58.54%	24.66%	3203	0.0338	0.0485	0.0030	-14.86%	3.41%	-9.38%	7.54%	-0.0208***	-0.0030
Event + 3 Year	2566	0.0118	0.0479	0.0035	-9.23%	5.27%	43.90%	31.23%	3204	0.0365	0.0495	0.0029	7.99%	2.06%	-2.14%	9.76%	-0.0247***	-0.0016
Event + 4 Year	2579	0.0165	0.0526	0.0034	39.83%	9.81%	101.22%	44.11%	3203	0.0344	0.0488	0.0030	-5.75%	-1.41%	-7.77%	8.20%	-0.0179***	0.0038
Event + 5 Year	2597	0.0163	0.0521	0.0035	-1.21%	-0.95%	98.78%	42.74%	3205	0.0342	0.0478	0.0031	-0.58%	-2.05%	-8.31%	5.99%	-0.0179***	0.0043

Table E.16: Long-term Operating Performance: Enterprise Value / LTM EBITDA Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EV / EBITDA is ((book value of debt + book value of equity − cash) / LTM EBITDA). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	2508	7.8718	7.3619	0.3123	NA	NA	-11.35%	-1.65%	2508	7.3227	7.1501	0.3134	NA	NA	-4.39%	3.48%	0.5490	0.2118
Event - 4 Year	2543	7.6209	7.3251	0.3013	-3.19%	-0.50%	-8.44%	-1.16%	2543	7.0420	7.1677	0.3093	-3.83%	0.25%	-0.58%	3.22%	0.5789	0.1574
Event - 3 Year	2562	6.9646	7.2580	0.3066	-8.61%	-0.92%	0.19%	-0.25%	2562	7.0239	7.3283	0.3065	-0.26%	2.24%	-0.32%	0.96%	-0.0593	-0.0703
Event - 2 Year	2587	7.2821	7.2546	0.3014	4.56%	-0.05%	-4.18%	-0.20%	2587	6.7012	7.2855	0.3095	-4.59%	-0.58%	4.48%	1.55%	0.5809	-0.0309
Event - 1 Year	2570	7.6084	7.4409	0.2907	4.48%	2.57%	-8.29%	-2.70%	2570	7.4765	7.5902	0.3033	11.57%	4.18%	-6.36%	-2.52%	0.1319	-0.1493
Event	2312	6.9780	7.2401	0.3251	-8.29%	-2.70%	NA	NA	2312	7.0013	7.3986	0.2955	-6.36%	-2.52%	NA	NA	-0.0233	-0.1585
Event + 1 Year	2359	6.4786	6.6481	0.3132	-7.16%	-8.18%	-7.16%	-8.18%	2359	6.7930	7.1600	0.3056	-2.98%	-3.22%	-2.98%	-3.22%	-0.3143	-0.5119
Event + 2 Year	2381	6.2372	6.5033	0.3161	-3.73%	-2.18%	-10.62%	-10.18%	2381	6.6676	7.0152	0.3007	-1.85%	-2.02%	-4.77%	-5.18%	-0.4304	-0.5119
Event + 3 Year	2371	6.0578	6.6942	0.3214	-2.88%	2.94%	-13.19%	-7.54%	2371	6.5655	6.9965	0.3092	-1.53%	-0.27%	-6.22%	-5.43%	-0.5077	-0.3023
Event + 4 Year	2356	6.6434	6.7528	0.3124	9.67%	0.88%	-4.80%	-6.73%	2356	6.2417	6.8599	0.3197	-4.93%	-1.95%	-10.85%	-7.28%	0.4017	-0.1071
Event + 5 Year	2341	6.4460	6.8056	0.3201	-2.97%	0.78%	-7.62%	-6.00%	2341	5.8886	6.7506	0.3117	-5.66%	-1.59%	-15.89%	-8.76%	0.5574	0.0550

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	791	8.0160	7.7235	0.5131	NA	NA	-12.45%	-3.82%	791	6.8932	7.1266	0.1659	NA	NA	1.20%	-0.75%	1.1228**	0.5969
Event - 4 Year	814	6.7130	7.4215	0.5054	-16.25%	-3.91%	4.54%	0.10%	814	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.8584***	0.3335
Event - 3 Year	825	6.9344	7.8910	0.4953	3.30%	6.33%	1.21%	-5.86%	825	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.5593**	0.3734
Event - 2 Year	830	7.1547	7.4889	0.4889	3.18%	-5.10%	-1.91%	-0.80%	830	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	0.96***	0.3668
Event - 1 Year	863	7.4149	7.2937	0.4874	3.64%	-2.61%	-5.35%	1.85%	863	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	1.2535***	0.3395
Event	820	7.0180	7.4287	0.5008	-5.35%	1.85%	NA	NA	820	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	0.5913**	0.2441
Event + 1 Year	769	6.1631	6.5226	0.5185	-12.18%	-12.20%	-12.18%	-12.20%	769	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	0.2388	-0.1440
Event + 2 Year	783	6.5264	6.4192	0.5197	5.89%	-1.59%	-7.00%	-13.59%	783	5.9542	6.6791	0.0896	-3.44%	-1.33%	-6.92%	-5.12%	0.3551	-0.1811
Event + 3 Year	769	6.0581	6.5258	0.4874	-7.18%	1.66%	-13.68%	-12.15%	769	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	0.17	-0.0354
Event + 4 Year	768	6.7824	6.7427	0.5561	11.96%	3.32%	-3.36%	-9.23%	768	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	0.8668***	0.1248
Event + 5 Year	753	6.2497	6.9092	0.5497	-7.85%	2.47%	-10.95%	-6.99%	753	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	0.5143**	0.2794

Table E.17: Long-term Operating Performance: Cash-to-Market Capitalization and Cash-to-Assets Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Cash/Market Cap is defined as (Total Cash / Market Capitalization) and Cash/Assets is (Total Cash / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	2811	0.2525	0.1350	0.0067	NA	NA	20.00%	22.59%	2768	0.2858	0.1292	0.0081	NA	NA	2.45%	8.90%	-0.0333***	0.0058
Event - 4 Year	2845	0.2705	0.1423	0.0072	7.13%	5.41%	12.01%	16.30%	2774	0.2915	0.1354	0.0082	1.99%	4.80%	0.45%	3.91%	-0.0210*	0.0069
Event - 3 Year	2833	0.2697	0.1461	0.0070	-0.30%	2.67%	12.35%	13.28%	2790	0.2929	0.1410	0.0082	0.48%	4.14%	-0.03%	-0.21%	-0.0231**	0.0051
Event - 2 Year	2863	0.2738	0.1513	0.0070	1.52%	3.56%	10.66%	9.39%	2801	0.2865	0.1392	0.0080	-2.19%	-1.28%	2.20%	1.08%	-0.0126	0.0121
Event - 1 Year	2868	0.2777	0.1600	0.0068	1.42%	5.75%	9.11%	3.44%	2803	0.2948	0.1402	0.0084	2.90%	0.72%	-0.68%	0.36%	-0.0171	0.0198
Event	2582	0.3030	0.1655	0.0079	9.11%	3.44%	NA	NA	2700	0.2928	0.1407	0.0084	-0.68%	0.36%	NA	NA	0.0102	0.0248
Event + 1 Year	2730	0.3136	0.1634	0.0081	3.50%	-1.27%	3.50%	-1.27%	2738	0.3075	0.1421	0.0087	5.02%	1.00%	5.02%	1.00%	0.0061	0.0213
Event + 2 Year	2739	0.3061	0.1469	0.0082	-2.39%	-10.10%	1.02%	-11.24%	2713	0.3113	0.1487	0.0088	1.24%	4.64%	6.32%	5.69%	-0.0052	-0.0018
Event + 3 Year	2742	0.2956	0.1392	0.0081	-3.43%	-5.24%	-2.44%	-15.89%	2711	0.2987	0.1368	0.0086	-4.05%	-8.00%	2.02%	-2.77%	-0.0031	0.0024
Event + 4 Year	2745	0.2861	0.1329	0.0081	-3.21%	-4.53%	-5.58%	-19.70%	2738	0.2957	0.1346	0.0084	-1.00%	-1.61%	0.99%	-4.34%	-0.0096	-0.0017
Event + 5 Year	2736	0.2761	0.1284	0.0080	-3.50%	-3.39%	-8.88%	-22.42%	2713	0.3018	0.1321	0.0088	2.06%	-1.86%	3.07%	-6.11%	-0.0257**	-0.0037
Cash / Assets																		
Event - 5 Year	2878	0.1900	0.0958	0.0040	NA	NA	-3.42%	2.61%	2822	0.2051	0.1017	0.0043	NA	NA	-2.15%	9.64%	-0.0152**	-0.0059
Event - 4 Year	2909	0.1908	0.1000	0.0040	0.42%	4.38%	-3.83%	-1.70%	2826	0.2103	0.1076	0.0044	2.54%	5.80%	-4.56%	3.62%	-0.0194***	-0.0076
Event - 3 Year	2895	0.1956	0.1042	0.0040	2.52%	4.20%	-6.19%	-5.66%	2841	0.2071	0.1108	0.0043	-1.52%	2.97%	-3.09%	0.63%	-0.0115**	-0.0066
Event - 2 Year	2909	0.1958	0.1081	0.0040	0.10%	3.74%	-6.28%	-9.07%	2848	0.2058	0.1088	0.0042	-0.63%	-1.81%	-2.48%	2.48%	-0.0101*	-0.0007
Event - 1 Year	2920	0.1957	0.1066	0.0039	-0.05%	-1.39%	-6.23%	-7.79%	2846	0.2072	0.1172	0.0042	0.68%	7.72%	-3.14%	-4.86%	-0.0115**	-0.0106
Event	2626	0.1835	0.0983	0.0040	-6.23%	-7.79%	NA	NA	2717	0.2007	0.1115	0.0042	-3.14%	-4.86%	NA	NA	-0.0172***	-0.0132
Event + 1 Year	2790	0.2015	0.1021	0.0043	9.81%	3.87%	9.81%	3.87%	2796	0.2087	0.1136	0.0043	3.99%	1.88%	3.99%	1.88%	-0.0072	-0.0115
Event + 2 Year	2802	0.1989	0.1007	0.0043	-1.29%	-1.37%	8.39%	2.44%	2768	0.2070	0.1114	0.0043	-0.81%	-1.94%	3.14%	-0.09%	-0.0081	-0.0107
Event + 3 Year	2805	0.2005	0.0945	0.0044	0.80%	-6.16%	9.26%	-3.87%	2769	0.2026	0.1067	0.0042	-2.13%	-4.22%	0.95%	-4.30%	-0.0021	-0.0122
Event + 4 Year	2807	0.2003	0.0978	0.0043	-0.10%	3.49%	9.16%	-0.51%	2800	0.2048	0.1015	0.0043	1.09%	-4.87%	2.04%	-8.97%	-0.0045	-0.0037
Event + 5 Year	2802	0.1947	0.0918	0.0043	-2.80%	-6.13%	6.10%	-6.61%	2779	0.2013	0.0999	0.0043	-1.71%	-1.58%	0.30%	-10.40%	-0.0067	-0.0081

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	2811	0.2525	0.1350	0.0067	NA	NA	20.00%	22.59%	3206	0.5960	0.3251	0.0145	NA	NA	-6.44%	-2.61%	-0.3435***	-0.1901
Event - 4 Year	2845	0.2705	0.1423	0.0072	7.13%	5.41%	12.01%	16.30%	3206	0.6034	0.3253	0.0146	1.24%	0.06%	-7.59%	-2.67%	-0.3329***	-0.1830
Event - 3 Year	2833	0.2697	0.1461	0.0070	-0.30%	2.67%	12.35%	13.28%	3206	0.6096	0.3357	0.0146	1.03%	3.20%	-8.53%	-5.69%	-0.3399***	-0.1896
Event - 2 Year	2863	0.2738	0.1513	0.0070	1.52%	3.56%	10.66%	9.39%	3206	0.5923	0.3410	0.0144	-2.84%	1.58%	-5.86%	-7.16%	-0.3185***	-0.1897
Event - 1 Year	2868	0.2777	0.1600	0.0068	1.42%	5.75%	9.11%	3.44%	3206	0.5636	0.3214	0.0137	-4.85%	-5.75%	-1.06%	-1.49%	-0.2859***	-0.1614
Event	2582	0.3030	0.1655	0.0079	9.11%	3.44%	NA	NA	3206	0.5576	0.3166	0.0136	-1.06%	-1.49%	NA	NA	-0.2546***	-0.1511
Event + 1 Year	2730	0.3136	0.1634	0.0081	3.50%	-1.27%	3.50%	-1.27%	3206	0.6003	0.3133	0.0153	7.66%	-1.04%	7.66%	-1.04%	-0.2867***	-0.1499
Event + 2 Year	2739	0.3061	0.1469	0.0082	-2.39%	-10.10%	1.02%	-11.24%	3206	0.6111	0.3065	0.0159	1.80%	-2.17%	9.59%	-3.19%	-0.305***	-0.1596
Event + 3 Year	2742	0.2956	0.1392	0.0081	-3.43%	-5.24%	-2.44%	-15.89%	3205	0.6246	0.2997	0.0165	2.21%	-2.22%	12.02%	-5.34%	-0.329***	-0.1605
Event + 4 Year	2745	0.2861	0.1329	0.0081	-3.21%	-4.53%	-5.58%	-19.70%	3205	0.6239	0.2909	0.0166	-0.11%	-2.94%	11.89%	-8.12%	-0.3378***	-0.1580
Event + 5 Year	2736	0.2761	0.1284	0.0080	-3.50%	-3.39%	-8.88%	-22.42%	3205	0.6110	0.2908	0.0164	-2.07%	-0.03%	9.58%	-8.15%	-0.3349***	-0.1624
Cash / Assets																		
Event - 5 Year	2878	0.1900	0.0958	0.0040	NA	NA	-3.42%	2.61%	3205	0.1925	0.1372	0.0026	1.32%	2.31%	11.69%	11.81%	-0.0017	-0.0372
Event - 4 Year	2909	0.1908	0.1000	0.0040	0.42%	4.38%	-3.83%	-1.70%	3205	0.1917	0.1359	0.0026	-0.42%	-0.95%	12.15%	12.88%	0.0039	-0.0317
Event - 3 Year	2895	0.1956	0.1042	0.0040	2.52%	4.20%	-6.19%	-5.66%	3206	0.1958	0.1408	0.0026	2.14%	3.61%	9.81%	8.95%	0	-0.0327
Event - 2 Year	2909	0.1958	0.1081	0.0040	0.10%	3.74%	-6.28%	-9.07%	3206	0.2033	0.1444	0.0027	3.83%	2.56%	5.76%	6.23%	-0.0076*	-0.0378
Event - 1 Year	2920	0.1957	0.1066	0.0039	-0.05%	-1.39%	-6.23%	-7.79%	3206	0.2150	0.1534	0.0027	5.76%	6.23%	NA	NA	-0.0315***	-0.0551
Event	2626	0.1835	0.0983	0.0040	-6.23%	-7.79%	NA	NA	3206	0.2033	0.1444	0.0027	-5.44%	-5.87%	-5.44%	-5.87%	-0.0018	-0.0423
Event + 1 Year	2790	0.2015	0.1021	0.0043	9.81%	3.87%	9.81%	3.87%	3206	0.1958	0.1408	0.0026	-3.69%	-2.49%	-8.93%	-8.21%	0.0031	-0.0401
Event + 2 Year	2802	0.1989	0.1007	0.0043	-1.29%	-1.37%	8.39%	2.44%	3205	0.1917	0.1359	0.0026	-2.09%	-3.48%	-10.84%	-11.41%	0.0088*	-0.0414
Event + 3 Year	2805	0.2005	0.0945	0.0044	0.80%	-6.16%	9.26%	-3.87%	3205	0.1925	0.1372	0.0026	0.42%	0.96%	-10.47%	-10.56%	0.0078	-0.0394
Event + 4 Year	2807	0.2003	0.0978	0.0043	-0.10%	3.49%	9.16%	-0.51%	3205	0.1900	0.1341	0.0026	-1.30%	-2.26%	-11.63%	-12.58%	0.0047	-0.0423
Event + 5 Year	2802	0.1947	0.0918	0.0043	-2.80%	-6.13%	6.10%	-6.61%	3206	2.0111	1.3510	0.0627	NA	NA	-1.39%	2.15%	0.3267***	-0.2577

Table E.18: Long-term Operating Performance: Debt-to-EBITDA and Net Leverage Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Debt / EBITDA is (Total Debt / EBITDA) and Leverage (net) is defined as a ((Total Debt - Cash) / Total Equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	2567	2.3378	1.0933	0.0809	NA	NA	9.67%	11.08%	2435	2.2161	0.8899	0.0842	NA	NA	-9.90%	-3.11%	0.1218	0.2034
Event - 4 Year	3206	0.6613	1.0000	0.0084	2.72%	0.00%	6.39%	0.00%	3205	0.5878	1.0000	0.0087	2.67%	0.00%	9.97%	0.00%	0.0734***	0.0000
Event - 3 Year	3206	0.6597	1.0000	0.0084	-0.24%	0.00%	6.13%	0.00%	3205	0.6028	1.0000	0.0086	2.55%	0.00%	12.78%	0.00%	0.0569***	0.0000
Event - 2 Year	3206	0.6569	1.0000	0.0084	-0.42%	0.00%	5.68%	0.00%	3205	0.6087	1.0000	0.0086	0.98%	0.00%	13.88%	0.00%	0.0482***	0.0000
Event - 1 Year	3206	0.0450	0.0057	0.0010	NA	NA	12.00%	208.77%	3205	0.0468	0.0206	0.0010	NA	NA	9.40%	56.80%	-0.0018	-0.0149
Event	3206	0.0467	0.0113	0.0010	3.78%	98.25%	7.92%	55.75%	3205	0.0481	0.0239	0.0010	2.78%	16.02%	6.44%	35.15%	-0.0014	-0.0126
Event + 1 Year	3206	0.0487	0.0238	0.0010	4.28%	110.62%	3.49%	-26.05%	3205	0.0493	0.0282	0.0010	2.49%	17.99%	3.85%	14.54%	-0.0006	-0.0044
Event + 2 Year	3206	0.0509	0.0327	0.0010	4.52%	37.39%	-0.98%	-46.18%	3205	0.0507	0.0342	0.0010	2.84%	21.28%	0.99%	-5.56%	0.0002	-0.0015
Event + 3 Year	3206	0.0534	0.0430	0.0010	4.91%	31.50%	-5.62%	-59.07%	3205	0.0521	0.0386	0.0010	2.76%	12.87%	-1.73%	-16.32%	0.0012	0.0044
Event + 4 Year	3206	0.0504	0.0176	0.0010	-5.62%	-59.07%	NA	NA	3205	0.0512	0.0323	0.0010	-1.73%	-16.32%	NA	NA	-0.0008	-0.0147
Event + 5 Year	3206	0.0459	0.0000	0.0010	-8.93%	-100.00%	-8.93%	-100.00%	3205	0.0471	0.0209	0.0010	-8.01%	-35.29%	-8.01%	-35.29%	-0.0012	-0.0209
Leverage (net)																		
Event - 5 Year	2817	0.4071	0.1052	0.0262	NA	NA	-0.15%	6.65%	2754	0.3421	0.0762	0.0250	NA	NA	-14.56%	-54.33%	0.0650*	0.0290
Event - 4 Year	2855	0.4066	0.0855	0.0264	-0.12%	-18.73%	-0.02%	31.23%	2764	0.3059	0.0455	0.0249	-10.58%	-40.29%	-4.45%	-23.52%	0.1007***	0.0400
Event - 3 Year	2840	0.3696	0.0663	0.0257	-9.10%	-22.46%	9.98%	69.23%	2789	0.3060	0.0413	0.0246	0.03%	-9.23%	-4.48%	-15.74%	0.0635*	0.0250
Event - 2 Year	2851	0.3628	0.0758	0.0256	-1.84%	14.33%	12.05%	48.02%	2805	0.2829	0.0338	0.0239	-7.55%	-18.16%	3.32%	2.96%	0.0799**	0.0420
Event - 1 Year	2860	0.3889	0.0787	0.0260	7.19%	3.83%	4.53%	42.57%	2806	0.3055	0.0322	0.0246	7.99%	-4.73%	-4.32%	8.07%	0.0834**	0.0465
Event	2580	0.4065	0.1122	0.0273	4.53%	42.57%	NA	NA	2705	0.2923	0.0348	0.0251	-4.32%	8.07%	NA	NA	0.1142***	0.0774
Event + 1 Year	2681	0.3476	0.0863	0.0263	-14.49%	-23.08%	-14.49%	-23.08%	2711	0.2866	0.0049	0.0251	-1.95%	-85.92%	-1.95%	-85.92%	0.0610*	0.0814
Event + 2 Year	2709	0.3295	0.0591	0.0262	-5.21%	-31.52%	-18.94%	-47.33%	2685	0.3068	0.0134	0.0253	7.05%	173.47%	4.96%	-61.49%	0.0227	0.0457
Event + 3 Year	2715	0.3583	0.0834	0.0271	8.74%	41.12%	-11.86%	-25.67%	2673	0.3493	0.0329	0.0259	13.85%	145.52%	19.50%	-5.46%	0.0090	0.0505
Event + 4 Year	2729	0.3342	0.0707	0.0258	-6.73%	-15.23%	-17.79%	-36.99%	2699	0.3297	0.0431	0.0257	-5.61%	31.00%	12.80%	23.85%	0.0045	0.0276
Event + 5 Year	2724	0.3514	0.0889	0.0260	5.15%	25.74%	-13.55%	-20.77%	2695	0.3532	0.0464	0.0266	7.13%	7.66%	20.83%	33.33%	-0.0018	0.0425

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	2567	2.3378	1.0933	0.0809	NA	NA	9.67%	11.08%	3206	2.0111	1.3510	0.0627	NA	NA	-1.39%	2.15%	0.3267***	-0.2577
Event - 4 Year	3206	0.6613	1.0000	0.0084	2.72%	0.00%	6.39%	0.00%	3206	2.1458	1.4496	0.0625	6.70%	7.30%	-7.58%	-4.79%	0.1785*	-0.4239
Event - 3 Year	3206	0.6597	1.0000	0.0084	-0.24%	0.00%	6.13%	0.00%	3206	1.9530	1.3053	0.0604	-8.98%	-9.95%	1.55%	5.73%	0.5087***	-0.2129
Event - 2 Year	3206	0.6569	1.0000	0.0084	-0.42%	0.00%	5.68%	0.00%	3206	1.8972	1.3265	0.0593	-2.86%	1.62%	4.53%	4.04%	0.5626***	-0.2345
Event - 1 Year	3206	0.0450	0.0057	0.0010	NA	NA	12.00%	208.77%	3206	1.9749	1.4060	0.0634	4.10%	5.99%	0.42%	-1.84%	0.4897***	-0.3192
Event	3206	0.0467	0.0113	0.0010	3.78%	98.25%	7.92%	55.75%	3206	1.9832	1.3801	0.0617	0.42%	-1.84%	NA	NA	0.5806***	-0.1657
Event + 1 Year	3206	0.0487	0.0238	0.0010	4.28%	110.62%	3.49%	-26.05%	3204	2.1671	1.5244	0.0645	9.27%	10.46%	9.27%	10.46%	0.3037***	-0.3515
Event + 2 Year	3206	0.0509	0.0327	0.0010	4.52%	37.39%	-0.98%	-46.18%	3204	2.1026	1.4987	0.0647	-2.98%	-1.69%	6.02%	8.59%	0.2268**	-0.3888
Event + 3 Year	3206	0.0534	0.0430	0.0010	4.91%	31.50%	-5.62%	-59.07%	3204	2.0682	1.4912	0.0650	-1.64%	-0.50%	4.29%	8.05%	0.3002***	-0.3427
Event + 4 Year	3206	0.0504	0.0176	0.0010	-5.62%	-59.07%	NA	NA	3203	2.0679	1.4532	0.0631	-0.01%	-2.55%	4.27%	5.30%	0.2061**	-0.3992
Event + 5 Year	3206	0.0459	0.0000	0.0010	-8.93%	-100.00%	-8.93%	-100.00%	3203	2.0221	1.4410	0.0637	-2.21%	-0.84%	1.96%	4.41%	0.2541***	-0.4040
Leverage (net)																		
Event - 5 Year	2817	0.4071	0.1052	0.0262	NA	NA	-0.15%	6.65%	3206	0.3429	0.1083	0.0231	NA	NA	10.85%	-20.68%	0.0642*	-0.0031
Event - 4 Year	2855	0.4066	0.0855	0.0264	-0.12%	-18.73%	-0.02%	31.23%	3206	0.3691	0.1149	0.0236	7.64%	6.09%	2.98%	-25.24%	0.0375	-0.0294
Event - 3 Year	2840	0.3696	0.0663	0.0257	-9.10%	-22.46%	9.98%	69.23%	3206	0.3742	0.0827	0.0237	1.38%	-28.02%	1.58%	3.87%	-0.0046	-0.0164
Event - 2 Year	2851	0.3628	0.0758	0.0256	-1.84%	14.33%	12.05%	48.02%	3206	0.3458	0.0827	0.0239	-7.59%	0.00%	9.92%	3.87%	0.017	-0.0069
Event - 1 Year	2860	0.3889	0.0787	0.0260	7.19%	3.83%	4.53%	42.57%	3206	0.3881	0.0952	0.0243	12.23%	15.11%	-2.06%	-9.77%	0.0008	-0.0165
Event	2580	0.4065	0.1122	0.0273	4.53%	42.57%	NA	NA	3206	0.3801	0.0859	0.0254	-2.06%	-9.77%	NA	NA	0.0264	0.0263
Event + 1 Year	2681	0.3476	0.0863	0.0263	-14.49%	-23.08%	-14.49%	-23.08%	3206	0.4093	0.1817	0.0252	7.68%	111.53%	7.68%	111.53%	-0.0617*	-0.0954
Event + 2 Year	2709	0.3295	0.0591	0.0262	-5.21%	-31.52%	-18.94%	-47.33%	3206	0.4408	0.2280	0.0244	7.70%	25.48%	15.97%	165.42%	-0.1113***	-0.1689
Event + 3 Year	2715	0.3583	0.0834	0.0271	8.74%	41.12%	-11.86%	-25.67%	3205	0.4383	0.2045	0.0244	-0.57%	-10.31%	15.31%	138.07%	-0.08**	-0.1211
Event + 4 Year	2729	0.3342	0.0707	0.0258	-6.73%	-15.23%	-17.79%	-36.99%	3205	0.4336	0.2201	0.0233	-1.07%	7.63%	14.08%	156.23%	-0.0994***	-0.1494
Event + 5 Year	2724	0.3514	0.0889	0.0260	5.15%	25.74%	-13.55%	-20.77%	3205	0.4310	0.2188	0.0234	-0.60%	-0.59%	13.39%	154.71%	-0.0796**	-0.1299

Table E.19: Long-term Operating Performance: Capital Expenditure Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Capital Expenditures is defined as (CAPEX / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	2690	0.0175	0.0097	0.0004	NA	NA	-19.43%	-25.77%	2536	0.0172	0.0092	0.0004	NA	NA	-9.88%	-11.96%	0.0003	0.0005
Event - 4 Year	2737	0.0166	0.0088	0.0004	-5.14%	-9.28%	-15.06%	-18.18%	2569	0.0158	0.0085	0.0004	-8.14%	-7.61%	-1.90%	-4.71%	0.0007	0.0003
Event - 3 Year	2749	0.0159	0.0087	0.0004	-4.22%	-1.14%	-11.32%	-17.24%	2574	0.0159	0.0084	0.0004	0.63%	-1.18%	-2.52%	-3.57%	0.0000	0.0003
Event - 2 Year	2762	0.0158	0.0084	0.0004	-0.63%	-3.45%	-10.76%	-14.29%	2584	0.0159	0.0081	0.0004	0.00%	-3.57%	-2.52%	0.00%	-0.0001	0.0003
Event - 1 Year	2798	0.0153	0.0081	0.0004	-3.16%	-3.57%	-7.84%	-11.11%	2594	0.0158	0.0081	0.0004	-0.63%	0.00%	-1.90%	0.00%	-0.0004	0.0000
Event	2500	0.0141	0.0072	0.0004	-7.84%	-11.11%	NA	NA	2516	0.0155	0.0081	0.0004	-1.90%	0.00%	NA	NA	-0.0013**	-0.0009
Event + 1 Year	2459	0.0163	0.0082	0.0004	15.60%	13.89%	15.60%	13.89%	2473	0.0166	0.0083	0.0004	7.10%	2.47%	7.10%	2.47%	-0.0003	-0.0001
Event + 2 Year	2479	0.0166	0.0085	0.0004	1.84%	3.66%	17.73%	18.06%	2460	0.0169	0.0084	0.0005	1.81%	1.20%	9.03%	3.70%	-0.0002	0.0001
Event + 3 Year	2459	0.0164	0.0087	0.0004	-1.20%	2.35%	16.31%	20.83%	2437	0.0173	0.0088	0.0005	2.37%	4.76%	11.61%	8.64%	-0.0009	-0.0001
Event + 4 Year	2477	0.0171	0.0092	0.0004	4.27%	5.75%	21.28%	27.78%	2450	0.0172	0.0085	0.0005	-0.58%	-3.41%	10.97%	4.94%	-0.0002	0.0007
Event + 5 Year	2463	0.0181	0.0095	0.0005	5.85%	3.26%	28.37%	31.94%	2435	0.0178	0.0093	0.0005	3.49%	9.41%	14.84%	14.81%	0.0003	0.0002

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	2690	0.0175	0.0097	0.0004	NA	NA	-19.43%	-25.77%	3190	0.0167	0.0136	0.0002	NA	NA	-11.98%	-11.03%	0.0008*	-0.0039
Event - 4 Year	2737	0.0166	0.0088	0.0004	-5.14%	-9.28%	-15.06%	-18.18%	3193	0.0161	0.0129	0.0002	-3.59%	-5.15%	-8.70%	-6.20%	0.0005	-0.0041
Event - 3 Year	2749	0.0159	0.0087	0.0004	-4.22%	-1.14%	-11.32%	-17.24%	3199	0.0155	0.0125	0.0002	-3.73%	-3.10%	-5.16%	-3.20%	0.0004	-0.0038
Event - 2 Year	2762	0.0158	0.0084	0.0004	-0.63%	-3.45%	-10.76%	-14.29%	3201	0.0153	0.0124	0.0002	-1.29%	-0.80%	-3.92%	-2.42%	0.0005	-0.0040
Event - 1 Year	2798	0.0153	0.0081	0.0004	-3.16%	-3.57%	-7.84%	-11.11%	3201	0.0149	0.0121	0.0002	-2.61%	-2.42%	-1.34%	0.00%	0.0004	-0.0040
Event	2500	0.0141	0.0072	0.0004	-7.84%	-11.11%	NA	NA	3201	0.0147	0.0121	0.0002	-1.34%	0.00%	NA	NA	-0.0006	-0.0049
Event + 1 Year	2459	0.0163	0.0082	0.0004	15.60%	13.89%	15.60%	13.89%	3177	0.0165	0.0134	0.0003	12.24%	10.74%	12.24%	10.74%	-0.0002	-0.0052
Event + 2 Year	2479	0.0166	0.0085	0.0004	1.84%	3.66%	17.73%	18.06%	3173	0.0168	0.0143	0.0003	1.82%	6.72%	14.29%	18.18%	-0.0002	-0.0058
Event + 3 Year	2459	0.0164	0.0087	0.0004	-1.20%	2.35%	16.31%	20.83%	3170	0.0170	0.0144	0.0003	1.19%	0.70%	15.65%	19.01%	-0.0006	-0.0057
Event + 4 Year	2477	0.0171	0.0092	0.0004	4.27%	5.75%	21.28%	27.78%	3171	0.0178	0.0150	0.0003	4.71%	4.17%	21.09%	23.97%	-0.0007	-0.0058
Event + 5 Year	2463	0.0181	0.0095	0.0005	5.85%	3.26%	28.37%	31.94%	3171	0.0181	0.0155	0.0003	1.69%	3.33%	23.13%	28.10%	0	-0.0060

Table E.20: Long-term Operating Performance: Dividend Yield and Share Repurchase Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Dividend Yield is defined as (Common Dividend / Market Capitalization) and Share Repurchase is the annualized share repurchase activity. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	2217	1.3864	0.0000	0.0532	NA	NA	-7.12%	NA	2388	1.5702	0.0000	0.0543	NA	NA	-3.39%	NA	-0.1837**	0.0000
Event - 4 Year	2227	1.3294	0.0000	0.0511	-4.11%	NA	-3.14%	NA	2389	1.5326	0.0000	0.0529	-2.39%	NA	-1.02%	NA	-0.2032***	0.0000
Event - 3 Year	2208	1.3194	0.0000	0.0508	-0.75%	NA	-2.40%	NA	2398	1.5220	0.0000	0.0523	-0.69%	NA	-0.34%	NA	-0.2026***	0.0000
Event - 2 Year	2201	1.3564	0.0000	0.0521	2.80%	NA	-5.06%	NA	2391	1.5199	0.0000	0.0523	-0.14%	NA	-0.20%	NA	-0.1635**	0.0000
Event - 1 Year	2198	1.2958	0.0000	0.0498	-4.47%	NA	-0.63%	NA	2414	1.5013	0.0000	0.0512	-1.22%	NA	1.04%	NA	-0.2055***	0.0000
Event	2203	1.2877	0.0000	0.0489	-0.63%	NA	NA	NA	2432	1.5169	0.0000	0.0517	1.04%	NA	NA	NA	-0.2292***	0.0000
Event + 1 Year	2077	1.3260	0.0000	0.0530	2.97%	NA	2.97%	NA	2315	1.4881	0.0000	0.0525	-1.90%	NA	-1.90%	NA	-0.1620**	0.0000
Event + 2 Year	2007	1.4347	0.0000	0.0575	8.20%	NA	11.42%	NA	2209	1.5514	0.0000	0.0560	4.25%	NA	2.27%	NA	-0.1166	0.0000
Event + 3 Year	1958	1.4469	0.0000	0.0584	0.85%	NA	12.36%	NA	2160	1.5988	0.0000	0.0577	3.06%	NA	5.40%	NA	-0.1518*	0.0000
Event + 4 Year	1907	1.5108	0.0000	0.0613	4.42%	NA	17.33%	NA	2080	1.5448	0.0000	0.0578	-3.38%	NA	1.84%	NA	-0.0341	0.0000
Event + 5 Year	1868	1.5198	0.0000	0.0614	0.60%	NA	18.02%	NA	2026	1.6016	0.0000	0.0595	3.68%	NA	5.58%	NA	-0.0818	0.0000
Share Repurchase																		
Event - 5 Year	3063	0.0034	0.0000	0.0002	NA	NA	70.59%	NA	2962	0.0032	0.0000	0.0002	NA	NA	103.13%	NA	0.0003	0.0000
Event - 4 Year	3102	0.0039	0.0000	0.0002	14.71%	NA	48.72%	NA	2974	0.0037	0.0000	0.0002	15.63%	NA	75.68%	NA	0.0001	0.0000
Event - 3 Year	3111	0.0046	0.0000	0.0002	17.95%	NA	26.09%	NA	2974	0.0042	0.0000	0.0002	13.51%	NA	54.76%	NA	0.0004	0.0000
Event - 2 Year	3108	0.0053	0.0000	0.0002	15.22%	NA	9.43%	NA	2988	0.0048	0.0000	0.0002	14.29%	NA	35.42%	NA	0.0005	0.0000
Event - 1 Year	3119	0.0060	0.0000	0.0002	13.21%	NA	-3.33%	NA	2977	0.0057	0.0000	0.0002	18.75%	NA	14.04%	NA	0.0003	0.0000
Event	2819	0.0058	0.0000	0.0002	-3.33%	NA	NA	NA	2877	0.0065	0.0000	0.0003	14.04%	NA	NA	NA	-0.0007*	0.0000
Event + 1 Year	2827	0.0054	0.0000	0.0002	-6.90%	NA	-6.90%	NA	2866	0.0052	0.0000	0.0002	-20.00%	NA	-20.00%	NA	0.0002	0.0000
Event + 2 Year	2888	0.0040	0.0000	0.0002	-25.93%	NA	-31.03%	NA	2871	0.0047	0.0000	0.0002	-9.62%	NA	-27.69%	NA	-0.0007**	0.0000
Event + 3 Year	2881	0.0037	0.0000	0.0002	-7.50%	NA	-36.21%	NA	2863	0.0041	0.0000	0.0002	-12.77%	NA	-36.92%	NA	-0.0004	0.0000
Event + 4 Year	2900	0.0031	0.0000	0.0002	-16.22%	NA	-46.55%	NA	2873	0.0039	0.0000	0.0002	-4.88%	NA	-40.00%	NA	-0.0008***	0.0000
Event + 5 Year	2885	0.0032	0.0000	0.0002	3.23%	NA	-44.83%	NA	2866	0.0039	0.0000	0.0002	0.00%	NA	-40.00%	NA	-0.0007**	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	2217	1.3864	0.0000	0.0532	NA	NA	-7.12%	NA	3164	1.5857	0.7308	0.0371	NA	NA	5.31%	20.33%	-0.1993***	-0.7308
Event - 4 Year	2227	1.3294	0.0000	0.0511	-4.11%	NA	-3.14%	NA	3162	1.5477	0.6945	0.0358	-2.40%	-4.97%	7.90%	26.62%	-0.2183***	-0.6945
Event - 3 Year	2208	1.3194	0.0000	0.0508	-0.75%	NA	-2.40%	NA	3154	1.5693	0.7419	0.0360	1.40%	6.83%	6.41%	18.53%	-0.2499***	-0.7419
Event - 2 Year	2201	1.3564	0.0000	0.0521	2.80%	NA	-5.06%	NA	3154	1.5887	0.7764	0.0359	1.24%	4.65%	5.11%	13.27%	-0.2323***	-0.7764
Event - 1 Year	2198	1.2958	0.0000	0.0498	-4.47%	NA	-0.63%	NA	3153	1.6180	0.8410	0.0355	1.84%	8.32%	3.21%	4.57%	-0.3222***	-0.8410
Event	2203	1.2877	0.0000	0.0489	-0.63%	NA	NA	NA	3161	1.6699	0.8794	0.0355	3.21%	4.57%	NA	NA	-0.3822***	-0.8794
Event + 1 Year	2077	1.3260	0.0000	0.0530	2.97%	NA	2.97%	NA	3128	1.5425	0.7716	0.0350	-7.63%	-12.26%	-7.63%	-12.26%	-0.2165***	-0.7716
Event + 2 Year	2007	1.4347	0.0000	0.0575	8.20%	NA	11.42%	NA	3111	1.4390	0.7216	0.0341	-6.71%	-6.48%	-13.83%	-17.94%	-0.0043	-0.7216
Event + 3 Year	1958	1.4469	0.0000	0.0584	0.85%	NA	12.36%	NA	3115	1.4256	0.6782	0.0341	-0.93%	-6.01%	-14.63%	-22.88%	0.0213	-0.6782
Event + 4 Year	1907	1.5108	0.0000	0.0613	4.42%	NA	17.33%	NA	3106	1.4368	0.7041	0.0343	0.79%	3.82%	-13.96%	-19.93%	0.074	-0.7041
Event + 5 Year	1868	1.5198	0.0000	0.0614	0.60%	NA	18.02%	NA	3098	1.4651	0.7275	0.0345	1.97%	3.32%	-12.26%	-17.27%	0.0547	-0.7275
Share Repurchase																		
Event - 5 Year	3063	0.0034	0.0000	0.0002	NA	NA	70.59%	NA	3206	0.0057	0.0000	0.0001	NA	NA	71.93%	NA	-0.0023***	0.0000
Event - 4 Year	3102	0.0039	0.0000	0.0002	14.71%	NA	48.72%	NA	3206	0.0063	0.0025	0.0001	10.53%	NA	55.56%	260.00%	-0.0024***	-0.0025
Event - 3 Year	3111	0.0046	0.0000	0.0002	17.95%	NA	26.09%	NA	3206	0.0072	0.0046	0.0001	14.29%	84.00%	36.11%	95.65%	-0.0026***	-0.0046
Event - 2 Year	3108	0.0053	0.0000	0.0002	15.22%	NA	9.43%	NA	3206	0.0080	0.0061	0.0001	11.11%	32.61%	22.50%	47.54%	-0.0027***	-0.0061
Event - 1 Year	3119	0.0060	0.0000	0.0002	13.21%	NA	-3.33%	NA	3206	0.0089	0.0079	0.0001	11.25%	29.51%	10.11%	13.92%	-0.0029***	-0.0079
Event	2819	0.0058	0.0000	0.0002	-3.33%	NA	NA	NA	3206	0.0098	0.0090	0.0001	10.11%	13.92%	NA	NA	-0.004***	-0.0090
Event + 1 Year	2827	0.0054	0.0000	0.0002	-6.90%	NA	-6.90%	NA	3201	0.0075	0.0041	0.0001	-23.47%	-54.44%	-23.47%	-54.44%	-0.0021***	-0.0041
Event + 2 Year	2888	0.0040	0.0000	0.0002	-25.93%	NA	-31.03%	NA	3203	0.0061	0.0016	0.0001	-18.67%	-60.98%	-37.76%	-82.22%	-0.0021***	-0.0016
Event + 3 Year	2881	0.0037	0.0000	0.0002	-7.50%	NA	-36.21%	NA	3206	0.0054	0.0000	0.0001	-11.48%	NA#	-44.90%	-100.00%	-0.0017***	0.0000
Event + 4 Year	2900	0.0031	0.0000	0.0002	-16.22%	NA	-46.55%	NA	3203	0.0051	0.0000	0.0001	-5.56%	NA	-47.96%	-100.00%	-0.002***	0.0000
Event + 5 Year	2885	0.0032	0.0000	0.0002	3.23%	NA	-44.83%	NA	3205	0.0048	0.0000	0.0001	-5.88%	NA	-51.02%	-100.00%	-0.0016***	0.0000

Table E.21: Long-term Operating Performance: EPS Estimates and Research Analyst Recommendations Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EPS Estimate Miss is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S and Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	1899	0.4571	0.0000	0.0114	NA	NA	16.71%	NA	1789	0.4427	0.0000	0.0117	NA	NA	-3.68%	NA	0.0144	0.0000
Event - 4 Year	1974	0.4286	0.0000	0.0111	-6.23%	NA	24.48%	NA	1820	0.4297	0.0000	0.0116	-2.94%	NA	-0.77%	NA	-0.0011	0.0000
Event - 3 Year	1973	0.4531	0.0000	0.0112	5.72%	NA	17.74%	NA	1832	0.4274	0.0000	0.0116	-0.54%	NA	-0.23%	NA	0.0257	0.0000
Event - 2 Year	2039	0.4644	0.0000	0.0110	2.49%	NA	14.88%	NA	1895	0.4132	0.0000	0.0113	-3.32%	NA	3.19%	NA	0.0513***	0.0000
Event - 1 Year	2076	0.4783	0.0000	0.0110	2.99%	NA	11.54%	NA	1923	0.4020	0.0000	0.0112	-2.71%	NA	6.07%	NA	0.0763***	0.0000
Event	2015	0.5335	1.0000	0.0111	11.54%	NA	NA	NA	1970	0.4264	0.0000	0.0111	6.07%	NA	NA	NA	0.1071***	1.0000
Event + 1 Year	1764	0.4495	0.0000	0.0118	-15.75%	-100.00%	-15.75%	-100.00%	1867	0.4237	0.0000	0.0114	-0.63%	NA	-0.63%	NA	0.0259	0.0000
Event + 2 Year	1711	0.4319	0.0000	0.0120	-3.92%	NA	-19.04%	-100.00%	1838	0.4363	0.0000	0.0116	2.97%	NA	2.32%	NA	-0.0044	0.0000
Event + 3 Year	1674	0.4223	0.0000	0.0121	-2.22%	NA	-20.84%	-100.00%	1799	0.4297	0.0000	0.0117	-1.51%	NA	0.77%	NA	-0.0073	0.0000
Event + 4 Year	1676	0.4505	0.0000	0.0122	6.68%	NA	-15.56%	-100.00%	1790	0.4106	0.0000	0.0116	-4.44%	NA	-3.71%	NA	0.0399**	0.0000
Event + 5 Year	1656	0.4330	0.0000	0.0122	-3.88%	NA	-18.84%	-100.00%	1749	0.4397	0.0000	0.0119	7.09%	NA	3.12%	NA	-0.0067	0.0000
Analyst Sell Recommendation																		
Event - 5 Year	3206	0.2863	0.0000	0.0080	NA	NA	44.57%	NA	3205	0.2708	0.0000	0.0079	NA	NA	17.87%	NA	0.0155	0.0000
Event - 4 Year	3206	0.3135	0.0000	0.0082	9.50%	NA	32.03%	NA	3205	0.2696	0.0000	0.0078	-0.44%	NA	18.40%	NA	0.0439***	0.0000
Event - 3 Year	3206	0.3150	0.0000	0.0082	0.48%	NA	31.40%	NA	3205	0.2992	0.0000	0.0081	10.98%	NA	6.68%	NA	0.0158	0.0000
Event - 2 Year	3206	0.3178	0.0000	0.0082	0.89%	NA	30.24%	NA	3205	0.3120	0.0000	0.0082	4.28%	NA	2.31%	NA	0.0058	0.0000
Event - 1 Year	3206	0.3450	0.0000	0.0084	8.56%	NA	19.97%	NA	3205	0.3058	0.0000	0.0081	-1.99%	NA	4.38%	NA	0.0392***	0.0000
Event	3206	0.4139	0.0000	0.0087	19.97%	NA	NA	NA	3205	0.3192	0.0000	0.0082	4.38%	NA	NA	NA	0.0947***	0.0000
Event + 1 Year	3206	0.2773	0.0000	0.0079	-33.00%	NA	-33.00%	NA	3205	0.2761	0.0000	0.0079	-13.50%	NA	-13.50%	NA	0.0012	0.0000
Event + 2 Year	3206	0.2364	0.0000	0.0075	-14.75%	NA	-42.88%	NA	3205	0.2571	0.0000	0.0077	-6.88%	NA	-19.45%	NA	-0.0207*	0.0000
Event + 3 Year	3206	0.2090	0.0000	0.0072	-11.59%	NA	-49.50%	NA	3205	0.2530	0.0000	0.0077	-1.59%	NA	-20.74%	NA	-0.0441***	0.0000
Event + 4 Year	3206	0.2080	0.0000	0.0072	-0.48%	NA	-49.75%	NA	3205	0.2406	0.0000	0.0076	-4.90%	NA	-24.62%	NA	-0.0325***	0.0000
Event + 5 Year	3206	0.2258	0.0000	0.0074	8.56%	NA	-45.45%	NA	3205	0.2284	0.0000	0.0074	-5.07%	NA	-28.45%	NA	-0.0026	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	1899	0.4571	0.0000	0.0114	NA	NA	16.71%	NA	3203	0.4269	0.4237	0.0020	NA	NA	-1.78%	-2.15%	0.0302***	-0.4237
Event - 4 Year	1974	0.4286	0.0000	0.0111	-6.23%	NA	24.48%	NA	3203	0.4252	0.4236	0.0020	-0.40%	-0.02%	-1.39%	-2.12%	0.0034	-0.4236
Event - 3 Year	1973	0.4531	0.0000	0.0112	5.72%	NA	17.74%	NA	3202	0.4250	0.4233	0.0021	-0.05%	-0.07%	-1.34%	-2.06%	0.0281***	-0.4233
Event - 2 Year	2039	0.4644	0.0000	0.0110	2.49%	NA	14.88%	NA	3201	0.4260	0.4254	0.0020	0.24%	0.50%	-1.57%	-2.54%	0.0384***	-0.4254
Event - 1 Year	2076	0.4783	0.0000	0.0110	2.99%	NA	11.54%	NA	3202	0.4284	0.4265	0.0020	0.56%	0.26%	-2.12%	-2.79%	0.0499***	-0.4265
Event	2015	0.5335	1.0000	0.0111	11.54%	NA	NA	NA	3202	0.4193	0.4146	0.0019	-2.12%	-2.79%	NA	NA	0.1142***	0.5854
Event + 1 Year	1764	0.4495	0.0000	0.0118	-15.75%	-100.00%	-15.75%	-100.00%	3202	0.4284	0.4265	0.0020	2.17%	2.87%	2.17%	2.87%	0.0211**	-0.4265
Event + 2 Year	1711	0.4319	0.0000	0.0120	-3.92%	NA	-19.04%	-100.00%	3201	0.4260	0.4254	0.0020	-0.56%	-0.26%	1.60%	2.60%	0.0059	-0.4254
Event + 3 Year	1674	0.4223	0.0000	0.0121	-2.22%	NA	-20.84%	-100.00%	3202	0.4250	0.4233	0.0021	-0.23%	-0.49%	1.36%	2.10%	-0.0027	-0.4233
Event + 4 Year	1676	0.4505	0.0000	0.0122	6.68%	NA	-15.56%	-100.00%	3203	0.4252	0.4236	0.0020	0.05%	0.07%	1.41%	2.17%	0.0253***	-0.4236
Event + 5 Year	1656	0.4330	0.0000	0.0122	-3.88%	NA	-18.84%	-100.00%	3203	0.4269	0.4237	0.0020	0.40%	0.02%	1.81%	2.19%	0.0061	-0.4237
Analyst Sell Recommendation																		
Event - 5 Year	3206	0.2863	0.0000	0.0080	NA	NA	44.57%	NA	3206	0.2913	0.2963	0.0027	NA	NA	12.77%	8.84%	-0.005	-0.2963
Event - 4 Year	3206	0.3135	0.0000	0.0082	9.50%	NA	32.03%	NA	3206	0.3043	0.3079	0.0026	4.46%	3.91%	7.95%	4.74%	0.0092	-0.3079
Event - 3 Year	3206	0.3150	0.0000	0.0082	0.48%	NA	31.40%	NA	3206	0.3101	0.3151	0.0026	1.91%	2.34%	5.93%	2.35%	0.0049	-0.3151
Event - 2 Year	3206	0.3178	0.0000	0.0082	0.89%	NA	30.24%	NA	3206	0.3173	0.3166	0.0025	2.32%	0.48%	3.53%	1.86%	0.0005	-0.3166
Event - 1 Year	3206	0.3450	0.0000	0.0084	8.56%	NA	19.97%	NA	3206	0.3247	0.3226	0.0025	2.33%	1.90%	1.17%	-0.03%	0.0203**	-0.3226
Event	3206	0.4139	0.0000	0.0087	19.97%	NA	NA	NA	3206	0.3285	0.3225	0.0025	1.17%	-0.03%	NA	NA	0.0854***	-0.3225
Event + 1 Year	3206	0.2773	0.0000	0.0079	-33.00%	NA	-33.00%	NA	3206	0.2766	0.2857	0.0030	-15.80%	-11.41%	-15.80%	-11.41%	0.0007	-0.2857
Event + 2 Year	3206	0.2364	0.0000	0.0075	-14.75%	NA	-42.88%	NA	3206	0.2532	0.2581	0.0031	-8.46%	-9.66%	-22.92%	-19.97%	-0.0168**	-0.2581
Event + 3 Year	3206	0.2090	0.0000	0.0072	-11.59%	NA	-49.50%	NA	3206	0.2415	0.2485	0.0031	-4.62%	-3.72%	-26.48%	-22.95%	-0.0325***	-0.2485
Event + 4 Year	3206	0.2080	0.0000	0.0072	-0.48%	NA	-49.75%	NA	3206	0.2358	0.2380	0.0030	-2.36%	-4.23%	-28.22%	-26.20%	-0.0278***	-0.2380
Event + 5 Year	3206	0.2258	0.0000	0.0074	8.56%	NA	-45.45%	NA	3206	0.2389	0.2383	0.0029	1.31%	0.13%	-27.28%	-26.11%	-0.0131*	-0.2383

Table E.22: Long-term Operating Performance: Multiple Business Segments and Herfindahl-Hirschman Index Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event and Herfindahl-Hirschman Index is a measure of the size of Target Firm in relation to the industry and an indicator of the amount of competition among them. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	3206	0.1478	0.0000	0.0063	NA	NA	14.61%	NA	3205	0.1173	0.0000	0.0057	NA	NA	17.82%	NA	0.0305***	0.0000
Event - 4 Year	3206	0.1519	0.0000	0.0063	2.77%	NA	11.52%	NA	3205	0.1192	0.0000	0.0057	1.62%	NA	15.94%	NA	0.0327***	0.0000
Event - 3 Year	3206	0.1556	0.0000	0.0064	2.44%	NA	8.87%	NA	3205	0.1264	0.0000	0.0059	6.04%	NA	9.34%	NA	0.0293***	0.0000
Event - 2 Year	3206	0.1588	0.0000	0.0065	2.06%	NA	6.68%	NA	3205	0.1320	0.0000	0.0060	4.43%	NA	4.70%	NA	0.0268***	0.0000
Event - 1 Year	3206	0.1666	0.0000	0.0066	4.91%	NA	1.68%	NA	3205	0.1370	0.0000	0.0061	3.79%	NA	0.88%	NA	0.0296***	0.0000
Event	3206	0.1694	0.0000	0.0066	1.68%	NA	NA	NA	3205	0.1382	0.0000	0.0061	0.88%	NA	NA	NA	0.0311***	0.0000
Event + 1 Year	3206	0.1351	0.0000	0.0060	-20.25%	NA	-20.25%	NA	3205	0.1229	0.0000	0.0058	-11.07%	NA	-11.07%	NA	0.0121	0.0000
Event + 2 Year	3206	0.1198	0.0000	0.0057	-11.32%	NA	-29.28%	NA	3205	0.1173	0.0000	0.0057	-4.56%	NA	-15.12%	NA	0.0025	0.0000
Event + 3 Year	3206	0.1157	0.0000	0.0057	-3.42%	NA	-31.70%	NA	3205	0.1108	0.0000	0.0055	-5.54%	NA	-19.83%	NA	0.0050	0.0000
Event + 4 Year	3206	0.1089	0.0000	0.0055	-5.88%	NA	-35.71%	NA	3205	0.1086	0.0000	0.0055	-1.99%	NA	-21.42%	NA	0.0003	0.0000
Event + 5 Year	3206	0.1061	0.0000	0.0054	-2.57%	NA	-37.37%	NA	3205	0.1027	0.0000	0.0054	-5.43%	NA	-25.69%	NA	0.0034	0.0000
Herfindahl-Hirschman Index																		
Event - 5 Year	3206	0.1065	0.0522	0.0036	NA	NA	7.14%	1.72%	3205	0.1127	0.0528	0.0039	NA	NA	1.24%	0.57%	-0.0062	-0.0006
Event - 4 Year	3206	0.1025	0.0522	0.0035	-3.76%	0.00%	11.32%	1.72%	3205	0.1090	0.0524	0.0037	-3.28%	-0.76%	4.68%	1.34%	-0.0065	-0.0002
Event - 3 Year	3206	0.1074	0.0531	0.0036	4.78%	1.72%	6.24%	0.00%	3205	0.1071	0.0530	0.0036	-1.74%	1.15%	6.54%	0.19%	0.0003	0.0001
Event - 2 Year	3206	0.1090	0.0530	0.0037	1.49%	-0.19%	4.68%	0.19%	3205	0.1125	0.0531	0.0038	5.04%	0.19%	1.42%	0.00%	-0.0035	-0.0001
Event - 1 Year	3206	0.1095	0.0528	0.0038	0.46%	-0.38%	4.20%	0.57%	3205	0.1109	0.0528	0.0038	-1.42%	-0.56%	2.89%	0.57%	-0.0014	0.0000
Event	3206	0.1141	0.0531	0.0040	4.20%	0.57%	NA	NA	3205	0.1141	0.0531	0.0040	2.89%	0.57%	NA	NA	0.0000	0.0000
Event + 1 Year	3206	0.1148	0.0533	0.0038	0.61%	0.38%	0.61%	0.38%	3205	0.1154	0.0533	0.0039	1.14%	0.38%	1.14%	0.38%	-0.0007	0.0000
Event + 2 Year	3206	0.1133	0.0531	0.0037	-1.31%	-0.38%	-0.70%	0.00%	3205	0.1204	0.0532	0.0040	4.33%	-0.19%	5.52%	0.19%	-0.0071	-0.0001
Event + 3 Year	3206	0.1117	0.0531	0.0036	-1.41%	0.00%	-2.10%	0.00%	3205	0.1229	0.0537	0.0040	2.08%	0.94%	7.71%	1.13%	-0.0112**	-0.0006
Event + 4 Year	3206	0.1097	0.0530	0.0036	-1.79%	-0.19%	-3.86%	-0.19%	3205	0.1213	0.0537	0.0040	-1.30%	0.00%	6.31%	1.13%	-0.0116**	-0.0007
Event + 5 Year	3206	0.1079	0.0531	0.0035	-1.64%	0.19%	-5.43%	0.00%	3205	0.1191	0.0531	0.0039	-1.81%	-1.12%	4.38%	0.00%	-0.0112**	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	3206	0.1478	0.0000	0.0063	NA	NA	14.61%	NA	3206	0.1420	0.1264	0.0019	NA	NA	3.66%	3.96%	0.0058	-0.1264
Event - 4 Year	3206	0.1519	0.0000	0.0063	2.77%	NA	11.52%	NA	3206	0.1447	0.1304	0.0019	1.90%	3.16%	1.73%	0.77%	0.0072	-0.1304
Event - 3 Year	3206	0.1556	0.0000	0.0064	2.44%	NA	8.87%	NA	3206	0.1446	0.1298	0.0019	-0.07%	-0.46%	1.80%	1.23%	0.011*	-0.1298
Event - 2 Year	3206	0.1588	0.0000	0.0065	2.06%	NA	6.68%	NA	3206	0.1457	0.1311	0.0020	0.76%	1.00%	1.03%	0.23%	0.0131*	-0.1311
Event - 1 Year	3206	0.1666	0.0000	0.0066	4.91%	NA	1.68%	NA	3206	0.1466	0.1311	0.0020	0.62%	0.00%	0.41%	0.23%	0.02***	-0.1311
Event	3206	0.1694	0.0000	0.0066	1.68%	NA	NA	NA	3206	0.1472	0.1314	0.0020	0.41%	0.23%	NA	NA	0.0222***	-0.1314
Event + 1 Year	3206	0.1351	0.0000	0.0060	-20.25%	NA	-20.25%	NA	3206	0.1301	0.1101	0.0020	-11.62%	-16.21%	-11.62%	-16.21%	0.005	-0.1101
Event + 2 Year	3206	0.1198	0.0000	0.0057	-11.32%	NA	-29.28%	NA	3206	0.1232	0.1016	0.0019	-5.30%	-7.72%	-16.30%	-22.68%	-0.0034	-0.1016
Event + 3 Year	3206	0.1157	0.0000	0.0057	-3.42%	NA	-31.70%	NA	3206	0.1217	0.0999	0.0019	-1.22%	-1.67%	-17.32%	-23.97%	-0.006	-0.0999
Event + 4 Year	3206	0.1089	0.0000	0.0055	-5.88%	NA	-35.71%	NA	3206	0.1196	0.0994	0.0019	-1.73%	-0.50%	-18.75%	-24.35%	-0.0107*	-0.0994
Event + 5 Year	3206	0.1061	0.0000	0.0054	-2.57%	NA	-37.37%	NA	3206	0.1172	0.0979	0.0018	-2.01%	-1.51%	-20.38%	-25.49%	-0.0111*	-0.0979
Herfindahl-Hirschman Index																		
Event - 5 Year	3206	0.1065	0.0522	0.0036	NA	NA	7.14%	1.72%	3206	0.1081	0.0549	0.0034	NA	NA	5.00%	-3.46%	-0.0016	-0.0027
Event - 4 Year	3206	0.1025	0.0522	0.0035	-3.76%	0.00%	11.32%	1.72%	3206	0.1089	0.0551	0.0034	0.74%	0.36%	4.22%	-3.81%	-0.0064	-0.0029
Event - 3 Year	3206	0.1074	0.0531	0.0036	4.78%	1.72%	6.24%	0.00%	3206	0.1120	0.0547	0.0035	2.85%	-0.73%	1.34%	-3.11%	-0.0046	-0.0016
Event - 2 Year	3206	0.1090	0.0530	0.0037	1.49%	-0.19%	4.68%	0.19%	3206	0.1126	0.0546	0.0035	0.54%	-0.18%	0.80%	-2.93%	-0.0036	-0.0016
Event - 1 Year	3206	0.1095	0.0528	0.0038	0.46%	-0.38%	4.20%	0.57%	3206	0.1149	0.0544	0.0037	2.04%	-0.37%	-1.22%	-2.57%	-0.0054	-0.0016
Event	3206	0.1141	0.0531	0.0040	4.20%	0.57%	NA	NA	3206	0.1135	0.0530	0.0038	-1.22%	-2.57%	NA	NA	0.0006	0.0001
Event + 1 Year	3206	0.1148	0.0533	0.0038	0.61%	0.38%	0.61%	0.38%	3206	0.1149	0.0544	0.0037	1.23%	2.64%	1.23%	2.64%	-0.0001	-0.0011
Event + 2 Year	3206	0.1133	0.0531	0.0037	-1.31%	-0.38%	-0.70%	0.00%	3206	0.1126	0.0546	0.0035	-2.00%	0.37%	-0.79%	3.02%	0.0007	-0.0015
Event + 3 Year	3206	0.1117	0.0531	0.0036	-1.41%	0.00%	-2.10%	0.00%	3206	0.1120	0.0547	0.0035	-0.53%	0.18%	-1.32%	3.21%	-0.0003	-0.0016
Event + 4 Year	3206	0.1097	0.0530	0.0036	-1.79%	-0.19%	-3.86%	-0.19%	3206	0.1089	0.0551	0.0034	-2.77%	0.73%	-4.05%	3.96%	0.0008	-0.0021
Event + 5 Year	3206	0.1079	0.0531	0.0035	-1.64%	0.19%	-5.43%	0.00%	3206	0.1081	0.0549	0.0034	-0.73%	-0.36%	-4.76%	3.58%	-0.0002	-0.0018

Table E.23: Corporate Governance: 13D Filings Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	3206	0.0221	0.0000	0.0026	NA	NA	1651.58%	NA	3205	0.0197	0.0000	0.0025	NA	NA	36.04%	NA	0.0025	0.0000
Event - 4 Year	3206	0.0274	0.0000	0.0029	23.98%	NA	1312.77%	NA	3205	0.0212	0.0000	0.0025	7.61%	NA	26.42%	NA	0.0062	0.0000
Event - 3 Year	3206	0.0259	0.0000	0.0028	-5.47%	NA	1394.59%	NA	3205	0.0234	0.0000	0.0027	10.38%	NA	14.53%	NA	0.0025	0.0000
Event - 2 Year	3206	0.0265	0.0000	0.0028	2.32%	NA	1360.75%	NA	3205	0.0234	0.0000	0.0027	0.00%	NA	14.53%	NA	0.0031	0.0000
Event - 1 Year	3206	0.0399	0.0000	0.0035	50.57%	NA	870.18%	NA	3205	0.0215	0.0000	0.0026	-8.12%	NA	24.65%	NA	0.0184***	0.0000
Event	3206	0.3871	0.0000	0.0086	870.18%	NA	NA	NA	3205	0.0268	0.0000	0.0029	24.65%	NA	NA	NA	0.3603***	0.0000
Event + 1 Year	3206	0.0324	0.0000	0.0031	-91.63%	NA	-91.63%	NA	3205	0.0287	0.0000	0.0029	7.09%	NA	7.09%	NA	0.0037	0.0000
Event + 2 Year	3206	0.0231	0.0000	0.0027	-28.70%	NA	-94.03%	NA	3205	0.0215	0.0000	0.0026	-25.09%	NA	-19.78%	NA	0.0016	0.0000
Event + 3 Year	3206	0.0200	0.0000	0.0025	-13.42%	NA	-94.83%	NA	3205	0.0172	0.0000	0.0023	-20.00%	NA	-35.82%	NA	0.0028	0.0000
Event + 4 Year	3206	0.0246	0.0000	0.0027	23.00%	NA	-93.65%	NA	3205	0.0209	0.0000	0.0025	21.51%	NA	-22.01%	NA	0.0037	0.0000
Event + 5 Year	3206	0.0187	0.0000	0.0024	-23.98%	NA	-95.17%	NA	3205	0.0193	0.0000	0.0024	-7.66%	NA	-27.99%	NA	-0.0006	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	3206	0.0221	0.0000	0.0026	NA	NA	1651.58%	NA	3206	0.0173	0.0152	0.0002	NA	NA	41.62%	56.58%	0.0048*	-0.0152
Event - 4 Year	3206	0.0274	0.0000	0.0029	23.98%	NA	1312.77%	NA	3206	0.0185	0.0163	0.0002	6.94%	7.24%	32.43%	46.01%	0.0089***	-0.0163
Event - 3 Year	3206	0.0259	0.0000	0.0028	-5.47%	NA	1394.59%	NA	3206	0.0194	0.0176	0.0003	4.86%	7.98%	26.29%	35.23%	0.0065**	-0.0176
Event - 2 Year	3206	0.0265	0.0000	0.0028	2.32%	NA	1360.75%	NA	3206	0.0205	0.0195	0.0003	5.67%	10.80%	19.51%	22.05%	0.006**	-0.0195
Event - 1 Year	3206	0.0399	0.0000	0.0035	50.57%	NA	870.18%	NA	3206	0.0210	0.0200	0.0003	2.44%	2.56%	16.67%	19.00%	0.0189***	-0.0200
Event	3206	0.3871	0.0000	0.0086	870.18%	NA	NA	NA	3206	0.0245	0.0238	0.0003	16.67%	19.00%	NA	NA	0.3626***	-0.0238
Event + 1 Year	3206	0.0324	0.0000	0.0031	-91.63%	NA	-91.63%	NA	3206	0.0187	0.0164	0.0003	-23.67%	-31.09%	-23.67%	-31.09%	0.0137***	-0.0164
Event + 2 Year	3206	0.0231	0.0000	0.0027	-28.70%	NA	-94.03%	NA	3206	0.0166	0.0134	0.0003	-11.23%	-18.29%	-32.24%	-43.70%	0.0065**	-0.0134
Event + 3 Year	3206	0.0200	0.0000	0.0025	-13.42%	NA	-94.83%	NA	3206	0.0156	0.0114	0.0003	-6.02%	-14.93%	-36.33%	-52.10%	0.0044*	-0.0114
Event + 4 Year	3206	0.0246	0.0000	0.0027	23.00%	NA	-93.65%	NA	3206	0.0147	0.0102	0.0003	-5.77%	-10.53%	-40.00%	-57.14%	0.0099***	-0.0102
Event + 5 Year	3206	0.0187	0.0000	0.0024	-23.98%	NA	-95.17%	NA	3206	0.0144	0.0100	0.0003	-2.04%	-1.96%	-41.22%	-57.98%	0.0043*	-0.0100

Table E.24: Corporate Governance: Classified Board and Poison Pill Ex Ante and Ex Post Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Classified Board is a dummy variable if the firm had a staggered board prior to the even and Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	3206	0.1288	0.0000	0.0059	NA	NA	271.97%	NA	3205	0.1176	0.0000	0.0057	NA	NA	3.74%	NA	0.0112	0.0000
Event - 4 Year	3206	0.1316	0.0000	0.0060	2.17%	NA	264.06%	NA	3205	0.1254	0.0000	0.0059	6.63%	NA	-2.71%	NA	0.0062	0.0000
Event - 3 Year	3206	0.1329	0.0000	0.0060	0.99%	NA	260.50%	NA	3205	0.1232	0.0000	0.0058	-1.75%	NA	-0.97%	NA	0.0096	0.0000
Event - 2 Year	3206	0.1326	0.0000	0.0060	-0.23%	NA	261.31%	NA	3205	0.1279	0.0000	0.0059	3.81%	NA	-4.61%	NA	0.0046	0.0000
Event - 1 Year	3206	0.1316	0.0000	0.0060	-0.75%	NA	264.06%	NA	3205	0.1317	0.0000	0.0060	2.97%	NA	-7.37%	NA	0.0000	0.0000
Event	3206	0.4791	0.0000	0.0088	264.06%	NA	NA	NA	3205	0.1220	0.0000	0.0058	-7.37%	NA	NA	NA	0.3571***	0.0000
Event + 1 Year	3206	0.0976	0.0000	0.0052	-79.63%	NA	-79.63%	NA	3205	0.1114	0.0000	0.0056	-8.69%	NA	-8.69%	NA	-0.0138*	0.0000
Event + 2 Year	3206	0.0852	0.0000	0.0049	-12.70%	NA	-82.22%	NA	3205	0.1092	0.0000	0.0055	-1.97%	NA	-10.49%	NA	-0.0241***	0.0000
Event + 3 Year	3206	0.0733	0.0000	0.0046	-13.97%	NA	-84.70%	NA	3205	0.1030	0.0000	0.0054	-5.68%	NA	-15.57%	NA	-0.0297***	0.0000
Event + 4 Year	3206	0.0714	0.0000	0.0045	-2.59%	NA	-85.10%	NA	3205	0.0945	0.0000	0.0052	-8.25%	NA	-22.54%	NA	-0.0231***	0.0000
Event + 5 Year	3206	0.0696	0.0000	0.0045	-2.52%	NA	-85.47%	NA	3205	0.0858	0.0000	0.0049	-9.21%	NA	-29.67%	NA	-0.0162**	0.0000
Poison Pill																		
Event - 5 Year	3206	0.1641	0.0000	0.0065	NA	NA	12.55%	NA	3205	0.1285	0.0000	0.0059	NA	NA	-8.48%	NA	0.0355***	0.0000
Event - 4 Year	3206	0.1703	0.0000	0.0066	3.78%	NA	8.46%	NA	3205	0.1301	0.0000	0.0059	1.25%	NA	-9.61%	NA	0.0402***	0.0000
Event - 3 Year	3206	0.1709	0.0000	0.0066	0.35%	NA	8.07%	NA	3205	0.1267	0.0000	0.0059	-2.61%	NA	-7.18%	NA	0.0443***	0.0000
Event - 2 Year	3206	0.1737	0.0000	0.0067	1.64%	NA	6.33%	NA	3205	0.1207	0.0000	0.0058	-4.74%	NA	-2.57%	NA	0.0530***	0.0000
Event - 1 Year	3206	0.1678	0.0000	0.0066	-3.40%	NA	10.07%	NA	3205	0.1198	0.0000	0.0057	-0.75%	NA	-1.84%	NA	0.0480***	0.0000
Event	3206	0.1847	0.0000	0.0069	10.07%	NA	NA	NA	3205	0.1176	0.0000	0.0057	-1.84%	NA	NA	NA	0.0670***	0.0000
Event + 1 Year	3206	0.1326	0.0000	0.0060	-28.21%	NA	-28.21%	NA	3205	0.1027	0.0000	0.0054	-12.67%	NA	-12.67%	NA	0.0299***	0.0000
Event + 2 Year	3206	0.1098	0.0000	0.0055	-17.19%	NA	-40.55%	NA	3205	0.0949	0.0000	0.0052	-7.59%	NA	-19.30%	NA	0.0149**	0.0000
Event + 3 Year	3206	0.0942	0.0000	0.0052	-14.21%	NA	-49.00%	NA	3205	0.0830	0.0000	0.0049	-12.54%	NA	-29.42%	NA	0.0112	0.0000
Event + 4 Year	3206	0.0842	0.0000	0.0049	-10.62%	NA	-54.41%	NA	3205	0.0727	0.0000	0.0046	-12.41%	NA	-38.18%	NA	0.0115*	0.0000
Event + 5 Year	3206	0.0820	0.0000	0.0048	-2.61%	NA	-55.60%	NA	3205	0.0652	0.0000	0.0044	-10.32%	NA	-44.56%	NA	0.0168***	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	3206	0.1288	0.0000	0.0059	NA	NA	271.97%	NA	3206	0.1087	0.0933	0.0015	NA	NA	16.74%	19.83%	0.0201***	-0.0933
Event - 4 Year	3206	0.1316	0.0000	0.0060	2.17%	NA	264.06%	NA	3206	0.1146	0.1013	0.0016	5.43%	8.57%	10.73%	10.37%	0.017***	-0.1013
Event - 3 Year	3206	0.1329	0.0000	0.0060	0.99%	NA	260.50%	NA	3206	0.1192	0.1060	0.0016	4.01%	4.64%	6.46%	5.47%	0.0137**	-0.1060
Event - 2 Year	3206	0.1326	0.0000	0.0060	-0.23%	NA	261.31%	NA	3206	0.1232	0.1115	0.0016	3.36%	5.19%	3.00%	0.27%	0.0094	-0.1115
Event - 1 Year	3206	0.1316	0.0000	0.0060	-0.75%	NA	264.06%	NA	3206	0.1266	0.1125	0.0016	2.76%	0.90%	0.24%	-0.62%	0.005	-0.1125
Event	3206	0.4791	0.0000	0.0088	264.06%	NA	NA	NA	3206	0.1269	0.1118	0.0016	0.24%	-0.62%	NA	NA	0.3522***	-0.1118
Event + 1 Year	3206	0.0976	0.0000	0.0052	-79.63%	NA	-79.63%	NA	3206	0.1090	0.0937	0.0016	-14.11%	-16.19%	-14.11%	-16.19%	-0.0114**	-0.0937
Event + 2 Year	3206	0.0852	0.0000	0.0049	-12.70%	NA	-82.22%	NA	3206	0.1027	0.0873	0.0016	-5.78%	-6.83%	-19.07%	-21.91%	-0.0175***	-0.0873
Event + 3 Year	3206	0.0733	0.0000	0.0046	-13.97%	NA	-84.70%	NA	3206	0.0981	0.0811	0.0016	-4.48%	-7.10%	-22.70%	-27.46%	-0.0248***	-0.0811
Event + 4 Year	3206	0.0714	0.0000	0.0045	-2.59%	NA	-85.10%	NA	3206	0.0943	0.0766	0.0016	-3.87%	-5.55%	-25.69%	-31.48%	-0.0229***	-0.0766
Event + 5 Year	3206	0.0696	0.0000	0.0045	-2.52%	NA	-85.47%	NA	3206	0.0907	0.0714	0.0015	-3.82%	-6.79%	-28.53%	-36.14%	-0.0211***	-0.0714
Poison Pill																		
Event - 5 Year	3206	0.1641	0.0000	0.0065	NA	NA	12.55%	NA	3206	0.1200	0.1147	0.0015	NA	NA	-1.50%	-1.31%	0.0441***	-0.1147
Event - 4 Year	3206	0.1703	0.0000	0.0066	3.78%	NA	8.46%	NA	3206	0.1241	0.1241	0.0015	3.42%	8.20%	-4.75%	-8.78%	0.0462***	-0.1241
Event - 3 Year	3206	0.1709	0.0000	0.0066	0.35%	NA	8.07%	NA	3206	0.1251	0.1245	0.0015	0.81%	0.32%	-5.52%	-9.08%	0.0458***	-0.1245
Event - 2 Year	3206	0.1737	0.0000	0.0067	1.64%	NA	6.33%	NA	3206	0.1246	0.1216	0.0015	-0.40%	-2.33%	-5.14%	-6.91%	0.0491***	-0.1216
Event - 1 Year	3206	0.1678	0.0000	0.0066	-3.40%	NA	10.07%	NA	3206	0.1219	0.1183	0.0015	-2.17%	-2.71%	-3.04%	-4.31%	0.0459***	-0.1183
Event	3206	0.1847	0.0000	0.0069	10.07%	NA	NA	NA	3206	0.1182	0.1132	0.0015	-3.04%	-4.31%	NA	NA	0.0665***	-0.1132
Event + 1 Year	3206	0.1326	0.0000	0.0060	-28.21%	NA	-28.21%	NA	3206	0.0995	0.0904	0.0015	-15.82%	-20.14%	-15.82%	-20.14%	0.0331***	-0.0904
Event + 2 Year	3206	0.1098	0.0000	0.0055	-17.19%	NA	-40.55%	NA	3206	0.0906	0.0725	0.0015	-8.94%	-19.80%	-23.35%	-35.95%	0.0192***	-0.0725
Event + 3 Year	3206	0.0942	0.0000	0.0052	-14.21%	NA	-49.00%	NA	3206	0.0855	0.0626	0.0014	-5.63%	-13.66%	-27.66%	-44.70%	0.0087	-0.0626
Event + 4 Year	3206	0.0842	0.0000	0.0049	-10.62%	NA	-54.41%	NA	3206	0.0814	0.0561	0.0014	-4.80%	-10.38%	-31.13%	-50.44%	0.0028	-0.0561
Event + 5 Year	3206	0.0820	0.0000	0.0048	-2.61%	NA	-55.60%	NA	3206	0.0776	0.0522	0.0014	-4.67%	-6.95%	-34.35%	-53.89%	0.0044	-0.0522

Table E.25: Long-term Operating Performance: Revenue Growth and Operating Margin Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Revenue Growth is defined as the LTM rolling sales and Operating Margin is (EBITDA/sales). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	894	0.0439	0.0289	0.0068	NA	NA	-91.12%	-89.27%	858	0.0320	0.0173	0.0068	NA	NA	6.56%	8.67%	-0.0022	0.0116
Event - 4 Year	894	0.0511	0.0304	0.0065	16.40%	5.19%	-92.37%	-89.80%	866	0.0351	0.0199	0.0067	9.69%	15.03%	-2.85%	-5.53%	-0.0063	0.0105
Event - 3 Year	902	0.0443	0.0247	0.0065	-13.31%	-18.75%	-91.20%	-87.45%	871	0.0427	0.0244	0.0071	21.65%	22.61%	-20.14%	-22.95%	-0.0109**	0.0003
Event - 2 Year	906	0.0374	0.0185	0.0064	-15.58%	-25.10%	-89.57%	-83.24%	872	0.0425	0.0232	0.0067	-0.47%	-4.92%	-19.76%	-18.97%	-0.0100*	-0.0047
Event - 1 Year	919	0.0268	0.0162	0.0059	-28.34%	-12.43%	-85.45%	-80.86%	877	0.0325	0.0161	0.0068	-23.53%	-30.60%	4.92%	16.77%	-0.0154***	0.0001
Event	899	0.0039	0.0031	0.0059	-85.45%	-80.86%	NA	NA	882	0.0341	0.0188	0.0068	4.92%	16.77%	NA	NA	-0.0230***	-0.0157
Event + 1 Year	741	0.0201	0.0106	0.0070	415.38%	241.94%	415.38%	241.94%	795	0.0337	0.0167	0.0069	-1.17%	-11.17%	-1.17%	-11.17%	-0.0092	-0.0061
Event + 2 Year	804	0.0260	0.0199	0.0064	29.35%	87.74%	566.67%	541.94%	802	0.0264	0.0120	0.0067	-21.66%	-28.14%	-22.58%	-36.17%	-0.0052	0.0079
Event + 3 Year	789	0.0344	0.0212	0.0066	32.31%	6.53%	782.05%	583.87%	781	0.0549	0.0229	0.0077	107.95%	90.83%	61.00%	21.81%	0.0044	-0.0017
Event + 4 Year	796	0.0403	0.0209	0.0069	17.15%	-1.42%	933.33%	574.19%	802	0.0517	0.0199	0.0076	-5.83%	-13.10%	51.61%	5.85%	0.0049	0.0010
Event + 5 Year	812	0.0409	0.0165	0.0067	1.49%	-21.05%	948.72%	432.26%	777	0.0441	0.0191	0.0072	-14.70%	-4.02%	29.33%	1.60%	0.0036	-0.0026
Operating Margin																		
Event - 5 Year	831	0.0350	0.1362	0.0217	NA	NA	-29.71%	-17.18%	821	0.0200	0.1358	0.0222	NA	NA	-5.00%	-9.35%	0.0675***	0.0004
Event - 4 Year	848	0.0313	0.1343	0.0211	-10.57%	-1.40%	-21.41%	-16.01%	848	0.0234	0.1351	0.0227	17.00%	-0.52%	-18.80%	-8.88%	0.0591***	-0.0008
Event - 3 Year	853	0.0491	0.1316	0.0196	56.87%	-2.01%	-49.90%	-14.29%	853	0.0307	0.1412	0.0222	31.20%	4.52%	-38.11%	-12.82%	0.0623***	-0.0096
Event - 2 Year	862	0.0544	0.1253	0.0178	10.79%	-4.79%	-54.78%	-9.98%	862	0.0101	0.1356	0.0234	-67.10%	-3.97%	88.12%	-9.22%	0.0422***	-0.0103
Event - 1 Year	887	0.0457	0.1280	0.0185	-15.99%	2.15%	-46.17%	-11.88%	887	0.0278	0.1299	0.0216	175.25%	-4.20%	-31.65%	-5.23%	0.0170	-0.0019
Event	845	0.0246	0.1128	0.0199	-46.17%	-11.88%	NA	NA	845	0.0190	0.1231	0.0220	-31.65%	-5.23%	NA	NA	0.0169	-0.0103
Event + 1 Year	818	0.0076	0.1189	0.0217	-69.11%	5.41%	-69.11%	5.41%	818	-0.0043	0.1246	0.0242	-122.63%	1.22%	-122.63%	1.22%	0.0021	-0.0057
Event + 2 Year	830	0.0044	0.1285	0.0224	-42.11%	8.07%	-82.11%	13.92%	830	-0.0500	0.1315	0.0286	1062.79%	5.54%	-363.16%	6.82%	-0.0033	-0.0030
Event + 3 Year	808	0.0172	0.1312	0.0217	290.91%	2.10%	-30.08%	16.31%	808	-0.0349	0.1223	0.0278	-30.20%	-7.00%	-283.68%	-0.65%	-0.0086	0.0089
Event + 4 Year	807	0.0261	0.1313	0.0221	51.74%	0.08%	6.10%	16.40%	807	-0.0573	0.1240	0.0281	64.18%	1.39%	-401.58%	0.73%	0.0280	0.0073
Event + 5 Year	796	0.0258	0.1261	0.0223	-1.15%	-3.96%	4.88%	11.79%	796	-0.0437	0.1282	0.0284	-23.73%	3.39%	-330.00%	4.14%	0.0345*	-0.0021

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	894	0.0439	0.0289	0.0068	NA	NA	-91.12%	-89.27%	984	0.1725	0.0559	0.0154	NA	NA	16.52%	-18.60%	-0.1286***	-0.0270
Event - 4 Year	894	0.0511	0.0304	0.0065	16.40%	5.19%	-92.37%	-89.80%	984	0.1406	0.0598	0.0121	-18.49%	6.98%	42.96%	-23.91%	-0.0895***	-0.0294
Event - 3 Year	902	0.0443	0.0247	0.0065	-13.31%	-18.75%	-91.20%	-87.45%	984	0.1625	0.0553	0.0140	15.58%	-7.53%	23.69%	-17.72%	-0.1182***	-0.0306
Event - 2 Year	906	0.0374	0.0185	0.0064	-15.58%	-25.10%	-89.57%	-83.24%	984	0.1916	0.0524	0.0165	17.91%	-5.24%	4.91%	-13.17%	-0.1542***	-0.0339
Event - 1 Year	919	0.0268	0.0162	0.0059	-28.34%	-12.43%	-85.45%	-80.86%	984	0.1873	0.0508	0.0165	-2.24%	-3.05%	7.31%	-10.43%	-0.1605***	-0.0346
Event	899	0.0039	0.0031	0.0059	-85.45%	-80.86%	NA	NA	984	0.2010	0.0455	0.0180	7.31%	-10.43%	NA	NA	-0.1971***	-0.0424
Event + 1 Year	741	0.0201	0.0106	0.0070	415.38%	241.94%	415.38%	241.94%	979	0.2063	0.0472	0.0183	2.64%	3.74%	2.64%	3.74%	-0.1862***	-0.0366
Event + 2 Year	804	0.0260	0.0199	0.0064	29.35%	87.74%	566.67%	541.94%	983	0.2111	0.0488	0.0188	2.33%	3.39%	5.02%	7.25%	-0.1851***	-0.0289
Event + 3 Year	789	0.0344	0.0212	0.0066	32.31%	6.53%	782.05%	583.87%	981	0.2194	0.0525	0.0193	3.93%	7.58%	9.15%	15.38%	-0.185***	-0.0313
Event + 4 Year	796	0.0403	0.0209	0.0069	17.15%	-1.42%	933.33%	574.19%	982	0.1906	0.0557	0.0165	-13.13%	6.10%	-5.17%	22.42%	-0.1503***	-0.0348
Event + 5 Year	812	0.0409	0.0165	0.0067	1.49%	-21.05%	948.72%	432.26%	982	0.2405	0.0594	0.0197	26.18%	6.64%	19.65%	30.55%	-0.1996***	-0.0429
Operating Margin																		
Event - 5 Year	831	0.0350	0.1362	0.0217	NA	NA	-29.71%	-17.18%	984	-2.1465	0.0641	0.2172	NA	NA	9.28%	12.79%	2.1815***	0.0721
Event - 4 Year	848	0.0313	0.1343	0.0211	-10.57%	-1.40%	-21.41%	-16.01%	984	-2.0253	0.0716	0.2169	-5.65%	11.70%	15.82%	0.98%	2.0566***	0.0627
Event - 3 Year	853	0.0491	0.1316	0.0196	56.87%	-2.01%	-49.90%	-14.29%	984	-2.0832	0.0787	0.2184	2.86%	9.92%	12.60%	-8.13%	2.1323***	0.0529
Event - 2 Year	862	0.0544	0.1253	0.0178	10.79%	-4.79%	-54.78%	-9.98%	983	-2.3801	0.0690	0.2357	14.25%	-12.33%	-1.45%	4.78%	2.4345***	0.0563
Event - 1 Year	887	0.0457	0.1280	0.0185	-15.99%	2.15%	-46.17%	-11.88%	984	-2.3969	0.0708	0.2360	0.71%	2.61%	-2.14%	2.12%	2.4426***	0.0572
Event	845	0.0246	0.1128	0.0199	-46.17%	-11.88%	NA	NA	984	-2.3457	0.0723	0.2342	-2.14%	2.12%	NA	NA	2.3703***	0.0405
Event + 1 Year	818	0.0076	0.1189	0.0217	-69.11%	5.41%	-69.11%	5.41%	984	-2.2191	0.0636	0.2245	-5.40%	-12.03%	-5.40%	-12.03%	2.2267***	0.0553
Event + 2 Year	830	0.0044	0.1285	0.0224	-42.11%	8.07%	-82.11%	13.92%	984	-2.1200	0.0714	0.2161	-4.47%	12.26%	-9.62%	-1.24%	2.1244***	0.0571
Event + 3 Year	808	0.0172	0.1312	0.0217	290.91%	2.10%	-30.08%	16.31%	984	-2.1583	0.0684	0.2113	1.81%	-4.20%	-7.99%	-5.39%	2.1755***	0.0628
Event + 4 Year	807	0.0261	0.1313	0.0221	51.74%	0.08%	6.10%	16.40%	984	-1.9895	0.0601	0.1945	-7.82%	-12.13%	-15.19%	-16.87%	2.0156***	0.0712
Event + 5 Year	796	0.0258	0.1261	0.0223	-1.15%	-3.96%	4.88%	11.79%	984	-2.0639	0.0556	0.2109	3.74%	-7.49%	-12.01%	-23.10%	2.0897***	0.0705

Table E.26: Long-term Operating Performance: ROA and Tobin's Q Ex Ante and Ex Post Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROA is defined as (EBIT * (1-tax rate)/Book Value of Total Assets) and Tobin's Q is (book value of debt + market value of equity)/(book value of debt + book value of equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	812	0.0714	0.0931	0.0058	NA	NA	-31.79%	-18.15%	787	0.0627	0.0929	0.0063	NA	NA	-12.44%	-4.52%	0.0152***	0.0002
Event - 4 Year	825	0.0723	0.0932	0.0057	1.26%	0.11%	-32.64%	-18.24%	803	0.0639	0.0902	0.0062	1.91%	-2.91%	-14.08%	-1.66%	0.0138***	0.0030
Event - 3 Year	843	0.0687	0.0868	0.0057	-4.98%	-6.87%	-29.11%	-12.21%	803	0.0673	0.0924	0.0062	5.32%	2.44%	-18.42%	-4.00%	0.0071	-0.0056
Event - 2 Year	846	0.0702	0.0881	0.0053	2.18%	1.50%	-30.63%	-13.51%	803	0.0615	0.0971	0.0066	-8.62%	5.09%	-10.73%	-8.65%	0.0061	-0.0090
Event - 1 Year	883	0.0656	0.0832	0.0054	-6.55%	-5.56%	-25.76%	-8.41%	804	0.0578	0.0879	0.0066	-6.02%	-9.47%	-5.02%	0.91%	-0.0050	-0.0047
Event	841	0.0487	0.0762	0.0058	-25.76%	-8.41%	NA	NA	805	0.0549	0.0887	0.0065	-5.02%	0.91%	NA	NA	-0.0203***	-0.0125
Event + 1 Year	776	0.0506	0.0826	0.0064	3.90%	8.40%	3.90%	8.40%	768	0.0549	0.0897	0.0067	0.00%	1.13%	0.00%	1.13%	-0.0148***	-0.0071
Event + 2 Year	799	0.0504	0.0828	0.0065	-0.40%	0.24%	3.49%	8.66%	752	0.0584	0.0916	0.0068	6.38%	2.12%	6.38%	3.27%	-0.0071	-0.0088
Event + 3 Year	772	0.0505	0.0824	0.0069	0.20%	-0.48%	3.70%	8.14%	734	0.0555	0.0902	0.0069	-4.97%	-1.53%	1.09%	1.69%	-0.0093*	-0.0078
Event + 4 Year	776	0.0645	0.0988	0.0068	27.72%	19.90%	32.44%	29.66%	757	0.0452	0.0854	0.0072	-18.56%	-5.32%	-17.67%	-3.72%	0.0038	0.0134
Event + 5 Year	755	0.0652	0.0974	0.0066	1.09%	-1.42%	33.88%	27.82%	730	0.0516	0.0909	0.0074	14.16%	6.44%	-6.01%	2.48%	0.0044	0.0065
Tobin's Q																		
Event - 5 Year	901	2.2307	1.4937	0.0637	NA	NA	-16.40%	-9.70%	896	2.0278	1.4214	0.0607	NA	NA	-1.04%	-2.29%	-0.1120**	0.0723
Event - 4 Year	913	2.1665	1.4890	0.0609	-2.88%	-0.31%	-13.93%	-9.42%	899	2.0402	1.3985	0.0629	0.61%	-1.61%	-1.64%	-0.69%	-0.2213***	0.0905
Event - 3 Year	907	2.1120	1.4627	0.0587	-2.52%	-1.77%	-11.70%	-7.79%	904	2.0126	1.3685	0.0609	-1.35%	-2.15%	-0.29%	1.49%	-0.1728***	0.0942
Event - 2 Year	920	2.1045	1.4441	0.0597	-0.36%	-1.27%	-11.39%	-6.60%	917	2.0271	1.3907	0.0577	0.72%	1.62%	-1.00%	-0.13%	-0.2440***	0.0534
Event - 1 Year	926	1.9361	1.4053	0.0515	-8.00%	-2.69%	-3.68%	-4.02%	924	2.0460	1.4257	0.0607	0.93%	2.52%	-1.92%	-2.58%	-0.3275***	-0.0204
Event	890	1.8648	1.3488	0.0518	-3.68%	-4.02%	NA	NA	921	2.0068	1.3889	0.0588	-1.92%	-2.58%	NA	NA	-0.4187***	-0.0401
Event + 1 Year	863	2.0443	1.4439	0.0632	9.63%	7.05%	9.63%	7.05%	886	2.0905	1.3891	0.0660	4.17%	0.01%	4.17%	0.01%	-0.2054***	0.0548
Event + 2 Year	882	2.0831	1.4639	0.0621	1.90%	1.39%	11.71%	8.53%	878	2.0894	1.3939	0.0670	-0.05%	0.35%	4.12%	0.36%	-0.0623	0.0700
Event + 3 Year	871	2.0867	1.4314	0.0630	0.17%	-2.22%	11.90%	6.12%	866	2.1263	1.4160	0.0659	1.77%	1.59%	5.95%	1.95%	-0.0111	0.0154
Event + 4 Year	874	2.2136	1.4477	0.0680	6.08%	1.14%	18.70%	7.33%	872	2.0995	1.3871	0.0653	-1.26%	-2.04%	4.62%	-0.13%	-0.0416	0.0606
Event + 5 Year	870	2.2578	1.4985	0.0680	2.00%	3.51%	21.07%	11.10%	852	2.1088	1.4709	0.0645	0.44%	6.04%	5.08%	5.90%	-0.0535	0.0276

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	812	0.0714	0.0931	0.0058	NA	NA	-31.79%	-18.15%	812	0.0293	0.0631	0.0023	NA	NA	43.34%	3.80%	0.0449***	0.0309
Event - 4 Year	825	0.0723	0.0932	0.0057	1.26%	0.11%	-32.64%	-18.24%	825	0.0340	0.0633	0.0022	16.04%	0.32%	23.53%	3.48%	0.0392***	0.0287
Event - 3 Year	843	0.0687	0.0868	0.0057	-4.98%	-6.87%	-29.11%	-12.21%	843	0.0374	0.0652	0.0022	10.00%	3.00%	12.30%	0.46%	0.0339***	0.0245
Event - 2 Year	846	0.0702	0.0881	0.0053	2.18%	1.50%	-30.63%	-13.51%	846	0.0428	0.0711	0.0021	14.44%	9.05%	-1.87%	-7.88%	0.0291***	0.0189
Event - 1 Year	883	0.0656	0.0832	0.0054	-6.55%	-5.56%	-25.76%	-8.41%	883	0.0408	0.0684	0.0021	-4.67%	-3.80%	2.94%	-4.24%	0.0239***	0.0167
Event	841	0.0487	0.0762	0.0058	-25.76%	-8.41%	NA	NA	841	0.0420	0.0655	0.0021	2.94%	-4.24%	NA	NA	0.009***	0.0101
Event + 1 Year	776	0.0506	0.0826	0.0064	3.90%	8.40%	3.90%	8.40%	776	0.0431	0.0704	0.0020	2.62%	7.48%	2.62%	7.48%	0.0059*	0.0066
Event + 2 Year	799	0.0504	0.0828	0.0065	-0.40%	0.24%	3.49%	8.66%	799	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	0.0063*	0.0058
Event + 3 Year	772	0.0505	0.0824	0.0069	0.20%	-0.48%	3.70%	8.14%	772	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	15.11%	0.006*	0.0070
Event + 4 Year	776	0.0645	0.0988	0.0068	27.72%	19.90%	32.44%	29.66%	776	0.0418	0.0767	0.0021	-0.48%	1.72%	-0.48%	17.10%	0.0131***	0.0106
Event + 5 Year	755	0.0652	0.0974	0.0066	1.09%	-1.42%	33.88%	27.82%	755	0.0392	0.0740	0.0021	-6.22%	-3.52%	-6.67%	12.98%	0.0167***	0.0161
Tobin's Q																		
Event - 5 Year	901	2.2307	1.4937	0.0637	NA	NA	-16.40%	-9.70%	984	3.2126	1.8812	0.1466	NA	NA	0.62%	3.00%	-0.9819***	-0.3875
Event - 4 Year	913	2.1665	1.4890	0.0609	-2.88%	-0.31%	-13.93%	-9.42%	984	2.9536	1.8807	0.1346	-8.06%	-0.03%	9.45%	3.03%	-0.7871***	-0.3917
Event - 3 Year	907	2.1120	1.4627	0.0587	-2.52%	-1.77%	-11.70%	-7.79%	984	3.3257	1.9341	0.1625	12.60%	2.84%	-2.80%	0.18%	-1.2137***	-0.4714
Event - 2 Year	920	2.1045	1.4441	0.0597	-0.36%	-1.27%	-11.39%	-6.60%	984	3.1265	1.9251	0.1487	-5.99%	-0.47%	3.39%	0.65%	-1.022***	-0.4810
Event - 1 Year	926	1.9361	1.4053	0.0515	-8.00%	-2.69%	-3.68%	-4.02%	984	3.2316	1.9436	0.1545	3.36%	0.96%	0.03%	-0.31%	-1.2955***	-0.5383
Event	890	1.8648	1.3488	0.0518	-3.68%	-4.02%	NA	NA	984	3.2326	1.9376	0.1600	0.03%	-0.31%	NA	NA	-1.3678***	-0.5888
Event + 1 Year	863	2.0443	1.4439	0.0632	9.63%	7.05%	9.63%	7.05%	984	3.0425	1.8145	0.1494	-5.88%	-6.35%	-5.88%	-6.35%	-0.9982***	-0.3706
Event + 2 Year	882	2.0831	1.4639	0.0621	1.90%	1.39%	11.71%	8.53%	984	2.8914	1.8655	0.1284	-4.97%	2.81%	-10.55%	-3.72%	-0.8083***	-0.4016
Event + 3 Year	871	2.0867	1.4314	0.0630	0.17%	-2.22%	11.90%	6.12%	984	2.8890	1.8677	0.1277	-0.08%	0.12%	-10.63%	-3.61%	-0.8023***	-0.4363
Event + 4 Year	874	2.2136	1.4477	0.0680	6.08%	1.14%	18.70%	7.33%	984	3.0087	1.9073	0.1361	4.14%	2.12%	-6.93%	-1.56%	-0.7951***	-0.4596
Event + 5 Year	870	2.2578	1.4985	0.0680	2.00%	3.51%	21.07%	11.10%	984	3.2251	2.0335	0.1411	7.19%	6.62%	-0.23%	4.95%	-0.9673***	-0.5350

Table E.27: Long-term Operating Performance: ROE and ROIC Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROE is defined as (Net Income / Book Value of Equity) and ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	911	0.0153	0.0896	0.0126	NA	NA	-504.58%	-45.42%	882	-0.0253	0.0787	0.0149	NA	NA	22.92%	2.16%	0.0189	0.0109
Event - 4 Year	920	-0.0096	0.0869	0.0143	-162.75%	-3.01%	544.79%	-43.73%	889	-0.0091	0.0828	0.0135	-64.03%	5.21%	241.76%	-2.90%	0.0172	0.0041
Event - 3 Year	924	-0.0035	0.0830	0.0139	-63.54%	-4.49%	1668.57%	-41.08%	894	0.0021	0.0887	0.0142	-123.08%	7.13%	-1580.95%	-9.36%	0.0101	-0.0057
Event - 2 Year	928	0.0141	0.0820	0.0124	-502.86%	-1.20%	-539.01%	-40.37%	895	0.0140	0.0895	0.0139	566.67%	0.90%	-322.14%	-10.17%	-0.0153	-0.0075
Event - 1 Year	942	-0.0191	0.0724	0.0135	-235.46%	-11.71%	224.08%	-32.46%	911	-0.0142	0.0837	0.0150	-201.43%	-6.48%	119.01%	-3.94%	-0.0253**	-0.0113
Event	915	-0.0619	0.0489	0.0152	224.08%	-32.46%	NA	NA	904	-0.0311	0.0804	0.0152	119.01%	-3.94%	NA	NA	-0.0590***	-0.0315
Event + 1 Year	839	-0.0766	0.0582	0.0171	23.75%	19.02%	23.75%	19.02%	862	-0.0305	0.0749	0.0154	-1.93%	-6.84%	-1.93%	-6.84%	-0.0452***	-0.0167
Event + 2 Year	873	-0.0580	0.0647	0.0160	-24.28%	11.17%	-6.30%	32.31%	849	-0.0293	0.0741	0.0158	-3.93%	-1.07%	-5.79%	-7.84%	-0.0203	-0.0094
Event + 3 Year	850	-0.0658	0.0656	0.0170	13.45%	1.39%	6.30%	34.15%	837	-0.0306	0.0705	0.0159	4.44%	-4.86%	-1.61%	-12.31%	-0.0041	-0.0049
Event + 4 Year	857	-0.0383	0.0723	0.0162	-41.79%	10.21%	-38.13%	47.85%	857	-0.0598	0.0667	0.0170	95.42%	-5.39%	92.28%	-17.04%	0.0098	0.0056
Event + 5 Year	845	-0.0183	0.0801	0.0153	-52.22%	10.79%	-70.44%	63.80%	826	-0.0247	0.0782	0.0163	-58.70%	17.24%	-20.58%	-2.74%	0.0281**	0.0019
ROIC																		
Event - 5 Year	882	0.0400	0.0588	0.0051	NA	NA	-64.25%	-31.80%	853	0.0275	0.0579	0.0055	NA	NA	-24.73%	-8.98%	0.0097**	0.0009
Event - 4 Year	891	0.0349	0.0557	0.0052	-12.75%	-5.27%	-59.03%	-28.01%	851	0.0285	0.0558	0.0055	3.64%	-3.63%	-27.37%	-5.56%	0.0091**	-0.0001
Event - 3 Year	892	0.0339	0.0511	0.0050	-2.87%	-8.26%	-57.82%	-21.53%	863	0.0308	0.0587	0.0057	8.07%	5.20%	-32.79%	-10.22%	0.0011	-0.0076
Event - 2 Year	900	0.0328	0.0518	0.0048	-3.24%	1.37%	-56.40%	-22.59%	860	0.0300	0.0616	0.0058	-2.60%	4.94%	-31.00%	-14.45%	-0.0003	-0.0098
Event - 1 Year	919	0.0283	0.0478	0.0048	-13.72%	-7.72%	-49.47%	-16.11%	871	0.0229	0.0535	0.0060	-23.67%	-13.15%	-9.61%	-1.50%	-0.0092**	-0.0057
Event	882	0.0143	0.0401	0.0053	-49.47%	-16.11%	NA	NA	863	0.0207	0.0527	0.0057	-9.61%	-1.50%	NA	NA	-0.0269***	-0.0126
Event + 1 Year	817	0.0135	0.0470	0.0059	-5.59%	17.21%	-5.59%	17.21%	826	0.0241	0.0569	0.0059	16.43%	7.97%	16.43%	7.97%	-0.0164***	-0.0099
Event + 2 Year	851	0.0135	0.0504	0.0059	0.00%	7.23%	-5.59%	25.69%	810	0.0250	0.0565	0.0060	3.73%	-0.70%	20.77%	7.21%	-0.0042	-0.0061
Event + 3 Year	831	0.0160	0.0513	0.0062	18.52%	1.79%	11.89%	27.93%	799	0.0186	0.0522	0.0062	-25.60%	-7.61%	-10.14%	-0.95%	-0.0072	-0.0009
Event + 4 Year	827	0.0247	0.0540	0.0061	54.38%	5.26%	72.73%	34.66%	829	0.0136	0.0515	0.0063	-26.88%	-1.34%	-34.30%	-2.28%	0.0042	0.0025
Event + 5 Year	815	0.0303	0.0564	0.0057	22.67%	4.44%	111.89%	40.65%	795	0.0219	0.0576	0.0064	61.03%	11.84%	5.80%	9.30%	0.0055	-0.0012

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	911	0.0153	0.0896	0.0126	NA	NA	-504.58%	-45.42%	911	-0.0002	0.0047	0.0089	NA	NA	-8000.00%	317.02%	-0.0114	0.0658
Event - 4 Year	920	-0.0096	0.0869	0.0143	-162.75%	-3.01%	544.79%	-43.73%	920	0.0029	0.0065	0.0089	-1550.00%	38.30%	444.83%	201.54%	-0.0203*	0.0644
Event - 3 Year	924	-0.0035	0.0830	0.0139	-63.54%	-4.49%	1668.57%	-41.08%	924	0.0297	0.0150	0.0089	924.14%	130.77%	-46.80%	30.67%	-0.0371***	0.0518
Event - 2 Year	928	0.0141	0.0820	0.0124	-502.86%	-1.20%	-539.01%	-40.37%	928	0.0272	0.0202	0.0087	-8.42%	34.67%	-41.91%	-2.97%	-0.0495***	0.0416
Event - 1 Year	942	-0.0191	0.0724	0.0135	-235.46%	-11.71%	224.08%	-32.46%	942	0.0209	0.0166	0.0086	-23.16%	-17.82%	-24.40%	18.07%	-0.0584***	0.0368
Event	915	-0.0619	0.0489	0.0152	224.08%	-32.46%	NA	NA	915	0.0158	0.0196	0.0085	-24.40%	18.07%	NA	NA	-0.0795***	0.0157
Event + 1 Year	839	-0.0766	0.0582	0.0171	23.75%	19.02%	23.75%	19.02%	839	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	-0.103***	0.0246
Event + 2 Year	873	-0.0580	0.0647	0.0160	-24.28%	11.17%	-6.30%	32.31%	873	0.0008	0.0202	0.0083	-97.50%	-2.88%	-94.94%	3.06%	-0.0634***	0.0353
Event + 3 Year	850	-0.0658	0.0656	0.0170	13.45%	1.39%	6.30%	34.15%	850	0.0148	0.0232	0.0085	1750.00%	14.85%	-6.33%	18.37%	-0.0659***	0.0399
Event + 4 Year	857	-0.0383	0.0723	0.0162	-41.79%	10.21%	-38.13%	47.85%	857	0.0241	0.0232	0.0086	62.84%	0.00%	52.53%	18.37%	-0.0694***	0.0443
Event + 5 Year	845	-0.0183	0.0801	0.0153	-52.22%	10.79%	-70.44%	63.80%	845	0.0161	0.0181	0.0085	-33.20%	-21.98%	1.90%	-7.65%	-0.0422***	0.0553
ROIC																		
Event - 5 Year	882	0.0400	0.0588	0.0051	NA	NA	-64.25%	-31.80%	984	0.0430	0.0518	0.0060	NA	NA	0.93%	2.90%	-0.003	0.0070
Event - 4 Year	891	0.0349	0.0557	0.0052	-12.75%	-5.27%	-59.03%	-28.01%	984	0.0427	0.0545	0.0057	-0.70%	5.21%	1.64%	-2.20%	-0.0078	0.0012
Event - 3 Year	892	0.0339	0.0511	0.0050	-2.87%	-8.26%	-57.82%	-21.53%	984	0.0534	0.0564	0.0058	25.06%	3.49%	-18.73%	-5.50%	-0.0195***	-0.0053
Event - 2 Year	900	0.0328	0.0518	0.0048	-3.24%	1.37%	-56.40%	-22.59%	984	0.0423	0.0578	0.0055	-20.79%	2.48%	2.60%	-7.79%	-0.0095	-0.0060
Event - 1 Year	919	0.0283	0.0478	0.0048	-13.72%	-7.72%	-49.47%	-16.11%	984	0.0492	0.0570	0.0054	16.31%	-1.38%	-11.79%	-6.49%	-0.0209***	-0.0092
Event	882	0.0143	0.0401	0.0053	-49.47%	-16.11%	NA	NA	983	0.0434	0.0533	0.0053	-11.79%	-6.49%	NA	NA	-0.0291***	-0.0132
Event + 1 Year	817	0.0135	0.0470	0.0059	-5.59%	17.21%	-5.59%	17.21%	982	0.0399	0.0512	0.0055	-8.06%	-3.94%	-8.06%	-3.94%	-0.0264***	-0.0042
Event + 2 Year	851	0.0135	0.0504	0.0059	0.00%	7.23%	-5.59%	25.69%	984	0.0435	0.0541	0.0054	9.02%	5.66%	0.23%	1.50%	-0.03***	-0.0037
Event + 3 Year	831	0.0160	0.0513	0.0062	18.52%	1.79%	11.89%	27.93%	982	0.0399	0.0514	0.0053	-8.28%	-4.99%	-8.06%	-3.56%	-0.0239***	-0.0001
Event + 4 Year	827	0.0247	0.0540	0.0061	54.38%	5.26%	72.73%	34.66%	984	0.0507	0.0542	0.0057	27.07%	5.45%	16.82%	1.69%	-0.026***	-0.0002
Event + 5 Year	815	0.0303	0.0564	0.0057	22.67%	4.44%	111.89%	40.65%	983	0.0386	0.0510	0.0057	-23.87%	-5.90%	-11.06%	-4.32%	-0.0083	0.0054

Table E.28: Long-term Operating Performance: Enterprise Value / LTM EBITDA Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EV / EBITDA is ((book value of debt + book value of equity − cash) / LTM EBITDA). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	791	8.0160	7.7235	0.5131	NA	NA	-12.45%	-3.82%	791	6.4865	6.9421	0.4806	NA	NA	1.59%	1.53%	0.5490	0.7814
Event - 4 Year	814	6.7130	7.4215	0.5054	-16.25%	-3.91%	4.54%	0.10%	814	6.4061	6.8616	0.5307	-1.24%	-1.16%	2.87%	2.72%	0.5789	0.5599
Event - 3 Year	825	6.9344	7.8910	0.4953	3.30%	6.33%	1.21%	-5.86%	825	7.2167	7.0679	0.4942	12.65%	3.01%	-8.69%	-0.28%	-0.0593	0.8231
Event - 2 Year	830	7.1547	7.4889	0.4889	3.18%	-5.10%	-1.91%	-0.80%	830	6.6695	7.2596	0.4928	-7.58%	2.71%	-1.19%	-2.91%	0.5809	0.2293
Event - 1 Year	863	7.4149	7.2937	0.4874	3.64%	-2.61%	-5.35%	1.85%	863	6.6985	6.6578	0.5049	0.43%	-8.29%	-1.62%	5.87%	0.1319	0.6359
Event	820	7.0180	7.4287	0.5008	-5.35%	1.85%	NA	NA	820	6.5898	7.0483	0.4931	-1.62%	5.87%	NA	NA	-0.0233	0.3804
Event + 1 Year	769	6.1631	6.5226	0.5185	-12.18%	-12.20%	-12.18%	-12.20%	769	6.3780	6.9693	0.5085	-3.21%	-1.12%	-3.21%	-1.12%	-0.3143	-0.4467
Event + 2 Year	783	6.5264	6.4192	0.5197	5.89%	-1.59%	-7.00%	-13.59%	783	6.1976	6.6199	0.5100	-2.83%	-5.01%	-5.95%	-6.08%	-0.4304	-0.2007
Event + 3 Year	769	6.0581	6.5258	0.4874	-7.18%	1.66%	-13.68%	-12.15%	769	6.2609	6.6512	0.5175	1.02%	0.47%	-4.99%	-5.63%	-0.5077	-0.1254
Event + 4 Year	768	6.7824	6.7427	0.5561	11.96%	3.32%	-3.36%	-9.23%	768	5.6670	6.3930	0.5033	-9.49%	-3.88%	-14.00%	-9.30%	0.4017	0.3497
Event + 5 Year	753	6.2497	6.9092	0.5497	-7.85%	2.47%	-10.95%	-6.99%	753	5.3287	6.4077	0.5305	-5.97%	0.23%	-19.14%	-9.09%	0.5574	0.5015

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	791	8.0160	7.7235	0.5131	NA	NA	-12.45%	-3.82%	791	6.8932	7.1266	0.1659	NA	NA	1.20%	-0.75%	1.1228**	0.5969
Event - 4 Year	814	6.7130	7.4215	0.5054	-16.25%	-3.91%	4.54%	0.10%	814	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.8584***	0.3335
Event - 3 Year	825	6.9344	7.8910	0.4953	3.30%	6.33%	1.21%	-5.86%	825	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.5593**	0.3734
Event - 2 Year	830	7.1547	7.4889	0.4889	3.18%	-5.10%	-1.91%	-0.80%	830	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	0.96***	0.3668
Event - 1 Year	863	7.4149	7.2937	0.4874	3.64%	-2.61%	-5.35%	1.85%	863	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	1.2535***	0.3395
Event	820	7.0180	7.4287	0.5008	-5.35%	1.85%	NA	NA	820	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	0.5913**	0.2441
Event + 1 Year	769	6.1631	6.5226	0.5185	-12.18%	-12.20%	-12.18%	-12.20%	769	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	0.2388	-0.1440
Event + 2 Year	783	6.5264	6.4192	0.5197	5.89%	-1.59%	-7.00%	-13.59%	783	5.9542	6.6791	0.0896	-3.44%	-1.33%	-6.92%	-5.12%	0.3551	-0.1811
Event + 3 Year	769	6.0581	6.5258	0.4874	-7.18%	1.66%	-13.68%	-12.15%	769	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	0.17	-0.0354
Event + 4 Year	768	6.7824	6.7427	0.5561	11.96%	3.32%	-3.36%	-9.23%	768	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	0.8668***	0.1248
Event + 5 Year	753	6.2497	6.9092	0.5497	-7.85%	2.47%	-10.95%	-6.99%	753	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	0.5143**	0.2794

Table E.29: Long-term Operating Performance: Cash-to-Market Capitalization and Cash-to-Assets Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Cash/Market Cap is defined as (Total Cash / Market Capitalization) and Cash/Assets is (Total Cash / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	915	0.2650	0.1208	0.0131	NA	NA	40.79%	33.03%	905	0.3791	0.1581	0.0186	NA	NA	9.84%	2.91%	-0.0333***	-0.0373
Event - 4 Year	926	0.2788	0.1295	0.0133	5.21%	7.20%	33.82%	24.09%	906	0.3811	0.1576	0.0188	0.53%	-0.32%	9.26%	3.24%	-0.0210*	-0.0281
Event - 3 Year	926	0.3025	0.1403	0.0145	8.50%	8.34%	23.34%	14.54%	910	0.3851	0.1526	0.0189	1.05%	-3.17%	8.13%	6.62%	-0.0231**	-0.0123
Event - 2 Year	933	0.2962	0.1402	0.0140	-2.08%	-0.07%	25.96%	14.62%	923	0.3904	0.1528	0.0189	1.38%	0.13%	6.66%	6.48%	-0.0126	-0.0126
Event - 1 Year	939	0.3157	0.1394	0.0150	6.58%	-0.57%	18.18%	15.28%	927	0.3893	0.1549	0.0188	-0.28%	1.37%	6.96%	5.04%	-0.0171	-0.0155
Event	902	0.3731	0.1607	0.0175	18.18%	15.28%	NA	NA	923	0.4164	0.1627	0.0200	6.96%	5.04%	NA	NA	0.0102	-0.0020
Event + 1 Year	874	0.3565	0.1492	0.0174	-4.45%	-7.16%	-4.45%	-7.16%	896	0.4166	0.1507	0.0201	0.05%	-7.38%	0.05%	-7.38%	0.0061	-0.0015
Event + 2 Year	893	0.3508	0.1463	0.0172	-1.60%	-1.94%	-5.98%	-8.96%	890	0.4067	0.1585	0.0199	-2.38%	5.18%	-2.33%	-2.58%	-0.0052	-0.0122
Event + 3 Year	882	0.3289	0.1418	0.0163	-6.24%	-3.08%	-11.85%	-11.76%	872	0.3921	0.1611	0.0193	-3.59%	1.64%	-5.84%	-0.98%	-0.0031	-0.0193
Event + 4 Year	886	0.3020	0.1255	0.0156	-8.18%	-11.50%	-19.06%	-21.90%	882	0.3764	0.1507	0.0187	-4.00%	-6.46%	-9.61%	-7.38%	-0.0096	-0.0252
Event + 5 Year	880	0.2956	0.1249	0.0161	-2.12%	-0.48%	-20.77%	-22.28%	862	0.3562	0.1415	0.0186	-5.37%	-6.10%	-14.46%	-13.03%	-0.0257**	-0.0166
Cash / Assets																		
Event - 5 Year	934	0.1809	0.0868	0.0070	NA	NA	-2.49%	11.98%	923	0.1878	0.1019	0.0070	NA	NA	-5.48%	-4.71%	-0.0152**	-0.0151
Event - 4 Year	941	0.1822	0.0976	0.0069	0.72%	12.44%	-3.18%	-0.41%	922	0.1845	0.1005	0.0069	-1.76%	-1.37%	-3.79%	-3.38%	-0.0194***	-0.0029
Event - 3 Year	939	0.1837	0.0986	0.0068	0.82%	1.02%	-3.97%	-1.42%	930	0.1790	0.0937	0.0067	-2.98%	-6.77%	-0.84%	3.63%	-0.0115**	0.0049
Event - 2 Year	947	0.1856	0.1016	0.0068	1.03%	3.04%	-4.96%	-4.33%	935	0.1859	0.1050	0.0067	3.85%	12.06%	-4.52%	-7.52%	-0.0101*	-0.0034
Event - 1 Year	953	0.1807	0.1009	0.0066	-2.64%	-0.69%	-2.38%	-3.67%	938	0.1801	0.0985	0.0066	-3.12%	-6.19%	-1.44%	-1.42%	-0.0115**	0.0024
Event	917	0.1764	0.0972	0.0066	-2.38%	-3.67%	NA	NA	929	0.1775	0.0971	0.0066	-1.44%	-1.42%	NA	NA	-0.0172***	0.0001
Event + 1 Year	892	0.1885	0.0989	0.0071	6.86%	1.75%	6.86%	1.75%	913	0.1820	0.0926	0.0070	2.54%	-4.63%	2.54%	-4.63%	-0.0072	0.0063
Event + 2 Year	914	0.1890	0.1012	0.0070	0.27%	2.33%	7.14%	4.12%	902	0.1901	0.1009	0.0074	4.45%	8.96%	7.10%	3.91%	-0.0081	0.0003
Event + 3 Year	903	0.1843	0.1038	0.0070	-2.49%	2.57%	4.48%	6.79%	896	0.1963	0.1053	0.0075	3.26%	4.36%	10.59%	8.44%	-0.0021	-0.0015
Event + 4 Year	903	0.1815	0.0995	0.0069	-1.52%	-4.14%	2.89%	2.37%	899	0.1910	0.1005	0.0075	-2.70%	-4.56%	7.61%	3.50%	-0.0045	-0.0010
Event + 5 Year	892	0.1868	0.0985	0.0072	2.92%	-1.01%	5.90%	1.34%	881	0.1868	0.1003	0.0073	-2.20%	-0.20%	5.24%	3.30%	-0.0067	-0.0018

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	915	0.2650	0.1208	0.0131	NA	NA	40.79%	33.03%	984	0.7284	0.3584	0.0335	NA	NA	2.88%	-7.92%	-0.4634***	-0.2376
Event - 4 Year	926	0.2788	0.1295	0.0133	5.21%	7.20%	33.82%	24.09%	984	0.7107	0.3318	0.0336	-2.43%	-7.42%	5.45%	-0.54%	-0.4319***	-0.2023
Event - 3 Year	926	0.3025	0.1403	0.0145	8.50%	8.34%	23.34%	14.54%	984	0.7131	0.3077	0.0341	0.34%	-7.26%	5.09%	7.25%	-0.4106***	-0.1674
Event - 2 Year	933	0.2962	0.1402	0.0140	-2.08%	-0.07%	25.96%	14.62%	984	0.7090	0.3208	0.0341	-0.57%	4.26%	5.70%	2.87%	-0.4128***	-0.1806
Event - 1 Year	939	0.3157	0.1394	0.0150	6.58%	-0.57%	18.18%	15.28%	984	0.7125	0.3217	0.0339	0.49%	0.28%	5.18%	2.58%	-0.3968***	-0.1823
Event	902	0.3731	0.1607	0.0175	18.18%	15.28%	NA	NA	984	0.7494	0.3300	0.0356	5.18%	2.58%	NA	NA	-0.3763***	-0.1693
Event + 1 Year	874	0.3565	0.1492	0.0174	-4.45%	-7.16%	-4.45%	-7.16%	984	0.7682	0.3226	0.0358	2.51%	-2.24%	2.51%	-2.24%	-0.4117***	-0.1734
Event + 2 Year	893	0.3508	0.1463	0.0172	-1.60%	-1.94%	-5.98%	-8.96%	984	0.7625	0.3415	0.0362	-0.74%	5.86%	1.75%	3.48%	-0.4117***	-0.1952
Event + 3 Year	882	0.3289	0.1418	0.0163	-6.24%	-3.08%	-11.85%	-11.76%	984	0.7367	0.3110	0.0360	-3.38%	-8.93%	-1.69%	-5.76%	-0.4078***	-0.1692
Event + 4 Year	886	0.3020	0.1255	0.0156	-8.18%	-11.50%	-19.06%	-21.90%	984	0.7197	0.2917	0.0356	-2.31%	-6.21%	-3.96%	-11.61%	-0.4177***	-0.1662
Event + 5 Year	880	0.2956	0.1249	0.0161	-2.12%	-0.48%	-20.77%	-22.28%	984	0.7128	0.2913	0.0355	-0.96%	-0.14%	-4.88%	-11.73%	-0.4172***	-0.1664
Cash / Assets																		
Event - 5 Year	934	0.1809	0.0868	0.0070	NA	NA	-2.49%	11.98%	984	0.1857	0.1291	0.0044	0.05%	-0.39%	1.02%	1.70%	-0.0035	-0.0315
Event - 4 Year	941	0.1822	0.0976	0.0069	0.72%	12.44%	-3.18%	-0.41%	984	0.1873	0.1312	0.0044	0.86%	1.63%	0.16%	0.08%	-0.0036	-0.0326
Event - 3 Year	939	0.1837	0.0986	0.0068	0.82%	1.02%	-3.97%	-1.42%	984	0.1882	0.1329	0.0045	0.48%	1.30%	-0.32%	-1.20%	-0.0026	-0.0313
Event - 2 Year	947	0.1856	0.1016	0.0068	1.03%	3.04%	-4.96%	-4.33%	984	0.1878	0.1291	0.0046	-0.21%	-2.86%	-0.11%	1.70%	-0.0071	-0.0282
Event - 1 Year	953	0.1807	0.1009	0.0066	-2.64%	-0.69%	-2.38%	-3.67%	984	0.1876	0.1313	0.0046	-0.11%	1.70%	NA	NA	-0.0112	-0.0341
Event	917	0.1764	0.0972	0.0066	-2.38%	-3.67%	NA	NA	984	0.1878	0.1291	0.0046	0.11%	-1.68%	0.11%	-1.68%	0.0007	-0.0302
Event + 1 Year	892	0.1885	0.0989	0.0071	6.86%	1.75%	6.86%	1.75%	984	0.1882	0.1329	0.0045	0.21%	2.94%	0.32%	1.22%	0.0008	-0.0317
Event + 2 Year	914	0.1890	0.1012	0.0070	0.27%	2.33%	7.14%	4.12%	984	0.1873	0.1312	0.0044	-0.48%	-1.28%	-0.16%	-0.08%	-0.003	-0.0274
Event + 3 Year	903	0.1843	0.1038	0.0070	-2.49%	2.57%	4.48%	6.79%	984	0.1857	0.1291	0.0044	-0.85%	-1.60%	-1.01%	-1.68%	-0.0042	-0.0296
Event + 4 Year	903	0.1815	0.0995	0.0069	-1.52%	-4.14%	2.89%	2.37%	984	0.1856	0.1296	0.0045	-0.05%	0.39%	-1.07%	-1.29%	0.0012	-0.0311
Event + 5 Year	892	0.1868	0.0985	0.0072	2.92%	-1.01%	5.90%	1.34%	984	2.5842	1.6641	0.1164	NA	NA	-11.54%	-4.46%	0.2399	-0.2250

Table E.30: Long-term Operating Performance: Debt-to-EBITDA and Net Leverage Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Debt / EBITDA is (Total Debt / EBITDA) and Leverage (net) is defined as a ((Total Debt - Cash) / Total Equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	805	2.8241	1.4391	0.1565	NA	NA	1.14%	3.72%	784	2.1923	1.0660	0.1336	NA	NA	16.37%	23.46%	0.1218	0.3731
Event - 4 Year	984	0.5701	1.0000	0.0158	2.00%	0.00%	10.42%	0.00%	986	0.5619	1.0000	0.0158	9.70%	0.00%	22.05%	NA	0.0734***	0.0000
Event - 3 Year	984	0.6006	1.0000	0.0156	5.35%	0.00%	16.33%	0.00%	986	0.5558	1.0000	0.0158	-1.09%	0.00%	20.72%	NA	0.0569***	0.0000
Event - 2 Year	984	0.6209	1.0000	0.0155	3.38%	0.00%	20.26%	0.00%	986	0.5791	1.0000	0.0157	4.19%	0.00%	25.78%	NA	0.0482***	0.0000
Event - 1 Year	984	0.0430	0.0269	0.0016	NA	NA	11.40%	54.65%	986	0.0564	0.0476	0.0019	NA	NA	8.69%	20.80%	-0.0018	-0.0207
Event	984	0.0450	0.0348	0.0016	4.65%	29.37%	6.44%	19.54%	986	0.0564	0.0466	0.0018	0.00%	-2.10%	8.69%	23.39%	-0.0014	-0.0118
Event + 1 Year	984	0.0469	0.0378	0.0016	4.22%	8.62%	2.13%	10.05%	986	0.0568	0.0495	0.0018	0.71%	6.22%	7.92%	16.16%	-0.0006	-0.0117
Event + 2 Year	984	0.0487	0.0400	0.0017	3.84%	5.82%	-1.64%	4.00%	986	0.0617	0.0560	0.0018	8.63%	13.13%	-0.65%	2.68%	0.0002	-0.0160
Event + 3 Year	984	0.0498	0.0429	0.0017	2.26%	7.25%	-3.82%	-3.03%	986	0.0622	0.0565	0.0018	0.81%	0.89%	-1.45%	1.77%	0.0012	-0.0136
Event + 4 Year	984	0.0479	0.0416	0.0016	-3.82%	-3.03%	NA	NA	986	0.0613	0.0575	0.0018	-1.45%	1.77%	NA	NA	-0.0008	-0.0159
Event + 5 Year	984	0.0466	0.0362	0.0017	-2.71%	-12.98%	-2.71%	-12.98%	986	0.0591	0.0548	0.0018	-3.59%	-4.70%	-3.59%	-4.70%	-0.0012	-0.0186
Leverage (net)																		
Event - 5 Year	915	0.5230	0.1990	0.0453	NA	NA	7.21%	9.85%	893	0.4121	0.1206	0.0445	NA	NA	0.83%	63.18%	0.0650*	0.0784
Event - 4 Year	924	0.5179	0.1716	0.0464	-0.98%	-13.77%	8.26%	27.39%	897	0.4450	0.1470	0.0454	7.98%	21.89%	-6.63%	33.88%	0.1007***	0.0246
Event - 3 Year	914	0.5084	0.1880	0.0480	-1.83%	9.56%	10.29%	16.28%	900	0.4725	0.1643	0.0458	6.18%	11.77%	-12.06%	19.78%	0.0635*	0.0237
Event - 2 Year	926	0.4872	0.1609	0.0467	-4.17%	-14.41%	15.09%	35.86%	908	0.4208	0.1727	0.0431	-10.94%	5.11%	-1.26%	13.95%	0.0799**	-0.0118
Event - 1 Year	939	0.5053	0.1918	0.0453	3.72%	19.20%	10.96%	13.97%	918	0.3978	0.1851	0.0421	-5.47%	7.18%	4.45%	6.32%	0.0834**	0.0067
Event	902	0.5607	0.2186	0.0487	10.96%	13.97%	NA	NA	916	0.4155	0.1968	0.0430	4.45%	6.32%	NA	NA	0.1142***	0.0218
Event + 1 Year	868	0.4683	0.2056	0.0472	-16.48%	-5.95%	-16.48%	-5.95%	885	0.4580	0.1949	0.0464	10.23%	-0.97%	10.23%	-0.97%	0.0610*	0.0107
Event + 2 Year	889	0.4102	0.1318	0.0466	-12.41%	-35.89%	-26.84%	-39.71%	865	0.3610	0.1311	0.0446	-21.18%	-32.73%	-13.12%	-33.38%	0.0227	0.0007
Event + 3 Year	869	0.4408	0.1417	0.0477	7.46%	7.51%	-21.38%	-35.18%	859	0.3561	0.1073	0.0451	-1.36%	-18.15%	-14.30%	-45.48%	0.0090	0.0344
Event + 4 Year	874	0.4110	0.1458	0.0442	-6.76%	2.89%	-26.70%	-33.30%	868	0.3048	0.0958	0.0428	-14.41%	-10.72%	-26.64%	-51.32%	0.0045	0.0500
Event + 5 Year	862	0.3688	0.1269	0.0440	-10.27%	-12.96%	-34.23%	-41.95%	844	0.3250	0.1106	0.0432	6.63%	15.45%	-21.78%	-43.80%	-0.0018	0.0163

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	805	2.8241	1.4391	0.1565	NA	NA	1.14%	3.72%	984	2.5842	1.6641	0.1164	NA	NA	-11.54%	-4.46%	0.2399	-0.2250
Event - 4 Year	984	0.5701	1.0000	0.0158	2.00%	0.00%	10.42%	0.00%	984	2.3895	1.6513	0.1193	-7.53%	-0.77%	-4.33%	-3.72%	0.0425	-0.2718
Event - 3 Year	984	0.6006	1.0000	0.0156	5.35%	0.00%	16.33%	0.00%	984	2.4165	1.6112	0.1161	1.13%	-2.43%	-5.40%	-1.32%	0.4796***	-0.0741
Event - 2 Year	984	0.6209	1.0000	0.0155	3.38%	0.00%	20.26%	0.00%	983	2.4236	1.5327	0.1199	0.29%	-4.87%	-5.68%	3.73%	0.3855**	-0.1342
Event - 1 Year	984	0.0430	0.0269	0.0016	NA	NA	11.40%	54.65%	984	2.3630	1.5603	0.1206	-2.50%	1.80%	-3.26%	1.90%	0.5414***	-0.1162
Event	984	0.0450	0.0348	0.0016	4.65%	29.37%	6.44%	19.54%	984	2.2860	1.5899	0.1228	-3.26%	1.90%	NA	NA	0.5703***	-0.0973
Event + 1 Year	984	0.0469	0.0378	0.0016	4.22%	8.62%	2.13%	10.05%	983	2.4415	1.7636	0.1214	6.80%	10.93%	6.80%	10.93%	0.2209	-0.4737
Event + 2 Year	984	0.0487	0.0400	0.0017	3.84%	5.82%	-1.64%	4.00%	984	2.4604	1.6970	0.1201	0.77%	-3.78%	7.63%	6.74%	0.03	-0.4547
Event + 3 Year	984	0.0498	0.0429	0.0017	2.26%	7.25%	-3.82%	-3.03%	984	2.2336	1.5579	0.1195	-9.22%	-8.20%	-2.29%	-2.01%	0.4102**	-0.1725
Event + 4 Year	984	0.0479	0.0416	0.0016	-3.82%	-3.03%	NA	NA	984	1.9887	1.5251	0.1127	-10.96%	-2.11%	-13.01%	-4.08%	0.3797**	-0.3538
Event + 5 Year	984	0.0466	0.0362	0.0017	-2.71%	-12.98%	-2.71%	-12.98%	984	2.1168	1.5595	0.1133	6.44%	2.26%	-7.40%	-1.91%	0.0861	-0.2933
Leverage (net)																		
Event - 5 Year	915	0.5230	0.1990	0.0453	NA	NA	7.21%	9.85%	984	0.5368	0.3163	0.0448	NA	NA	-8.59%	-14.29%	-0.0138	-0.1173
Event - 4 Year	924	0.5179	0.1716	0.0464	-0.98%	-13.77%	8.26%	27.39%	984	0.6118	0.3158	0.0455	13.97%	-0.16%	-19.79%	-14.15%	-0.0939	-0.1442
Event - 3 Year	914	0.5084	0.1880	0.0480	-1.83%	9.56%	10.29%	16.28%	984	0.5692	0.2605	0.0451	-6.96%	-17.51%	-13.79%	4.07%	-0.0608	-0.0725
Event - 2 Year	926	0.4872	0.1609	0.0467	-4.17%	-14.41%	15.09%	35.86%	984	0.4541	0.2258	0.0447	-20.22%	-13.32%	8.06%	20.06%	0.0331	-0.0649
Event - 1 Year	939	0.5053	0.1918	0.0453	3.72%	19.20%	10.96%	13.97%	984	0.4221	0.2124	0.0455	-7.05%	-5.93%	16.25%	27.64%	0.0832	-0.0206
Event	902	0.5607	0.2186	0.0487	10.96%	13.97%	NA	NA	984	0.4907	0.2711	0.0462	16.25%	27.64%	NA	NA	0.07	-0.0525
Event + 1 Year	868	0.4683	0.2056	0.0472	-16.48%	-5.95%	-16.48%	-5.95%	984	0.5328	0.3168	0.0466	8.58%	16.86%	8.58%	16.86%	-0.0645	-0.1112
Event + 2 Year	889	0.4102	0.1318	0.0466	-12.41%	-35.89%	-26.84%	-39.71%	984	0.5434	0.2859	0.0447	1.99%	-9.75%	10.74%	5.46%	-0.1332**	-0.1541
Event + 3 Year	869	0.4408	0.1417	0.0477	7.46%	7.51%	-21.38%	-35.18%	984	0.4837	0.2530	0.0438	-10.99%	-11.51%	-1.43%	-6.68%	-0.0429	-0.1113
Event + 4 Year	874	0.4110	0.1458	0.0442	-6.76%	2.89%	-26.70%	-33.30%	984	0.4566	0.2600	0.0402	-5.60%	2.77%	-6.95%	-4.09%	-0.0456	-0.1142
Event + 5 Year	862	0.3688	0.1269	0.0440	-10.27%	-12.96%	-34.23%	-41.95%	984	0.3884	0.2788	0.0404	-14.94%	7.23%	-20.85%	2.84%	-0.0196	-0.1519

Table E.31: Long-term Operating Performance: Capital Expenditure Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Capital Expenditures is defined as (CAPEX / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	864	0.0176	0.0097	0.0007	NA	NA	-19.89%	-26.80%	803	0.0170	0.0089	0.0008	NA	NA	-11.18%	-16.85%	0.0003	0.0008
Event - 4 Year	873	0.0162	0.0084	0.0007	-7.95%	-13.40%	-12.96%	-15.48%	804	0.0172	0.0090	0.0008	1.18%	1.12%	-12.21%	-17.78%	0.0007	-0.0006
Event - 3 Year	884	0.0166	0.0086	0.0007	2.47%	2.38%	-15.06%	-17.44%	822	0.0167	0.0087	0.0008	-2.91%	-3.33%	-9.58%	-14.94%	0.0000	-0.0001
Event - 2 Year	905	0.0154	0.0082	0.0007	-7.23%	-4.65%	-8.44%	-13.41%	842	0.0156	0.0083	0.0007	-6.59%	-4.60%	-3.21%	-10.84%	-0.0001	-0.0001
Event - 1 Year	923	0.0158	0.0083	0.0007	2.60%	1.22%	-10.76%	-14.46%	856	0.0155	0.0076	0.0007	-0.64%	-8.43%	-2.58%	-2.63%	-0.0004	0.0007
Event	890	0.0141	0.0071	0.0007	-10.76%	-14.46%	NA	NA	852	0.0151	0.0074	0.0007	-2.58%	-2.63%	NA	NA	-0.0013**	-0.0003
Event + 1 Year	812	0.0159	0.0083	0.0007	12.77%	16.90%	12.77%	16.90%	815	0.0155	0.0077	0.0008	2.65%	4.05%	2.65%	4.05%	-0.0003	0.0006
Event + 2 Year	838	0.0169	0.0084	0.0008	6.29%	1.20%	19.86%	18.31%	800	0.0150	0.0073	0.0007	-3.23%	-5.19%	-0.66%	-1.35%	-0.0002	0.0011
Event + 3 Year	804	0.0167	0.0093	0.0008	-1.18%	10.71%	18.44%	30.99%	786	0.0156	0.0074	0.0008	4.00%	1.37%	3.31%	0.00%	-0.0009	0.0019
Event + 4 Year	799	0.0184	0.0102	0.0008	10.18%	9.68%	30.50%	43.66%	794	0.0162	0.0077	0.0008	3.85%	4.05%	7.28%	4.05%	-0.0002	0.0025
Event + 5 Year	781	0.0179	0.0100	0.0008	-2.72%	-1.96%	26.95%	40.85%	757	0.0164	0.0089	0.0008	1.23%	15.58%	8.61%	20.27%	0.0003	0.0011

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	864	0.0176	0.0097	0.0007	NA	NA	-19.89%	-26.80%	975	0.0177	0.0142	0.0005	NA	NA	-12.43%	-15.49%	-0.0001	-0.0045
Event - 4 Year	873	0.0162	0.0084	0.0007	-7.95%	-13.40%	-12.96%	-15.48%	978	0.0170	0.0136	0.0005	-3.95%	-4.23%	-8.82%	-11.76%	-0.0008	-0.0052
Event - 3 Year	884	0.0166	0.0086	0.0007	2.47%	2.38%	-15.06%	-17.44%	978	0.0165	0.0130	0.0005	-2.94%	-4.41%	-6.06%	-7.69%	0.0001	-0.0044
Event - 2 Year	905	0.0154	0.0082	0.0007	-7.23%	-4.65%	-8.44%	-13.41%	981	0.0162	0.0128	0.0004	-1.82%	-1.54%	-4.32%	-6.25%	-0.0008	-0.0046
Event - 1 Year	923	0.0158	0.0083	0.0007	2.60%	1.22%	-10.76%	-14.46%	984	0.0159	0.0127	0.0004	-1.85%	-0.78%	-2.52%	-5.51%	-0.0001	-0.0044
Event	890	0.0141	0.0071	0.0007	-10.76%	-14.46%	NA	NA	984	0.0155	0.0120	0.0004	-2.52%	-5.51%	NA	NA	-0.0014*	-0.0049
Event + 1 Year	812	0.0159	0.0083	0.0007	12.77%	16.90%	12.77%	16.90%	977	0.0166	0.0130	0.0005	7.10%	8.33%	7.10%	8.33%	-0.0007	-0.0047
Event + 2 Year	838	0.0169	0.0084	0.0008	6.29%	1.20%	19.86%	18.31%	976	0.0172	0.0139	0.0005	3.61%	6.92%	10.97%	15.83%	-0.0003	-0.0055
Event + 3 Year	804	0.0167	0.0093	0.0008	-1.18%	10.71%	18.44%	30.99%	973	0.0175	0.0148	0.0005	1.74%	6.47%	12.90%	23.33%	-0.0008	-0.0055
Event + 4 Year	799	0.0184	0.0102	0.0008	10.18%	9.68%	30.50%	43.66%	974	0.0183	0.0165	0.0005	4.57%	11.49%	18.06%	37.50%	0.0001	-0.0063
Event + 5 Year	781	0.0179	0.0100	0.0008	-2.72%	-1.96%	26.95%	40.85%	974	0.0183	0.0164	0.0005	0.00%	-0.61%	18.06%	36.67%	-0.0004	-0.0064

Table E.32: Long-term Operating Performance: Dividend Yield and Share Repurchase Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Dividend Yield is defined as (Common Dividend / Market Capitalization) and Share Repurchase is the annualized share repurchase activity. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	722	1.4861	0.0000	0.0848	NA	NA	-2.63%	NA	797	1.3831	0.0000	0.0777	NA	NA	11.42%	NA	-0.1837**	0.0000
Event - 4 Year	719	1.5395	0.0000	0.0868	3.59%	NA	-6.01%	NA	801	1.4684	0.0000	0.0795	6.17%	NA	4.94%	NA	-0.2032***	0.0000
Event - 3 Year	717	1.5448	0.0000	0.0868	0.34%	NA	-6.33%	NA	803	1.5367	0.0000	0.0826	4.65%	NA	0.28%	NA	-0.2026***	0.0000
Event - 2 Year	716	1.5574	0.0000	0.0874	0.82%	NA	-7.09%	NA	803	1.4882	0.0000	0.0777	-3.16%	NA	3.55%	NA	-0.1635**	0.0000
Event - 1 Year	713	1.5904	0.0000	0.0888	2.12%	NA	-9.02%	NA	802	1.5191	0.1850	0.0779	2.08%	NA	1.44%	-72.97%	-0.2055***	-0.1850
Event	715	1.4470	0.0000	0.0842	-9.02%	NA	NA	NA	809	1.5410	0.0500	0.0793	1.44%	-72.97%	NA	NA	-0.2292***	-0.0500
Event + 1 Year	689	1.3958	0.0000	0.0872	-3.54%	NA	-3.54%	NA	765	1.4176	0.0000	0.0791	-8.01%	NA	-8.01%	-100.00%	-0.1620**	0.0000
Event + 2 Year	681	1.3871	0.0000	0.0878	-0.62%	NA	-4.14%	NA	737	1.4030	0.0000	0.0805	-1.03%	NA	-8.96%	-100.00%	-0.1166	0.0000
Event + 3 Year	651	1.2842	0.0000	0.0871	-7.42%	NA	-11.25%	NA	692	1.3875	0.0000	0.0847	-1.10%	NA	-9.96%	-100.00%	-0.1518*	0.0000
Event + 4 Year	634	1.2792	0.0000	0.0918	-0.39%	NA	-11.60%	NA	663	1.4466	0.0000	0.0906	4.26%	NA	-6.13%	-100.00%	-0.0341	0.0000
Event + 5 Year	602	1.3730	0.0000	0.0958	7.33%	NA	-5.11%	NA	637	1.4623	0.0000	0.0905	1.09%	NA	-5.11%	-100.00%	-0.0818	0.0000
Share Repurchase																		
Event - 5 Year	953	0.0036	0.0000	0.0003	NA	NA	61.11%	NA	898	0.0040	0.0000	0.0004	NA	NA	65.00%	NA	0.0003	0.0000
Event - 4 Year	952	0.0042	0.0000	0.0003	16.67%	NA	38.10%	NA	898	0.0044	0.0000	0.0004	10.00%	NA	50.00%	NA	0.0001	0.0000
Event - 3 Year	955	0.0046	0.0000	0.0003	9.52%	NA	26.09%	NA	900	0.0049	0.0000	0.0004	11.36%	NA	34.69%	NA	0.0004	0.0000
Event - 2 Year	961	0.0055	0.0000	0.0004	19.57%	NA	5.45%	NA	914	0.0052	0.0000	0.0004	6.12%	NA	26.92%	NA	0.0005	0.0000
Event - 1 Year	971	0.0061	0.0000	0.0004	10.91%	NA	-4.92%	NA	922	0.0060	0.0000	0.0004	15.38%	NA	10.00%	NA	0.0003	0.0000
Event	941	0.0058	0.0000	0.0004	-4.92%	NA	NA	NA	926	0.0066	0.0000	0.0004	10.00%	NA	NA	NA	-0.0007*	0.0000
Event + 1 Year	873	0.0056	0.0000	0.0004	-3.45%	NA	-3.45%	NA	889	0.0057	0.0000	0.0004	-13.64%	NA	-13.64%	NA	0.0002	0.0000
Event + 2 Year	909	0.0053	0.0000	0.0004	-5.36%	NA	-8.62%	NA	887	0.0058	0.0000	0.0004	1.75%	NA	-12.12%	NA	-0.0007**	0.0000
Event + 3 Year	884	0.0044	0.0000	0.0004	-16.98%	NA	-24.14%	NA	869	0.0048	0.0000	0.0004	-17.24%	NA	-27.27%	NA	-0.0004	0.0000
Event + 4 Year	901	0.0041	0.0000	0.0004	-6.82%	NA	-29.31%	NA	889	0.0042	0.0000	0.0004	-12.50%	NA	-36.36%	NA	-0.0008***	0.0000
Event + 5 Year	896	0.0039	0.0000	0.0004	-4.88%	NA	-32.76%	NA	867	0.0039	0.0000	0.0004	-7.14%	NA	-40.91%	NA	-0.0007**	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	722	1.4861	0.0000	0.0848	NA	NA	-2.63%	NA	981	1.5144	0.8232	0.0576	NA	NA	7.25%	19.16%	-0.0283	-0.8232
Event - 4 Year	719	1.5395	0.0000	0.0868	3.59%	NA	-6.01%	NA	981	1.5277	0.8668	0.0569	0.88%	5.30%	6.32%	13.16%	0.0118	-0.8668
Event - 3 Year	717	1.5448	0.0000	0.0868	0.34%	NA	-6.33%	NA	980	1.5559	0.8737	0.0582	1.85%	0.80%	4.39%	12.27%	-0.0111	-0.8737
Event - 2 Year	716	1.5574	0.0000	0.0874	0.82%	NA	-7.09%	NA	980	1.5595	0.9067	0.0585	0.23%	3.78%	4.15%	8.18%	-0.0021	-0.9067
Event - 1 Year	713	1.5904	0.0000	0.0888	2.12%	NA	-9.02%	NA	980	1.6065	0.9555	0.0577	3.01%	5.38%	1.10%	2.66%	-0.0161	-0.9555
Event	715	1.4470	0.0000	0.0842	-9.02%	NA	NA	NA	980	1.6242	0.9809	0.0561	1.10%	2.66%	NA	NA	-0.1772*	-0.9809
Event + 1 Year	689	1.3958	0.0000	0.0872	-3.54%	NA	-3.54%	NA	966	1.4862	0.8506	0.0549	-8.50%	-13.28%	-8.50%	-13.28%	-0.0904	-0.8506
Event + 2 Year	681	1.3871	0.0000	0.0878	-0.62%	NA	-4.14%	NA	963	1.3564	0.7559	0.0523	-8.73%	-11.13%	-16.49%	-22.94%	0.0307	-0.7559
Event + 3 Year	651	1.2842	0.0000	0.0871	-7.42%	NA	-11.25%	NA	955	1.2733	0.6919	0.0514	-6.13%	-8.47%	-21.60%	-29.46%	0.0109	-0.6919
Event + 4 Year	634	1.2792	0.0000	0.0918	-0.39%	NA	-11.60%	NA	952	1.2473	0.6570	0.0516	-2.04%	-5.04%	-23.21%	-33.02%	0.0319	-0.6570
Event + 5 Year	602	1.3730	0.0000	0.0958	7.33%	NA	-5.11%	NA	950	1.2592	0.6570	0.0525	0.95%	0.00%	-22.47%	-33.02%	0.1138	-0.6570
Share Repurchase																		
Event - 5 Year	953	0.0036	0.0000	0.0003	NA	NA	61.11%	NA	984	0.0057	0.0017	0.0002	NA	NA	73.68%	411.76%	-0.0021***	-0.0017
Event - 4 Year	952	0.0042	0.0000	0.0003	16.67%	NA	38.10%	NA	984	0.0066	0.0035	0.0003	15.79%	105.88%	50.00%	148.57%	-0.0024***	-0.0035
Event - 3 Year	955	0.0046	0.0000	0.0003	9.52%	NA	26.09%	NA	984	0.0074	0.0055	0.0002	12.12%	57.14%	33.78%	58.18%	-0.0028***	-0.0055
Event - 2 Year	961	0.0055	0.0000	0.0004	19.57%	NA	5.45%	NA	984	0.0084	0.0067	0.0002	13.51%	21.82%	17.86%	29.85%	-0.0029***	-0.0067
Event - 1 Year	971	0.0061	0.0000	0.0004	10.91%	NA	-4.92%	NA	984	0.0095	0.0085	0.0002	13.10%	26.87%	4.21%	2.35%	-0.0034***	-0.0085
Event	941	0.0058	0.0000	0.0004	-4.92%	NA	NA	NA	984	0.0099	0.0087	0.0003	4.21%	2.35%	NA	NA	-0.0041***	-0.0087
Event + 1 Year	873	0.0056	0.0000	0.0004	-3.45%	NA	-3.45%	NA	982	0.0079	0.0052	0.0003	-20.20%	-40.23%	-20.20%	-40.23%	-0.0023***	-0.0052
Event + 2 Year	909	0.0053	0.0000	0.0004	-5.36%	NA	-8.62%	NA	984	0.0069	0.0036	0.0002	-12.66%	-30.77%	-30.30%	-58.62%	-0.0016***	-0.0036
Event + 3 Year	884	0.0044	0.0000	0.0004	-16.98%	NA	-24.14%	NA	982	0.0061	0.0022	0.0002	-11.59%	-38.89%	-38.38%	-74.71%	-0.0017***	-0.0022
Event + 4 Year	901	0.0041	0.0000	0.0004	-6.82%	NA	-29.31%	NA	984	0.0054	0.0008	0.0002	-11.48%	-63.64%	-45.45%	-90.80%	-0.0013***	-0.0008
Event + 5 Year	896	0.0039	0.0000	0.0004	-4.88%	NA	-32.76%	NA	983	0.0050	0.0000	0.0002	-7.41%	NA#	-49.49%	-100.00%	-0.0011**	0.0000

Table E.33: Long-term Operating Performance: EPS Estimates and Research Analyst Recommendations Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EPS Estimate Miss is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S and Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	629	0.3768	0.0000	0.0193	NA	NA	26.33%	NA	580	0.4017	0.0000	0.0204	NA	NA	1.05%	NA	0.0144	0.0000
Event - 4 Year	639	0.4304	0.0000	0.0196	14.23%	NA	10.59%	NA	580	0.4500	0.0000	0.0207	12.02%	NA	-9.80%	NA	-0.0011	0.0000
Event - 3 Year	663	0.4208	0.0000	0.0192	-2.23%	NA	13.12%	NA	590	0.4407	0.0000	0.0205	-2.07%	NA	-7.90%	NA	0.0257	0.0000
Event - 2 Year	678	0.4159	0.0000	0.0189	-1.16%	NA	14.45%	NA	604	0.4007	0.0000	0.0200	-9.08%	NA	1.30%	NA	0.0513***	0.0000
Event - 1 Year	699	0.4649	0.0000	0.0189	11.78%	NA	2.39%	NA	614	0.3925	0.0000	0.0197	-2.05%	NA	3.41%	NA	0.0763***	0.0000
Event	708	0.4760	0.0000	0.0188	2.39%	NA	NA	NA	648	0.4059	0.0000	0.0193	3.41%	NA	NA	NA	0.1071***	0.0000
Event + 1 Year	606	0.3894	0.0000	0.0198	-18.19%	NA	-18.19%	NA	613	0.4290	0.0000	0.0200	5.69%	NA	5.69%	NA	0.0259	0.0000
Event + 2 Year	575	0.3826	0.0000	0.0203	-1.75%	NA	-19.62%	NA	598	0.4247	0.0000	0.0202	-1.00%	NA	4.63%	NA	-0.0044	0.0000
Event + 3 Year	566	0.4293	0.0000	0.0208	12.21%	NA	-9.81%	NA	574	0.4704	0.0000	0.0209	10.76%	NA	15.89%	NA	-0.0073	0.0000
Event + 4 Year	576	0.4288	0.0000	0.0206	-0.12%	NA	-9.92%	NA	548	0.4179	0.0000	0.0211	-11.16%	NA	2.96%	NA	0.0399**	0.0000
Event + 5 Year	583	0.4408	0.0000	0.0206	2.80%	NA	-7.39%	NA	543	0.4033	0.0000	0.0211	-3.49%	NA	-0.64%	NA	-0.0067	0.0000
Analyst Sell Recommendation																		
Event - 5 Year	984	0.3222	0.0000	0.0149	NA	NA	35.63%	NA	986	0.3012	0.0000	0.0146	NA	NA	19.52%	NA	0.0155	0.0000
Event - 4 Year	984	0.3283	0.0000	0.0150	1.89%	NA	33.11%	NA	986	0.3032	0.0000	0.0146	0.66%	NA	18.73%	NA	0.0439***	0.0000
Event - 3 Year	984	0.3476	0.0000	0.0152	5.88%	NA	25.72%	NA	986	0.3215	0.0000	0.0149	6.04%	NA	11.98%	NA	0.0158	0.0000
Event - 2 Year	984	0.3740	0.0000	0.0154	7.59%	NA	16.84%	NA	986	0.3316	0.0000	0.0150	3.14%	NA	8.56%	NA	0.0058	0.0000
Event - 1 Year	984	0.3801	0.0000	0.0155	1.63%	NA	14.97%	NA	986	0.3682	0.0000	0.0154	11.04%	NA	-2.23%	NA	0.0392***	0.0000
Event	984	0.4370	0.0000	0.0158	14.97%	NA	NA	NA	986	0.3600	0.0000	0.0153	-2.23%	NA	NA	NA	0.0947***	0.0000
Event + 1 Year	984	0.3222	0.0000	0.0149	-26.27%	NA	-26.27%	NA	986	0.3316	0.0000	0.0150	-7.89%	NA	-7.89%	NA	0.0012	0.0000
Event + 2 Year	984	0.2632	0.0000	0.0140	-18.31%	NA	-39.77%	NA	986	0.3103	0.0000	0.0147	-6.42%	NA	-13.81%	NA	-0.0207*	0.0000
Event + 3 Year	984	0.2652	0.0000	0.0141	0.76%	NA	-39.31%	NA	986	0.2708	0.0000	0.0142	-12.73%	NA	-24.78%	NA	-0.0441***	0.0000
Event + 4 Year	984	0.2409	0.0000	0.0136	-9.16%	NA	-44.87%	NA	986	0.2424	0.0000	0.0137	-10.49%	NA	-32.67%	NA	-0.0325***	0.0000
Event + 5 Year	984	0.2470	0.0000	0.0138	2.53%	NA	-43.48%	NA	986	0.2373	0.0000	0.0136	-2.10%	NA	-34.08%	NA	-0.0026	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	629	0.3768	0.0000	0.0193	NA	NA	26.33%	NA	983	0.4299	0.4319	0.0037	NA	NA	0.58%	-0.09%	-0.0531***	-0.4319
Event - 4 Year	639	0.4304	0.0000	0.0196	14.23%	NA	10.59%	NA	984	0.4276	0.4272	0.0036	-0.54%	-1.09%	1.12%	1.01%	0.0028	-0.4272
Event - 3 Year	663	0.4208	0.0000	0.0192	-2.23%	NA	13.12%	NA	983	0.4286	0.4283	0.0038	0.23%	0.26%	0.89%	0.75%	-0.0078	-0.4283
Event - 2 Year	678	0.4159	0.0000	0.0189	-1.16%	NA	14.45%	NA	983	0.4308	0.4326	0.0038	0.51%	1.00%	0.37%	-0.25%	-0.0149	-0.4326
Event - 1 Year	699	0.4649	0.0000	0.0189	11.78%	NA	2.39%	NA	984	0.4267	0.4270	0.0038	-0.95%	-1.29%	1.34%	1.05%	0.0382**	-0.4270
Event	708	0.4760	0.0000	0.0188	2.39%	NA	NA	NA	983	0.4324	0.4315	0.0037	1.34%	1.05%	NA	NA	0.0436***	-0.4315
Event + 1 Year	606	0.3894	0.0000	0.0198	-18.19%	NA	-18.19%	NA	984	0.4267	0.4270	0.0038	-1.32%	-1.04%	-1.32%	-1.04%	-0.0373**	-0.4270
Event + 2 Year	575	0.3826	0.0000	0.0203	-1.75%	NA	-19.62%	NA	983	0.4308	0.4326	0.0038	0.96%	1.31%	-0.37%	0.25%	-0.0482***	-0.4326
Event + 3 Year	566	0.4293	0.0000	0.0208	12.21%	NA	-9.81%	NA	983	0.4286	0.4283	0.0038	-0.51%	-0.99%	-0.88%	-0.74%	0.0007	-0.4283
Event + 4 Year	576	0.4288	0.0000	0.0206	-0.12%	NA	-9.92%	NA	984	0.4276	0.4272	0.0036	-0.23%	-0.26%	-1.11%	-1.00%	0.0012	-0.4272
Event + 5 Year	583	0.4408	0.0000	0.0206	2.80%	NA	-7.39%	NA	983	0.4299	0.4319	0.0037	0.54%	1.10%	-0.58%	0.09%	0.0109	-0.4319
Analyst Sell Recommendation																		
Event - 5 Year	984	0.3222	0.0000	0.0149	NA	NA	35.63%	NA	984	0.3171	0.3147	0.0047	NA	NA	17.41%	16.24%	0.0051	-0.3147
Event - 4 Year	984	0.3283	0.0000	0.0150	1.89%	NA	33.11%	NA	984	0.3280	0.3255	0.0045	3.44%	3.43%	13.51%	12.38%	0.0003	-0.3255
Event - 3 Year	984	0.3476	0.0000	0.0152	5.88%	NA	25.72%	NA	984	0.3406	0.3318	0.0044	3.84%	1.94%	9.31%	10.25%	0.007	-0.3318
Event - 2 Year	984	0.3740	0.0000	0.0154	7.59%	NA	16.84%	NA	984	0.3537	0.3458	0.0043	3.85%	4.22%	5.26%	5.78%	0.0203	-0.3458
Event - 1 Year	984	0.3801	0.0000	0.0155	1.63%	NA	14.97%	NA	984	0.3640	0.3522	0.0044	2.91%	1.85%	2.28%	3.86%	0.0161	-0.3522
Event	984	0.4370	0.0000	0.0158	14.97%	NA	NA	NA	984	0.3723	0.3658	0.0043	2.28%	3.86%	NA	NA	0.0647***	-0.3658
Event + 1 Year	984	0.3222	0.0000	0.0149	-26.27%	NA	-26.27%	NA	984	0.3210	0.3324	0.0055	-13.78%	-9.13%	-13.78%	-9.13%	0.0012	-0.3324
Event + 2 Year	984	0.2632	0.0000	0.0140	-18.31%	NA	-39.77%	NA	984	0.2892	0.3060	0.0057	-9.91%	-7.94%	-22.32%	-16.35%	-0.026*	-0.3060
Event + 3 Year	984	0.2652	0.0000	0.0141	0.76%	NA	-39.31%	NA	984	0.2664	0.2779	0.0057	-7.88%	-9.18%	-28.44%	-24.03%	-0.0012	-0.2779
Event + 4 Year	984	0.2409	0.0000	0.0136	-9.16%	NA	-44.87%	NA	984	0.2522	0.2610	0.0056	-5.33%	-6.08%	-32.26%	-28.65%	-0.0113	-0.2610
Event + 5 Year	984	0.2470	0.0000	0.0138	2.53%	NA	-43.48%	NA	984	0.2433	0.2441	0.0054	-3.53%	-6.48%	-34.65%	-33.27%	0.0037	-0.2441

Table E.34: Long-term Operating Performance: Multiple Business Segments and Herfindahl-Hirschman Index Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event and Herfindahl-Hirschman Index is a measure of the size of Target Firm in relation to the industry and an indicator of the amount of competition among them. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	984	0.1596	0.0000	0.0117	NA	NA	20.36%	NA	986	0.1450	0.0000	0.0112	NA	NA	27.31%	NA	0.0305***	0.0000
Event - 4 Year	984	0.1677	0.0000	0.0119	5.08%	NA	14.55%	NA	986	0.1531	0.0000	0.0115	5.59%	NA	20.57%	NA	0.0327***	0.0000
Event - 3 Year	984	0.1758	0.0000	0.0121	4.83%	NA	9.27%	NA	986	0.1673	0.0000	0.0119	9.27%	NA	10.34%	NA	0.0293***	0.0000
Event - 2 Year	984	0.1870	0.0000	0.0124	6.37%	NA	2.73%	NA	986	0.1724	0.0000	0.0120	3.05%	NA	7.08%	NA	0.0268***	0.0000
Event - 1 Year	984	0.1890	0.0000	0.0125	1.07%	NA	1.64%	NA	986	0.1765	0.0000	0.0121	2.38%	NA	4.59%	NA	0.0296***	0.0000
Event	984	0.1921	0.0000	0.0126	1.64%	NA	NA	NA	986	0.1846	0.0000	0.0124	4.59%	NA	NA	NA	0.0311***	0.0000
Event + 1 Year	984	0.1514	0.0000	0.0114	-21.19%	NA	-21.19%	NA	986	0.1643	0.0000	0.0118	-11.00%	NA	-11.00%	NA	0.0121	0.0000
Event + 2 Year	984	0.1331	0.0000	0.0108	-12.09%	NA	-30.71%	NA	986	0.1511	0.0000	0.0114	-8.03%	NA	-18.15%	NA	0.0025	0.0000
Event + 3 Year	984	0.1189	0.0000	0.0103	-10.67%	NA	-38.11%	NA	986	0.1268	0.0000	0.0106	-16.08%	NA	-31.31%	NA	0.0050	0.0000
Event + 4 Year	984	0.1118	0.0000	0.0101	-5.97%	NA	-41.80%	NA	986	0.1187	0.0000	0.0103	-6.39%	NA	-35.70%	NA	0.0003	0.0000
Event + 5 Year	984	0.1077	0.0000	0.0099	-3.67%	NA	-43.94%	NA	986	0.1116	0.0000	0.0100	-5.98%	NA	-39.54%	NA	0.0034	0.0000
Herfindahl-Hirschman Index																		
Event - 5 Year	984	0.0765	0.0506	0.0042	NA	NA	0.78%	1.58%	986	0.0815	0.0523	0.0047	NA	NA	-5.40%	-1.72%	-0.0062	-0.0017
Event - 4 Year	984	0.0742	0.0514	0.0039	-3.01%	1.58%	3.91%	0.00%	986	0.0733	0.0518	0.0039	-10.06%	-0.96%	5.18%	-0.77%	-0.0065	-0.0004
Event - 3 Year	984	0.0679	0.0519	0.0032	-8.49%	0.97%	13.55%	-0.96%	986	0.0729	0.0518	0.0039	-0.55%	0.00%	5.76%	-0.77%	0.0003	0.0001
Event - 2 Year	984	0.0725	0.0518	0.0038	6.77%	-0.19%	6.34%	-0.77%	986	0.0708	0.0514	0.0035	-2.88%	-0.77%	8.90%	0.00%	-0.0035	0.0004
Event - 1 Year	984	0.0658	0.0515	0.0026	-9.24%	-0.58%	17.17%	-0.19%	986	0.0702	0.0515	0.0033	-0.85%	0.19%	9.83%	-0.19%	-0.0014	0.0000
Event	984	0.0771	0.0514	0.0043	17.17%	-0.19%	NA	NA	986	0.0771	0.0514	0.0043	9.83%	-0.19%	NA	NA	0.0000	0.0000
Event + 1 Year	984	0.0852	0.0520	0.0049	10.51%	1.17%	10.51%	1.17%	986	0.0821	0.0521	0.0046	6.49%	1.36%	6.49%	1.36%	-0.0007	-0.0001
Event + 2 Year	984	0.0805	0.0518	0.0044	-5.52%	-0.38%	4.41%	0.78%	986	0.0871	0.0526	0.0050	6.09%	0.96%	12.97%	2.33%	-0.0071	-0.0008
Event + 3 Year	984	0.0867	0.0517	0.0048	7.70%	-0.19%	12.45%	0.58%	986	0.0864	0.0519	0.0049	-0.80%	-1.33%	12.06%	0.97%	-0.0112**	-0.0002
Event + 4 Year	984	0.0880	0.0516	0.0049	1.50%	-0.19%	14.14%	0.39%	986	0.0879	0.0520	0.0050	1.74%	0.19%	14.01%	1.17%	-0.0116**	-0.0004
Event + 5 Year	984	0.0890	0.0530	0.0048	1.14%	2.71%	15.43%	3.11%	986	0.0910	0.0518	0.0052	3.53%	-0.38%	18.03%	0.78%	-0.0112**	0.0012

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	984	0.1596	0.0000	0.0117	NA	NA	20.36%	NA	984	0.1490	0.1319	0.0037	NA	NA	4.16%	2.35%	0.0106	-0.1319
Event - 4 Year	984	0.1677	0.0000	0.0119	5.08%	NA	14.55%	NA	984	0.1499	0.1340	0.0037	0.60%	1.59%	3.54%	0.75%	0.0178	-0.1340
Event - 3 Year	984	0.1758	0.0000	0.0121	4.83%	NA	9.27%	NA	984	0.1521	0.1357	0.0038	1.47%	1.27%	2.04%	-0.52%	0.0237*	-0.1357
Event - 2 Year	984	0.1870	0.0000	0.0124	6.37%	NA	2.73%	NA	984	0.1552	0.1357	0.0038	2.04%	0.00%	0.00%	-0.52%	0.0318**	-0.1357
Event - 1 Year	984	0.1890	0.0000	0.0125	1.07%	NA	1.64%	NA	984	0.1565	0.1378	0.0038	0.84%	1.55%	-0.83%	-2.03%	0.0325**	-0.1378
Event	984	0.1921	0.0000	0.0126	1.64%	NA	NA	NA	984	0.1552	0.1350	0.0039	-0.83%	-2.03%	NA	NA	0.0369***	-0.1350
Event + 1 Year	984	0.1514	0.0000	0.0114	-21.19%	NA	-21.19%	NA	984	0.1387	0.1177	0.0038	-10.63%	-12.81%	-10.63%	-12.81%	0.0127	-0.1177
Event + 2 Year	984	0.1331	0.0000	0.0108	-12.09%	NA	-30.71%	NA	984	0.1310	0.1071	0.0037	-5.55%	-9.01%	-15.59%	-20.67%	0.0021	-0.1071
Event + 3 Year	984	0.1189	0.0000	0.0103	-10.67%	NA	-38.11%	NA	984	0.1209	0.0995	0.0035	-7.71%	-7.10%	-22.10%	-26.30%	-0.002	-0.0995
Event + 4 Year	984	0.1118	0.0000	0.0101	-5.97%	NA	-41.80%	NA	984	0.1173	0.0999	0.0033	-2.98%	0.40%	-24.42%	-26.00%	-0.0055	-0.0999
Event + 5 Year	984	0.1077	0.0000	0.0099	-3.67%	NA	-43.94%	NA	984	0.1141	0.0947	0.0032	-2.73%	-5.21%	-26.48%	-29.85%	-0.0064	-0.0947
Herfindahl-Hirschman Index																		
Event - 5 Year	984	0.0765	0.0506	0.0042	NA	NA	0.78%	1.58%	984	0.0872	0.0550	0.0044	NA	NA	-13.53%	-5.64%	-0.0107*	-0.0044
Event - 4 Year	984	0.0742	0.0514	0.0039	-3.01%	1.58%	3.91%	0.00%	984	0.0873	0.0528	0.0045	0.11%	-4.00%	-13.63%	-1.70%	-0.0131**	-0.0014
Event - 3 Year	984	0.0679	0.0519	0.0032	-8.49%	0.97%	13.55%	-0.96%	984	0.0848	0.0530	0.0045	-2.86%	0.38%	-11.08%	-2.08%	-0.0169***	-0.0011
Event - 2 Year	984	0.0725	0.0518	0.0038	6.77%	-0.19%	6.34%	-0.77%	984	0.0850	0.0529	0.0046	0.24%	-0.19%	-11.29%	-1.89%	-0.0125**	-0.0011
Event - 1 Year	984	0.0658	0.0515	0.0026	-9.24%	-0.58%	17.17%	-0.19%	984	0.0843	0.0527	0.0046	-0.82%	-0.38%	-10.56%	-1.52%	-0.0185***	-0.0012
Event	984	0.0771	0.0514	0.0043	17.17%	-0.19%	NA	NA	984	0.0754	0.0519	0.0039	-10.56%	-1.52%	NA	NA	0.0017	-0.0005
Event + 1 Year	984	0.0852	0.0520	0.0049	10.51%	1.17%	10.51%	1.17%	984	0.0843	0.0527	0.0046	11.80%	1.54%	11.80%	1.54%	0.0009	-0.0007
Event + 2 Year	984	0.0805	0.0518	0.0044	-5.52%	-0.38%	4.41%	0.78%	984	0.0850	0.0529	0.0046	0.83%	0.38%	12.73%	1.93%	-0.0045	-0.0011
Event + 3 Year	984	0.0867	0.0517	0.0048	7.70%	-0.19%	12.45%	0.58%	984	0.0848	0.0530	0.0045	-0.24%	0.19%	12.47%	2.12%	0.0019	-0.0013
Event + 4 Year	984	0.0880	0.0516	0.0049	1.50%	-0.19%	14.14%	0.39%	984	0.0873	0.0528	0.0045	2.95%	-0.38%	15.78%	1.73%	0.0007	-0.0012
Event + 5 Year	984	0.0890	0.0530	0.0048	1.14%	2.71%	15.43%	3.11%	984	0.0872	0.0550	0.0044	-0.11%	4.17%	15.65%	5.97%	0.0018	-0.0020

Table E.35: Corporate Governance: 13D Filings Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	984	0.0234	0.0000	0.0048	NA	NA	872.65%	NA	986	0.0213	0.0000	0.0046	NA	NA	4.69%	NA	0.0025	0.0000
Event - 4 Year	984	0.0264	0.0000	0.0051	12.82%	NA	762.12%	NA	986	0.0193	0.0000	0.0044	-9.39%	NA	15.54%	NA	0.0062	0.0000
Event - 3 Year	984	0.0325	0.0000	0.0057	23.11%	NA	600.31%	NA	986	0.0304	0.0000	0.0055	57.51%	NA	-26.64%	NA	0.0025	0.0000
Event - 2 Year	984	0.0356	0.0000	0.0059	9.54%	NA	539.33%	NA	986	0.0294	0.0000	0.0054	-3.29%	NA	-24.15%	NA	0.0031	0.0000
Event - 1 Year	984	0.0417	0.0000	0.0064	17.13%	NA	445.80%	NA	986	0.0243	0.0000	0.0049	-17.35%	NA	-8.23%	NA	0.0184***	0.0000
Event	984	0.2276	0.0000	0.0134	445.80%	NA	NA	NA	986	0.0223	0.0000	0.0047	-8.23%	NA	NA	NA	0.3603***	0.0000
Event + 1 Year	984	0.0335	0.0000	0.0057	-85.28%	NA	-85.28%	NA	986	0.0345	0.0000	0.0058	54.71%	NA	54.71%	NA	0.0037	0.0000
Event + 2 Year	984	0.0285	0.0000	0.0053	-14.93%	NA	-87.48%	NA	986	0.0213	0.0000	0.0046	-38.26%	NA	-4.48%	NA	0.0016	0.0000
Event + 3 Year	984	0.0295	0.0000	0.0054	3.51%	NA	-87.04%	NA	986	0.0213	0.0000	0.0046	0.00%	NA	-4.48%	NA	0.0028	0.0000
Event + 4 Year	984	0.0244	0.0000	0.0049	-17.29%	NA	-89.28%	NA	986	0.0152	0.0000	0.0039	-28.64%	NA	-31.84%	NA	0.0037	0.0000
Event + 5 Year	984	0.0132	0.0000	0.0036	-45.90%	NA	-94.20%	NA	986	0.0223	0.0000	0.0047	46.71%	NA	0.00%	NA	-0.0006	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	984	0.0234	0.0000	0.0048	NA	NA	872.65%	NA	984	0.0168	0.0154	0.0004	NA	NA	41.07%	54.55%	0.0066	-0.0154
Event - 4 Year	984	0.0264	0.0000	0.0051	12.82%	NA	762.12%	NA	984	0.0185	0.0165	0.0004	10.12%	7.14%	28.11%	44.24%	0.0079	-0.0165
Event - 3 Year	984	0.0325	0.0000	0.0057	23.11%	NA	600.31%	NA	984	0.0192	0.0176	0.0005	3.78%	6.67%	23.44%	35.23%	0.0133**	-0.0176
Event - 2 Year	984	0.0356	0.0000	0.0059	9.54%	NA	539.33%	NA	984	0.0200	0.0184	0.0005	4.17%	4.55%	18.50%	29.35%	0.0156***	-0.0184
Event - 1 Year	984	0.0417	0.0000	0.0064	17.13%	NA	445.80%	NA	984	0.0214	0.0198	0.0005	7.00%	7.61%	10.75%	20.20%	0.0203***	-0.0198
Event	984	0.2276	0.0000	0.0134	445.80%	NA	NA	NA	984	0.0237	0.0238	0.0005	10.75%	20.20%	NA	NA	0.2039***	-0.0238
Event + 1 Year	984	0.0335	0.0000	0.0057	-85.28%	NA	-85.28%	NA	984	0.0193	0.0178	0.0005	-18.57%	-25.21%	-18.57%	-25.21%	0.0142**	-0.0178
Event + 2 Year	984	0.0285	0.0000	0.0053	-14.93%	NA	-87.48%	NA	984	0.0171	0.0144	0.0005	-11.40%	-19.10%	-27.85%	-39.50%	0.0114**	-0.0144
Event + 3 Year	984	0.0295	0.0000	0.0054	3.51%	NA	-87.04%	NA	984	0.0161	0.0127	0.0005	-5.85%	-11.81%	-32.07%	-46.64%	0.0134**	-0.0127
Event + 4 Year	984	0.0244	0.0000	0.0049	-17.29%	NA	-89.28%	NA	984	0.0150	0.0107	0.0005	-6.83%	-15.75%	-36.71%	-55.04%	0.0094*	-0.0107
Event + 5 Year	984	0.0132	0.0000	0.0036	-45.90%	NA	-94.20%	NA	984	0.0143	0.0099	0.0005	-4.67%	-7.48%	-39.66%	-58.40%	-0.0011	-0.0099

Table E.36: Corporate Governance: Classified Board and Poison Pill Ex Ante and Ex Post Non-Hedge Fund Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Classified Board is a dummy variable if the firm had a staggered board prior to the even and Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	984	0.1606	0.0000	0.0117	NA	NA	142.34%	NA	986	0.1643	0.0000	0.0118	NA	NA	-12.96%	NA	0.0112	0.0000
Event - 4 Year	984	0.1626	0.0000	0.0118	1.25%	NA	139.36%	NA	986	0.1663	0.0000	0.0119	1.22%	NA	-14.01%	NA	0.0062	0.0000
Event - 3 Year	984	0.1636	0.0000	0.0118	0.62%	NA	137.90%	NA	986	0.1623	0.0000	0.0117	-2.41%	NA	-11.89%	NA	0.0096	0.0000
Event - 2 Year	984	0.1596	0.0000	0.0117	-2.44%	NA	143.86%	NA	986	0.1511	0.0000	0.0114	-6.90%	NA	-5.36%	NA	0.0046	0.0000
Event - 1 Year	984	0.1514	0.0000	0.0114	-5.14%	NA	157.07%	NA	986	0.1531	0.0000	0.0115	1.32%	NA	-6.60%	NA	0.0000	0.0000
Event	984	0.3892	0.0000	0.0156	157.07%	NA	NA	NA	986	0.1430	0.0000	0.0112	-6.60%	NA	NA	NA	0.3571***	0.0000
Event + 1 Year	984	0.1057	0.0000	0.0098	-72.84%	NA	-72.84%	NA	986	0.1359	0.0000	0.0109	-4.97%	NA	-4.97%	NA	-0.0138*	0.0000
Event + 2 Year	984	0.0894	0.0000	0.0091	-15.42%	NA	-77.03%	NA	986	0.1217	0.0000	0.0104	-10.45%	NA	-14.90%	NA	-0.0241***	0.0000
Event + 3 Year	984	0.0711	0.0000	0.0082	-20.47%	NA	-81.73%	NA	986	0.1105	0.0000	0.0100	-9.20%	NA	-22.73%	NA	-0.0297***	0.0000
Event + 4 Year	984	0.0681	0.0000	0.0080	-4.22%	NA	-82.50%	NA	986	0.1014	0.0000	0.0096	-8.24%	NA	-29.09%	NA	-0.0231***	0.0000
Event + 5 Year	984	0.0661	0.0000	0.0079	-2.94%	NA	-83.02%	NA	986	0.0892	0.0000	0.0091	-12.03%	NA	-37.62%	NA	-0.0162**	0.0000
Poison Pill																		
Event - 5 Year	984	0.1514	0.0000	0.0114	NA	NA	18.16%	NA	986	0.1572	0.0000	0.0116	NA	NA	-14.19%	NA	0.0355***	0.0000
Event - 4 Year	984	0.1484	0.0000	0.0113	-1.98%	NA	20.55%	NA	986	0.1511	0.0000	0.0114	-3.88%	NA	-10.72%	NA	0.0402***	0.0000
Event - 3 Year	984	0.1463	0.0000	0.0113	-1.42%	NA	22.28%	NA	986	0.1491	0.0000	0.0113	-1.32%	NA	-9.52%	NA	0.0443***	0.0000
Event - 2 Year	984	0.1443	0.0000	0.0112	-1.37%	NA	23.98%	NA	986	0.1450	0.0000	0.0112	-2.75%	NA	-6.97%	NA	0.0530***	0.0000
Event - 1 Year	984	0.1413	0.0000	0.0111	-2.08%	NA	26.61%	NA	986	0.1359	0.0000	0.0109	-6.28%	NA	-0.74%	NA	0.0480***	0.0000
Event	984	0.1789	0.0000	0.0122	26.61%	NA	NA	NA	986	0.1349	0.0000	0.0109	-0.74%	NA	NA	NA	0.0670***	0.0000
Event + 1 Year	984	0.1311	0.0000	0.0108	-26.72%	NA	-26.72%	NA	986	0.1247	0.0000	0.0105	-7.56%	NA	-7.56%	NA	0.0299***	0.0000
Event + 2 Year	984	0.1057	0.0000	0.0098	-19.37%	NA	-40.92%	NA	986	0.1065	0.0000	0.0098	-14.60%	NA	-21.05%	NA	0.0149**	0.0000
Event + 3 Year	984	0.0884	0.0000	0.0091	-16.37%	NA	-50.59%	NA	986	0.0892	0.0000	0.0091	-16.24%	NA	-33.88%	NA	0.0112	0.0000
Event + 4 Year	984	0.0894	0.0000	0.0091	1.13%	NA	-50.03%	NA	986	0.0801	0.0000	0.0087	-10.20%	NA	-40.62%	NA	0.0115*	0.0000
Event + 5 Year	984	0.0843	0.0000	0.0089	-5.70%	NA	-52.88%	NA	986	0.0832	0.0000	0.0088	3.87%	NA	-38.32%	NA	0.0168***	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	984	0.1606	0.0000	0.0117	NA	NA	142.34%	NA	984	0.1126	0.0914	0.0029	NA	NA	19.54%	29.65%	0.048***	-0.0914
Event - 4 Year	984	0.1626	0.0000	0.0118	1.25%	NA	139.36%	NA	984	0.1180	0.1004	0.0029	4.80%	9.85%	14.07%	18.03%	0.0446***	-0.1004
Event - 3 Year	984	0.1636	0.0000	0.0118	0.62%	NA	137.90%	NA	984	0.1250	0.1096	0.0029	5.93%	9.16%	7.68%	8.12%	0.0386***	-0.1096
Event - 2 Year	984	0.1596	0.0000	0.0117	-2.44%	NA	143.86%	NA	984	0.1314	0.1143	0.0029	5.12%	4.29%	2.44%	3.67%	0.0282**	-0.1143
Event - 1 Year	984	0.1514	0.0000	0.0114	-5.14%	NA	157.07%	NA	984	0.1378	0.1204	0.0029	4.87%	5.34%	-2.32%	-1.58%	0.0136	-0.1204
Event	984	0.3892	0.0000	0.0156	157.07%	NA	NA	NA	984	0.1346	0.1185	0.0029	-2.32%	-1.58%	NA	NA	0.2546***	-0.1185
Event + 1 Year	984	0.1057	0.0000	0.0098	-72.84%	NA	-72.84%	NA	984	0.1202	0.1087	0.0030	-10.70%	-8.27%	-10.70%	-8.27%	-0.0145	-0.1087
Event + 2 Year	984	0.0894	0.0000	0.0091	-15.42%	NA	-77.03%	NA	984	0.1096	0.0958	0.0029	-8.82%	-11.87%	-18.57%	-19.16%	-0.0202**	-0.0958
Event + 3 Year	984	0.0711	0.0000	0.0082	-20.47%	NA	-81.73%	NA	984	0.1024	0.0937	0.0029	-6.57%	-2.19%	-23.92%	-20.93%	-0.0313***	-0.0937
Event + 4 Year	984	0.0681	0.0000	0.0080	-4.22%	NA	-82.50%	NA	984	0.0962	0.0804	0.0027	-6.05%	-14.19%	-28.53%	-32.15%	-0.0281***	-0.0804
Event + 5 Year	984	0.0661	0.0000	0.0079	-2.94%	NA	-83.02%	NA	984	0.0892	0.0724	0.0026	-7.28%	-9.95%	-33.73%	-38.90%	-0.0231***	-0.0724
Poison Pill																		
Event - 5 Year	984	0.1514	0.0000	0.0114	NA	NA	18.16%	NA	984	0.1288	0.1257	0.0027	NA	NA	-4.66%	-7.72%	0.0226*	-0.1257
Event - 4 Year	984	0.1484	0.0000	0.0113	-1.98%	NA	20.55%	NA	984	0.1311	0.1294	0.0027	1.79%	2.94%	-6.33%	-10.36%	0.0173	-0.1294
Event - 3 Year	984	0.1463	0.0000	0.0113	-1.42%	NA	22.28%	NA	984	0.1321	0.1298	0.0027	0.76%	0.31%	-7.04%	-10.63%	0.0142	-0.1298
Event - 2 Year	984	0.1443	0.0000	0.0112	-1.37%	NA	23.98%	NA	984	0.1323	0.1293	0.0027	0.15%	-0.39%	-7.18%	-10.29%	0.012	-0.1293
Event - 1 Year	984	0.1413	0.0000	0.0111	-2.08%	NA	26.61%	NA	984	0.1277	0.1253	0.0027	-3.48%	-3.09%	-3.84%	-7.42%	0.0136	-0.1253
Event	984	0.1789	0.0000	0.0122	26.61%	NA	NA	NA	984	0.1228	0.1160	0.0026	-3.84%	-7.42%	NA	NA	0.0561***	-0.1160
Event + 1 Year	984	0.1311	0.0000	0.0108	-26.72%	NA	-26.72%	NA	984	0.1053	0.0993	0.0027	-14.25%	-14.40%	-14.25%	-14.40%	0.0258**	-0.0993
Event + 2 Year	984	0.1057	0.0000	0.0098	-19.37%	NA	-40.92%	NA	984	0.0942	0.0835	0.0026	-10.54%	-15.91%	-23.29%	-28.02%	0.0115	-0.0835
Event + 3 Year	984	0.0884	0.0000	0.0091	-16.37%	NA	-50.59%	NA	984	0.0858	0.0698	0.0026	-8.92%	-16.41%	-30.13%	-39.83%	0.0026	-0.0698
Event + 4 Year	984	0.0894	0.0000	0.0091	1.13%	NA	-50.03%	NA	984	0.0805	0.0596	0.0025	-6.18%	-14.61%	-34.45%	-48.62%	0.0089	-0.0596
Event + 5 Year	984	0.0843	0.0000	0.0089	-5.70%	NA	-52.88%	NA	984	0.0772	0.0531	0.0025	-4.10%	-10.91%	-37.13%	-54.22%	0.0071	-0.0531

Table E.37: Long-term Operating Performance: Revenue Growth and Operating Margin Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Revenue Growth is defined as the LTM rolling sales and Operating Margin is (EBITDA/sales). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	534	0.0408	0.0209	0.0089	NA	NA	-54.17%	-41.63%	501	0.0618	0.0383	0.0091	NA	NA	-32.85%	-25.85%	-0.0210*	-0.0174
Event - 4 Year	537	0.0343	0.0236	0.0086	-15.93%	12.92%	-45.48%	-48.31%	518	0.0595	0.0342	0.0090	-3.72%	NA	-30.25%	-16.96%	-0.0253**	-0.0106
Event - 3 Year	539	0.0341	0.0218	0.0080	-0.58%	-7.63%	-45.16%	-44.04%	531	0.0521	0.0301	0.0083	-12.44%	-11.99%	-20.35%	-5.65%	-0.0180	-0.0083
Event - 2 Year	548	0.0369	0.0268	0.0079	8.21%	22.94%	-49.32%	-54.48%	525	0.0524	0.0296	0.0084	0.58%	-1.66%	-20.80%	-4.05%	-0.0154	-0.0028
Event - 1 Year	546	0.0212	0.0106	0.0072	-42.55%	-60.45%	-11.79%	15.09%	528	0.0420	0.0236	0.0082	-19.85%	NA	-1.19%	20.34%	-0.0208*	-0.0130
Event	547	0.0187	0.0122	0.0077	-11.79%	15.09%	NA	NA	532	0.0415	0.0284	0.0082	-1.19%	20.34%	NA	NA	-0.0228**	-0.0162
Event + 1 Year	452	0.0242	0.0076	0.0093	29.41%	-37.70%	29.41%	-37.70%	475	0.0550	0.0317	0.0092	32.53%	11.62%	32.53%	11.62%	-0.0309**	-0.0241
Event + 2 Year	446	0.0343	0.0211	0.0089	41.74%	177.63%	83.42%	72.95%	470	0.0490	0.0214	0.0097	-10.91%	NA	18.07%	-24.65%	-0.0146	-0.0003
Event + 3 Year	464	0.0519	0.0278	0.0101	51.31%	31.75%	177.54%	127.87%	484	0.0531	0.0341	0.0093	8.37%	59.35%	27.95%	20.07%	-0.0013	-0.0063
Event + 4 Year	470	0.0501	0.0334	0.0101	-3.47%	20.14%	167.91%	173.77%	471	0.0722	0.0428	0.0099	35.97%	25.51%	73.98%	50.70%	-0.0222	-0.0094
Event + 5 Year	464	0.0476	0.0391	0.0093	-4.99%	17.07%	154.55%	220.49%	471	0.0610	0.0364	0.0103	-15.51%	NA	46.99%	28.17%	-0.0133	0.0027
Operating Margin																		
Event - 5 Year	506	0.0337	0.1108	0.0241	NA	NA	-91.10%	-29.06%	491	-0.0210	0.1203	0.0301	NA	NA	1.90%	-6.40%	0.0548	-0.0095
Event - 4 Year	517	0.0120	0.1116	0.0259	-64.39%	0.72%	-75.00%	-29.57%	517	-0.0076	0.1175	0.0294	-63.81%	-2.33%	181.58%	-4.17%	0.0196	-0.0059
Event - 3 Year	509	0.0365	0.1020	0.0225	204.17%	-8.60%	-91.78%	-22.94%	509	0.0071	0.1160	0.0280	-193.42%	-1.28%	-401.41%	-2.93%	0.0294	-0.0140
Event - 2 Year	512	0.0452	0.0984	0.0210	23.84%	-3.53%	-93.36%	-20.12%	512	0.0398	0.1163	0.0247	460.56%	0.26%	-153.77%	-3.18%	0.0054	-0.0179
Event - 1 Year	512	0.0507	0.0955	0.0195	12.17%	-2.95%	-94.08%	-17.70%	512	0.0234	0.1166	0.0270	-41.21%	0.26%	-191.45%	-3.43%	0.0273	-0.0211
Event	508	0.0030	0.0786	0.0241	-94.08%	-17.70%	NA	NA	508	-0.0214	0.1126	0.0322	-191.45%	-3.43%	NA	NA	0.0244	-0.0340
Event + 1 Year	475	-0.0061	0.0899	0.0271	-303.33%	14.38%	-303.33%	14.38%	475	0.0046	0.1307	0.0297	-121.50%	16.07%	-121.50%	16.07%	-0.0107	-0.0408
Event + 2 Year	483	-0.0296	0.0983	0.0297	385.25%	9.34%	-1086.67%	25.06%	483	-0.0097	0.1159	0.0308	-310.87%	-11.32%	-54.67%	2.93%	-0.0199	-0.0176
Event + 3 Year	481	-0.0123	0.1014	0.0295	-58.45%	3.15%	-510.00%	29.01%	481	-0.0034	0.1277	0.0320	-64.95%	10.18%	-84.11%	13.41%	-0.0089	-0.0263
Event + 4 Year	461	0.0084	0.1132	0.0290	-168.29%	11.64%	180.00%	44.02%	461	-0.0128	0.1161	0.0309	276.47%	-9.08%	-40.19%	3.11%	0.0212	-0.0029
Event + 5 Year	460	0.0139	0.1127	0.0292	65.48%	-0.44%	363.33%	43.38%	460	-0.0286	0.1245	0.0321	123.44%	7.24%	33.64%	10.57%	0.0426	-0.0118

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	534	0.0408	0.0209	0.0089	NA	NA	-54.17%	-41.63%	582	0.1660	0.0541	0.0193	NA	NA	6.45%	-10.91%	-0.1252***	-0.0332
Event - 4 Year	537	0.0343	0.0236	0.0086	-15.93%	12.92%	-45.48%	-48.31%	582	0.1552	0.0561	0.0178	-6.51%	3.70%	13.85%	-14.08%	-0.1209***	-0.0325
Event - 3 Year	539	0.0341	0.0218	0.0080	-0.58%	-7.63%	-45.16%	-44.04%	582	0.1910	0.0626	0.0214	23.07%	11.59%	-7.49%	-23.00%	-0.1569***	-0.0408
Event - 2 Year	548	0.0369	0.0268	0.0079	8.21%	22.94%	-49.32%	-54.48%	582	0.1821	0.0551	0.0206	-4.66%	-11.98%	-2.97%	-12.52%	-0.1452***	-0.0283
Event - 1 Year	546	0.0212	0.0106	0.0072	-42.55%	-60.45%	-11.79%	15.09%	582	0.1675	0.0514	0.0201	-8.02%	-6.72%	5.49%	-6.23%	-0.1463***	-0.0408
Event	547	0.0187	0.0122	0.0077	-11.79%	15.09%	NA	NA	582	0.1767	0.0482	0.0210	5.49%	-6.23%	NA	NA	-0.158***	-0.0360
Event + 1 Year	452	0.0242	0.0076	0.0093	29.41%	-37.70%	29.41%	-37.70%	579	0.1683	0.0442	0.0212	-4.75%	-8.30%	-4.75%	-8.30%	-0.1441***	-0.0366
Event + 2 Year	446	0.0343	0.0211	0.0089	41.74%	177.63%	83.42%	72.95%	581	0.1959	0.0540	0.0220	16.40%	22.17%	10.87%	12.03%	-0.1616***	-0.0329
Event + 3 Year	464	0.0519	0.0278	0.0101	51.31%	31.75%	177.54%	127.87%	582	0.2231	0.0560	0.0246	13.88%	3.70%	26.26%	16.18%	-0.1712***	-0.0282
Event + 4 Year	470	0.0501	0.0334	0.0101	-3.47%	20.14%	167.91%	173.77%	581	0.2088	0.0596	0.0231	-6.41%	6.43%	18.17%	23.65%	-0.1587***	-0.0262
Event + 5 Year	464	0.0476	0.0391	0.0093	-4.99%	17.07%	154.55%	220.49%	581	0.2067	0.0662	0.0224	-1.01%	11.07%	16.98%	37.34%	-0.1591***	-0.0271
Operating Margin																		
Event - 5 Year	506	0.0337	0.1108	0.0241	NA	NA	-91.10%	-29.06%	582	-2.2125	0.0204	0.2799	NA	NA	-6.07%	135.78%	2.2462***	0.0904
Event - 4 Year	517	0.0120	0.1116	0.0259	-64.39%	0.72%	-75.00%	-29.57%	582	-2.0694	0.0179	0.2662	-6.47%	NA	0.42%	168.72%	2.0814***	0.0937
Event - 3 Year	509	0.0365	0.1020	0.0225	204.17%	-8.60%	-91.78%	-22.94%	582	-2.1838	0.0386	0.2901	5.53%	NA	-4.84%	24.61%	2.2203***	0.0634
Event - 2 Year	512	0.0452	0.0984	0.0210	23.84%	-3.53%	-93.36%	-20.12%	582	-2.1815	0.0431	0.2782	-0.11%	11.66%	-4.74%	11.60%	2.2267***	0.0553
Event - 1 Year	512	0.0507	0.0955	0.0195	12.17%	-2.95%	-94.08%	-17.70%	582	-2.2395	0.0466	0.2796	2.66%	8.12%	-7.21%	3.22%	2.2902***	0.0489
Event	508	0.0030	0.0786	0.0241	-94.08%	-17.70%	NA	NA	582	-2.0781	0.0481	0.2708	-7.21%	3.22%	NA	NA	2.0811***	0.0305
Event + 1 Year	475	-0.0061	0.0899	0.0271	-303.33%	14.38%	-303.33%	14.38%	582	-1.9161	0.0577	0.2671	-7.80%	19.96%	-7.80%	19.96%	1.91***	0.0322
Event + 2 Year	483	-0.0296	0.0983	0.0297	385.25%	9.34%	-1086.67%	25.06%	582	-2.2332	0.0523	0.2765	16.55%	-9.36%	7.46%	8.73%	2.2036***	0.0460
Event + 3 Year	481	-0.0123	0.1014	0.0295	-58.45%	3.15%	-510.00%	29.01%	582	-2.0699	0.0623	0.2752	-7.31%	19.12%	-0.39%	29.52%	2.0576***	0.0391
Event + 4 Year	461	0.0084	0.1132	0.0290	-168.29%	11.64%	180.00%	44.02%	582	-2.0210	0.0567	0.2656	-2.36%	-8.99%	-2.75%	17.88%	2.0294***	0.0565
Event + 5 Year	460	0.0139	0.1127	0.0292	65.48%	-0.44%	363.33%	43.38%	582	-1.7956	0.0572	0.2468	-11.15%	0.88%	-13.59%	18.92%	1.8095***	0.0555

Table E.38: Long-term Operating Performance: ROA and Tobin's Q Ex Ante and Ex Post Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROA is defined as (EBIT * (1-tax rate)/Book Value of Total Assets) and Tobin's Q is (book value of debt + market value of equity)/(book value of debt + book value of equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event + 5 Year	501	0.0714	0.0914	0.0079	NA	NA	-53.64%	-33.48%	479	0.0704	0.0976	0.0085	NA	NA	-1.99%	6.45%	0.0010	-0.0062
Event - 4 Year	503	0.0716	0.0900	0.0071	0.28%	-1.53%	-53.77%	-32.44%	494	0.0630	0.0883	0.0085	-10.51%	-9.53%	9.52%	17.67%	0.0086	0.0017
Event - 3 Year	506	0.0678	0.0870	0.0067	-5.31%	-3.33%	-51.18%	-30.11%	500	0.0685	0.0913	0.0083	8.73%	3.40%	0.73%	13.80%	-0.0006	-0.0043
Event - 2 Year	506	0.0695	0.0843	0.0065	2.51%	-3.10%	-52.37%	-27.88%	493	0.0746	0.1003	0.0080	8.91%	9.86%	-7.51%	3.59%	-0.0052	-0.0160
Event - 1 Year	503	0.0591	0.0830	0.0062	-14.96%	-1.54%	-43.99%	-26.75%	500	0.0731	0.1010	0.0079	-2.01%	0.70%	-5.61%	2.87%	-0.0139	-0.0180
Event	507	0.0331	0.0608	0.0069	-43.99%	-26.75%	NA	NA	505	0.0690	0.1039	0.0085	-5.61%	2.87%	NA	NA	-0.0359***	-0.0431
Event - 1 Year	441	0.0435	0.0654	0.0073	31.42%	7.57%	31.42%	7.57%	450	0.0781	0.1059	0.0085	13.19%	1.92%	13.19%	1.92%	-0.0346***	-0.0405
Event - 2 Year	446	0.0481	0.0724	0.0082	10.57%	10.70%	45.32%	19.08%	458	0.0567	0.0918	0.0089	-27.40%	-13.31%	-17.83%	-11.65%	-0.0086	-0.0194
Event - 3 Year	447	0.0488	0.0803	0.0089	1.46%	10.91%	47.43%	32.07%	463	0.0697	0.0984	0.0086	22.93%	7.19%	1.01%	-5.29%	-0.0209*	-0.0181
Event - 4 Year	445	0.0561	0.0782	0.0088	14.96%	-2.62%	69.49%	28.62%	454	0.0629	0.0924	0.0086	-9.76%	-6.10%	-8.84%	-11.07%	-0.0068	-0.0142
Event - 5 Year	431	0.0621	0.0976	0.0089	10.70%	24.81%	87.61%	60.53%	454	0.0642	0.0940	0.0088	2.07%	1.73%	-6.96%	-9.53%	-0.0021	0.0036
Tobin's Q																		
Event - 5 Year	529	2.0603	1.4399	0.0778	NA	NA	-17.66%	-11.12%	530	2.3292	1.6119	0.0898	NA	NA	-3.68%	1.89%	-0.2689**	-0.1720
Event - 4 Year	533	1.9138	1.4031	0.0696	-7.11%	-2.56%	-11.36%	-8.79%	539	2.3927	1.6201	0.0918	2.73%	0.51%	-6.24%	1.38%	-0.4790***	-0.2170
Event - 3 Year	531	1.9593	1.3873	0.0730	2.38%	-1.13%	-13.42%	-7.75%	542	2.2576	1.5880	0.0817	-5.65%	-1.98%	-0.62%	3.43%	-0.2983***	-0.2007
Event - 2 Year	539	1.8976	1.3967	0.0685	-3.15%	0.68%	-10.60%	-8.37%	542	2.3245	1.5588	0.0879	2.96%	-1.84%	-3.48%	5.36%	-0.4270***	-0.1621
Event - 1 Year	537	1.8417	1.3358	0.0654	-2.95%	-4.36%	-7.89%	-4.19%	544	2.2964	1.5647	0.0827	-1.21%	0.38%	-2.30%	4.97%	-0.4547***	-0.2289
Event	532	1.6964	1.2798	0.0628	-7.89%	-4.19%	NA	NA	560	2.2435	1.6424	0.0797	-2.30%	4.97%	NA	NA	-0.5471***	-0.3626
Event - 1 Year	497	1.8389	1.3039	0.0725	8.40%	1.88%	8.40%	1.88%	519	2.1587	1.5282	0.0794	-3.78%	-6.95%	-3.78%	-6.95%	-0.3199***	-0.2243
Event - 2 Year	499	2.0446	1.2882	0.0869	11.19%	-1.20%	20.53%	0.66%	517	2.1367	1.4697	0.0816	-1.02%	-3.83%	-4.76%	-10.52%	-0.0921	-0.1815
Event - 3 Year	506	2.1139	1.4165	0.0856	3.39%	9.96%	24.61%	10.68%	520	2.0808	1.4558	0.0782	-2.62%	-0.95%	-7.25%	-11.36%	0.0331	-0.0393
Event - 4 Year	501	2.2260	1.4589	0.0914	5.30%	2.99%	31.22%	13.99%	515	2.2707	1.5100	0.0856	9.13%	3.72%	1.21%	-8.06%	-0.0446	-0.0511
Event - 5 Year	497	2.2425	1.4926	0.0893	0.74%	2.31%	32.19%	16.63%	508	2.3728	1.5499	0.0930	4.50%	2.64%	5.76%	-5.63%	-0.1303	-0.0573

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	501	0.0714	0.0914	0.0079	NA	NA	-53.64%	-33.48%	501	0.0293	0.0631	0.0023	NA	NA	43.34%	3.80%	0.0449***	0.0309
Event - 4 Year	503	0.0716	0.0900	0.0071	0.28%	-1.53%	-53.77%	-32.44%	503	0.0340	0.0633	0.0022	16.04%	0.32%	23.53%	3.48%	0.0392***	0.0287
Event - 3 Year	506	0.0678	0.0870	0.0067	-5.31%	-3.33%	-51.18%	-30.11%	506	0.0374	0.0652	0.0022	10.00%	3.00%	12.30%	0.46%	0.0339***	0.0245
Event - 2 Year	506	0.0695	0.0843	0.0065	2.51%	-3.10%	-52.37%	-27.88%	506	0.0428	0.0711	0.0021	14.44%	9.05%	-1.87%	-7.88%	0.0291***	0.0189
Event - 1 Year	503	0.0591	0.0830	0.0062	-14.96%	-1.54%	-43.99%	-26.75%	503	0.0408	0.0684	0.0021	-4.67%	-3.80%	2.94%	-4.24%	0.0239***	0.0167
Event	507	0.0331	0.0608	0.0069	-43.99%	-26.75%	NA	NA	507	0.0420	0.0655	0.0021	2.94%	-4.24%	NA	NA	0.009***	0.0101
Event + 1 Year	441	0.0435	0.0654	0.0073	31.42%	7.57%	31.42%	7.57%	441	0.0431	0.0704	0.0020	2.62%	7.48%	2.62%	7.48%	0.0059*	0.0066
Event + 2 Year	446	0.0481	0.0724	0.0082	10.57%	10.70%	45.32%	19.08%	446	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	0.0063*	0.0058
Event + 3 Year	447	0.0488	0.0803	0.0089	1.46%	10.91%	47.43%	32.07%	447	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	15.11%	0.006*	0.0070
Event + 4 Year	445	0.0561	0.0782	0.0088	14.96%	-2.62%	69.49%	28.62%	445	0.0418	0.0767	0.0021	-0.48%	1.72%	-0.48%	17.10%	0.0131***	0.0106
Event + 5 Year	431	0.0621	0.0976	0.0089	10.70%	24.81%	87.61%	60.53%	431	0.0392	0.0740	0.0021	-6.22%	-3.52%	-6.67%	12.98%	0.0167***	0.0161
Tobin's Q																		
Event - 5 Year	529	2.0603	1.4399	0.0778	NA	NA	-17.66%	-11.12%	582	3.3124	2.0918	0.1926	NA	NA	-4.33%	-0.26%	-1.2521***	-0.6519
Event - 4 Year	533	1.9138	1.4031	0.0696	-7.11%	-2.56%	-11.36%	-8.79%	582	3.2001	2.0052	0.1875	-3.39%	-4.14%	-0.97%	4.05%	-1.2863***	-0.6021
Event - 3 Year	531	1.9593	1.3873	0.0730	2.38%	-1.13%	-13.42%	-7.75%	582	3.4305	2.0568	0.2098	7.20%	2.57%	-7.63%	1.44%	-1.4712***	-0.6695
Event - 2 Year	539	1.8976	1.3967	0.0685	-3.15%	0.68%	-10.60%	-8.37%	582	3.5577	2.0999	0.2144	3.71%	2.10%	-10.93%	-0.64%	-1.6601***	-0.7032
Event - 1 Year	537	1.8417	1.3358	0.0654	-2.95%	-4.36%	-7.89%	-4.19%	582	3.3295	2.1586	0.1960	-6.41%	2.80%	-4.82%	-3.34%	-1.4878***	-0.8228
Event	532	1.6964	1.2798	0.0628	-7.89%	-4.19%	NA	NA	582	3.1689	2.0864	0.1842	-4.82%	-3.34%	NA	NA	-1.4725***	-0.8066
Event + 1 Year	497	1.8389	1.3039	0.0725	8.40%	1.88%	8.40%	1.88%	582	3.3564	2.0279	0.2072	5.92%	-2.80%	5.92%	-2.80%	-1.5175***	-0.7240
Event + 2 Year	499	2.0446	1.2882	0.0869	11.19%	-1.20%	20.53%	0.66%	582	2.8306	1.9116	0.1580	-15.67%	-5.73%	-10.68%	-8.38%	-0.786***	-0.6234
Event + 3 Year	506	2.1139	1.4165	0.0856	3.39%	9.96%	24.61%	10.68%	582	2.9780	1.9826	0.1626	5.21%	3.71%	-6.02%	-4.98%	-0.8641***	-0.5661
Event + 4 Year	501	2.2260	1.4589	0.0914	5.30%	2.99%	31.22%	13.99%	582	3.1009	1.9987	0.1849	4.13%	0.81%	-2.15%	-4.20%	-0.8749***	-0.5398
Event + 5 Year	497	2.2425	1.4926	0.0893	0.74%	2.31%	32.19%	16.63%	582	3.4415	2.0418	0.2018	10.98%	2.16%	8.60%	-2.14%	-1.199***	-0.5492

Table E.39: Long-term Operating Performance: ROE and ROIC Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROE is defined as (Net Income / Book Value of Equity) and ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	543	-0.0410	0.0531	0.0193	NA	NA	203.41%	-84.37%	527	-0.0485	0.0637	0.0202	NA	NA	-116.70%	19.94%	0.0075	-0.0106
Event - 4 Year	552	-0.0238	0.0573	0.0186	-41.95%	7.91%	422.69%	-85.51%	542	-0.0453	0.0648	0.0195	-6.60%	1.73%	-117.88%	17.90%	0.0215	-0.0075
Event - 3 Year	552	-0.0158	0.0509	0.0177	-33.61%	-11.17%	687.34%	-83.69%	547	-0.0254	0.0690	0.0186	-43.93%	6.48%	-131.89%	10.72%	0.0096	-0.0181
Event - 2 Year	554	-0.0287	0.0494	0.0172	81.65%	-2.95%	333.45%	-83.20%	544	-0.0280	0.0668	0.0192	10.24%	-3.19%	-128.93%	14.37%	-0.0006	-0.0174
Event - 1 Year	555	-0.0800	0.0359	0.0184	178.75%	-27.33%	55.50%	-76.88%	543	-0.0409	0.0643	0.0199	46.07%	-3.74%	-119.80%	18.82%	-0.0391	-0.0284
Event	549	-0.1244	0.0083	0.0195	55.50%	-76.88%	NA	NA	550	0.0081	0.0764	0.0191	-119.80%	18.82%	NA	NA	-0.1324***	-0.0681
Event + 1 Year	481	-0.1096	0.0166	0.0228	-11.90%	100.00%	-11.90%	100.00%	497	-0.0090	0.0816	0.0194	-211.11%	6.81%	-211.11%	6.81%	-0.1006***	-0.0650
Event + 2 Year	485	-0.0651	0.0458	0.0215	-40.60%	175.90%	-47.67%	451.81%	502	-0.0499	0.0557	0.0195	454.44%	NA	-716.05%	-27.09%	-0.0152	-0.0099
Event + 3 Year	492	-0.0664	0.0539	0.0223	2.00%	17.69%	-46.62%	549.40%	509	-0.0490	0.0711	0.0196	-1.80%	27.65%	-704.94%	-6.94%	-0.0174	-0.0172
Event + 4 Year	496	-0.0654	0.0524	0.0207	-1.51%	-2.78%	-47.43%	531.33%	498	-0.0124	0.0863	0.0191	-74.69%	21.38%	-253.09%	12.96%	-0.0530*	-0.0339
Event + 5 Year	494	-0.0084	0.0753	0.0198	-87.16%	43.70%	-93.25%	807.23%	498	-0.0374	0.0835	0.0214	201.61%	-3.24%	-561.73%	9.29%	0.0290	-0.0082
ROIC																		
Event - 5 Year	530	0.0261	0.0465	0.0071	NA	NA	-148.66%	-38.71%	516	0.0291	0.0550	0.0077	NA	NA	-4.12%	0.18%	-0.0030	-0.0085
Event - 4 Year	531	0.0278	0.0445	0.0064	6.51%	-4.30%	-145.68%	-35.96%	525	0.0207	0.0528	0.0075	-28.87%	-4.00%	34.78%	4.36%	0.0071	-0.0083
Event - 3 Year	536	0.0222	0.0440	0.0062	-20.14%	-1.12%	-157.21%	-35.23%	533	0.0341	0.0556	0.0070	64.73%	5.30%	-18.18%	-0.90%	-0.0119	-0.0116
Event - 2 Year	534	0.0228	0.0450	0.0063	2.70%	2.27%	-155.70%	-36.67%	534	0.0324	0.0549	0.0072	-4.99%	-1.26%	-13.89%	0.36%	-0.0096	-0.0099
Event - 1 Year	530	0.0131	0.0390	0.0060	-42.54%	-13.33%	-196.95%	-26.92%	530	0.0323	0.0581	0.0071	-0.31%	5.83%	-13.62%	-5.16%	-0.0191**	-0.0191
Event	519	-0.0127	0.0285	0.0071	-196.95%	-26.92%	NA	NA	540	0.0279	0.0551	0.0074	-13.62%	-5.16%	NA	NA	-0.0407***	-0.0266
Event + 1 Year	465	-0.0014	0.0325	0.0072	-88.98%	14.04%	-88.98%	14.04%	479	0.0378	0.0641	0.0074	35.48%	16.33%	35.48%	16.33%	-0.0392***	-0.0316
Event + 2 Year	470	0.0072	0.0431	0.0079	-614.29%	32.62%	-156.69%	51.23%	484	0.0173	0.0515	0.0080	-54.23%	NA	-37.99%	-6.53%	-0.0101	-0.0084
Event + 3 Year	477	0.0105	0.0455	0.0082	45.83%	5.57%	-182.68%	59.65%	492	0.0272	0.0577	0.0076	57.23%	12.04%	-2.51%	4.72%	-0.0167	-0.0122
Event + 4 Year	483	0.0163	0.0491	0.0077	55.24%	7.91%	-228.35%	72.28%	484	0.0251	0.0558	0.0078	-7.72%	-3.29%	-10.04%	1.27%	-0.0088	-0.0067
Event + 5 Year	475	0.0255	0.0568	0.0078	56.44%	15.68%	-300.79%	99.30%	480	0.0199	0.0578	0.0084	-20.72%	3.58%	-28.67%	4.90%	0.0056	-0.0010

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	543	-0.0410	0.0531	0.0193	NA	NA	203.41%	-84.37%	543	-0.0002	0.0047	0.0089	NA	NA	-8000.00%	317.02%	-0.0114	0.0658
Event - 4 Year	552	-0.0238	0.0573	0.0186	-41.95%	7.91%	422.69%	-85.51%	552	0.0029	0.0065	0.0089	-1550.00%	38.30%	444.83%	201.54%	-0.0203*	0.0644
Event - 3 Year	552	-0.0158	0.0509	0.0177	-33.61%	-11.17%	687.34%	-83.69%	552	0.0297	0.0150	0.0089	924.14%	NA	-46.80%	30.67%	-0.0371***	0.0518
Event - 2 Year	554	-0.0287	0.0494	0.0172	81.65%	-2.95%	333.45%	-83.20%	554	0.0272	0.0202	0.0087	-8.42%	34.67%	-41.91%	-2.97%	-0.0495***	0.0416
Event - 1 Year	555	-0.0800	0.0359	0.0184	178.75%	-27.33%	55.50%	-76.88%	555	0.0209	0.0166	0.0086	-23.16%	NA	-24.40%	18.07%	-0.0584***	0.0368
Event	549	-0.1244	0.0083	0.0195	55.50%	-76.88%	NA	NA	549	0.0158	0.0196	0.0085	-24.40%	18.07%	NA	NA	-0.0795***	0.0157
Event + 1 Year	481	-0.1096	0.0166	0.0228	-11.90%	100.00%	-11.90%	100.00%	481	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	-0.103***	0.0246
Event + 2 Year	485	-0.0651	0.0458	0.0215	-40.60%	175.90%	-47.67%	451.81%	485	0.0008	0.0202	0.0083	-97.50%	-2.88%	-94.94%	3.06%	-0.0634***	0.0353
Event + 3 Year	492	-0.0664	0.0539	0.0223	2.00%	17.69%	-46.62%	549.40%	492	0.0148	0.0232	0.0085	1750.00%	14.85%	-6.33%	18.37%	-0.0659***	0.0399
Event + 4 Year	496	-0.0654	0.0524	0.0207	-1.51%	-2.78%	-47.43%	531.33%	496	0.0241	0.0232	0.0086	62.84%	0.00%	52.53%	18.37%	-0.0694***	0.0443
Event + 5 Year	494	-0.0084	0.0753	0.0198	-87.16%	43.70%	-93.25%	807.23%	494	0.0161	0.0181	0.0085	-33.20%	NA	1.90%	-7.65%	-0.0422***	0.0553
ROIC																		
Event - 5 Year	530	0.0261	0.0465	0.0071	NA	NA	-148.66%	-38.71%	582	0.0376	0.0413	0.0078	NA	NA	35.37%	16.95%	-0.0115	0.0052
Event - 4 Year	531	0.0278	0.0445	0.0064	6.51%	-4.30%	-145.68%	-35.96%	582	0.0413	0.0456	0.0079	9.84%	10.41%	23.24%	5.92%	-0.0135	-0.0011
Event - 3 Year	536	0.0222	0.0440	0.0062	-20.14%	-1.12%	-157.21%	-35.23%	582	0.0382	0.0422	0.0074	-7.51%	-7.46%	33.25%	14.45%	-0.016*	0.0018
Event - 2 Year	534	0.0228	0.0450	0.0063	2.70%	2.27%	-155.70%	-36.67%	582	0.0476	0.0440	0.0079	24.61%	4.27%	6.93%	9.77%	-0.0248**	0.0010
Event - 1 Year	530	0.0131	0.0390	0.0060	-42.54%	-13.33%	-196.95%	-26.92%	582	0.0480	0.0466	0.0074	0.84%	5.91%	6.04%	3.65%	-0.0349***	-0.0076
Event	519	-0.0127	0.0285	0.0071	-196.95%	-26.92%	NA	NA	582	0.0509	0.0483	0.0077	6.04%	3.65%	NA	NA	-0.0636***	-0.0198
Event + 1 Year	465	-0.0014	0.0325	0.0072	-88.98%	14.04%	-88.98%	14.04%	580	0.0424	0.0483	0.0073	-16.70%	0.00%	-16.70%	0.00%	-0.0438***	-0.0158
Event + 2 Year	470	0.0072	0.0431	0.0079	-614.29%	32.62%	-156.69%	51.23%	582	0.0331	0.0513	0.0070	-21.93%	6.21%	-34.97%	6.21%	-0.0259***	-0.0082
Event + 3 Year	477	0.0105	0.0455	0.0082	45.83%	5.57%	-182.68%	59.65%	582	0.0475	0.0550	0.0068	43.50%	7.21%	-6.68%	13.87%	-0.037***	-0.0095
Event + 4 Year	483	0.0163	0.0491	0.0077	55.24%	7.91%	-228.35%	72.28%	582	0.0367	0.0523	0.0068	-22.74%	-4.91%	-27.90%	8.28%	-0.0204**	-0.0032
Event + 5 Year	475	0.0255	0.0568	0.0078	56.44%	15.68%	-300.79%	99.30%	582	0.0451	0.0546	0.0072	22.89%	4.40%	-11.39%	13.04%	-0.0196*	0.0022

Table E.40: Long-term Operating Performance: Enterprise Value / LTM EBITDA Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EV / EBITDA is ((book value of debt + book value of equity − cash) / LTM EBITDA). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	484	7.1662	6.9301	0.6613	NA	NA	-11.58%	3.62%	474	7.1598	7.0656	0.6753	NA	NA	3.43%	4.89%	0.0063	-0.1355
Event - 4 Year	524	8.5116	7.1960	0.6507	18.77%	3.84%	-25.55%	-0.21%	535	7.3362	6.8314	0.7043	2.46%	-3.31%	0.95%	8.49%	1.1754	0.3646
Event - 3 Year	528	7.7109	6.8480	0.6967	-9.41%	-4.84%	-17.82%	4.86%	533	6.9499	7.2578	0.6983	-5.27%	6.24%	6.56%	2.11%	0.7610	-0.4098
Event - 2 Year	518	6.0868	6.7856	0.6695	-21.06%	-0.91%	4.10%	5.82%	536	7.6959	7.5187	0.7065	10.73%	3.59%	-3.77%	-1.43%	-1.6091*	-0.7331
Event - 1 Year	519	7.6369	7.3078	0.6515	25.47%	7.70%	-17.03%	-1.74%	525	7.1083	7.6407	0.6871	-7.64%	1.62%	4.18%	-3.00%	0.5286	-0.3329
Event	500	6.3366	7.1808	0.6962	-17.03%	-1.74%	NA	NA	483	7.4057	7.4113	0.6014	4.18%	-3.00%	NA	NA	-1.0691	-0.2305
Event + 1 Year	499	6.2512	6.5503	0.7537	-1.35%	-8.78%	-1.35%	-8.78%	491	7.1827	7.5069	0.6361	-3.01%	1.29%	-3.01%	1.29%	-0.9314	-0.9566
Event + 2 Year	503	6.3450	5.9834	0.8266	1.50%	-8.65%	0.13%	-16.68%	498	6.3930	6.7621	0.6589	-10.99%	-9.92%	-13.67%	-8.76%	-0.0480	-0.7787
Event + 3 Year	499	5.3846	6.2204	0.7573	-15.14%	3.96%	-15.02%	-13.37%	493	6.8245	6.5873	0.6295	6.75%	-2.58%	-7.85%	-11.12%	-1.4399	-0.3669
Event + 4 Year	495	6.1572	6.5295	0.7502	14.35%	4.97%	-2.83%	-9.07%	502	6.8387	6.9994	0.6796	0.21%	6.26%	-7.66%	-5.56%	-0.6815	-0.4699
Event + 5 Year	494	5.7553	6.6501	0.7726	-6.53%	1.85%	-9.17%	-7.39%	506	6.7617	7.4109	0.6638	-1.13%	5.88%	-8.70%	-0.01%	-1.0064	-0.7608

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	484	7.1662	6.9301	0.6613	NA	NA	-11.58%	3.62%	582	6.5348	6.6347	0.2121	NA	NA	7.79%	9.20%	0.6314	0.2954
Event - 4 Year	524	8.5116	7.1960	0.6507	18.77%	3.84%	-25.55%	-0.21%	524	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.8584***	0.3335
Event - 3 Year	528	7.7109	6.8480	0.6967	-9.41%	-4.84%	-17.82%	4.86%	528	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.5593**	0.3734
Event - 2 Year	518	6.0868	6.7856	0.6695	-21.06%	-0.91%	4.10%	5.82%	518	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	0.96***	0.3668
Event - 1 Year	519	7.6369	7.3078	0.6515	25.47%	7.70%	-17.03%	-1.74%	519	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	1.2535***	0.3395
Event	500	6.3366	7.1808	0.6962	-17.03%	-1.74%	NA	NA	500	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	0.5913**	0.2441
Event + 1 Year	499	6.2512	6.5503	0.7537	-1.35%	-8.78%	-1.35%	-8.78%	499	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	0.2388	-0.1440
Event + 2 Year	503	6.3450	5.9834	0.8266	1.50%	-8.65%	0.13%	-16.68%	503	5.9542	6.6791	0.0896	-3.44%	-1.33%	-6.92%	-5.12%	0.3551	-0.1811
Event + 3 Year	499	5.3846	6.2204	0.7573	-15.14%	3.96%	-15.02%	-13.37%	499	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	0.17	-0.0354
Event + 4 Year	495	6.1572	6.5295	0.7502	14.35%	4.97%	-2.83%	-9.07%	495	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	0.8668***	0.1248
Event + 5 Year	494	5.7553	6.6501	0.7726	-6.53%	1.85%	-9.17%	-7.39%	494	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	0.5143**	0.2794

Table E.41: Long-term Operating Performance: Cash-to-Market Capitalization and Cash-to-Assets Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Cash/Market Cap is defined as (Total Cash / Market Capitalization) and Cash/Assets is (Total Cash / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	535	0.2689	0.1485	0.0164	NA	NA	18.15%	26.46%	535	0.2859	0.1313	0.0174	NA	NA	-4.69%	16.53%	-0.0170	0.0172
Event - 4 Year	540	0.2762	0.1531	0.0167	2.71%	3.10%	15.03%	22.66%	544	0.2801	0.1434	0.0172	-2.03%	9.22%	-2.71%	6.69%	-0.0039	0.0097
Event - 3 Year	539	0.2654	0.1594	0.0152	-3.91%	4.11%	19.71%	17.82%	545	0.2799	0.1481	0.0163	-0.07%	3.28%	-2.64%	3.31%	-0.0145	0.0113
Event - 2 Year	548	0.2635	0.1585	0.0137	-0.72%	-0.56%	20.57%	18.49%	545	0.2764	0.1455	0.0163	-1.25%	-1.76%	-1.41%	5.15%	-0.0129	0.0130
Event - 1 Year	549	0.2863	0.1600	0.0158	8.65%	0.95%	10.97%	17.38%	548	0.2688	0.1489	0.0161	-2.75%	2.34%	1.38%	2.75%	0.0175	0.0111
Event	548	0.3177	0.1878	0.0169	10.97%	17.38%	NA	NA	560	0.2725	0.1530	0.0160	1.38%	2.75%	NA	NA	0.0452*	0.0348
Event + 1 Year	505	0.3361	0.1803	0.0190	5.79%	-3.99%	5.79%	-3.99%	524	0.2928	0.1537	0.0182	7.45%	0.46%	7.45%	0.46%	0.0433	0.0266
Event + 2 Year	505	0.3124	0.1638	0.0194	-7.05%	-9.15%	-1.67%	-12.78%	523	0.3069	0.1523	0.0188	4.82%	-0.91%	12.62%	-0.46%	0.0055	0.0115
Event + 3 Year	513	0.3071	0.1546	0.0192	-1.70%	-5.62%	-3.34%	-17.68%	525	0.3032	0.1564	0.0184	-1.21%	2.69%	11.27%	2.22%	0.0038	-0.0018
Event + 4 Year	506	0.2607	0.1381	0.0165	-15.11%	-10.67%	-17.94%	-26.46%	525	0.2953	0.1411	0.0182	-2.61%	-9.78%	8.37%	-7.78%	-0.0346	-0.0030
Event + 5 Year	504	0.2572	0.1250	0.0171	-1.34%	-9.49%	-19.04%	-33.44%	516	0.2753	0.1218	0.0185	-6.77%	NA	1.03%	-20.39%	-0.0181	0.0032
Cash / Assets																		
Event - 5 Year	552	0.1887	0.1056	0.0088	NA	NA	-0.69%	2.18%	544	0.2252	0.1152	0.0102	NA	NA	-5.99%	4.17%	-0.0365***	-0.0096
Event - 4 Year	558	0.1923	0.1163	0.0087	1.91%	10.13%	-2.55%	-7.22%	551	0.2341	0.1288	0.0104	3.95%	11.81%	-9.57%	-6.83%	-0.0418***	-0.0125
Event - 3 Year	557	0.1988	0.1159	0.0088	3.38%	-0.34%	-5.73%	-6.90%	556	0.2252	0.1329	0.0098	-3.80%	3.18%	-5.99%	-9.71%	-0.0264**	-0.0170
Event - 2 Year	560	0.1965	0.1123	0.0088	-1.16%	-3.11%	-4.63%	-3.92%	553	0.2178	0.1203	0.0097	-3.29%	-9.48%	-2.80%	-0.25%	-0.0213	-0.0080
Event - 1 Year	562	0.1893	0.1095	0.0085	-3.66%	-2.49%	-1.00%	-1.46%	556	0.2115	0.1242	0.0095	-2.89%	3.24%	0.09%	-3.38%	-0.0222*	-0.0147
Event	557	0.1874	0.1079	0.0085	-1.00%	-1.46%	NA	NA	560	0.2117	0.1200	0.0094	0.09%	-3.38%	NA	NA	-0.0243*	-0.0121
Event + 1 Year	523	0.1997	0.1157	0.0096	6.56%	7.23%	6.56%	7.23%	540	0.2172	0.1261	0.0098	2.60%	5.08%	2.60%	5.08%	-0.0175	-0.0104
Event + 2 Year	524	0.1968	0.1070	0.0096	-1.45%	-7.52%	5.02%	-0.83%	535	0.2187	0.1223	0.0098	0.69%	-3.01%	3.31%	1.92%	-0.0219	-0.0153
Event + 3 Year	528	0.2099	0.1125	0.0101	6.66%	5.14%	12.01%	4.26%	533	0.2111	0.1143	0.0097	-3.48%	-6.54%	-0.28%	-4.75%	-0.0012	-0.0018
Event + 4 Year	518	0.1988	0.1095	0.0098	-5.29%	-2.67%	6.08%	1.48%	536	0.2128	0.1097	0.0098	0.81%	-4.02%	0.52%	-8.58%	-0.0140	-0.0002
Event + 5 Year	519	0.1896	0.0907	0.0098	-4.63%	-17.17%	1.17%	-15.94%	525	0.2050	0.0937	0.0101	-3.67%	NA	-3.16%	-21.92%	-0.0154	-0.0030

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	535	0.2689	0.1485	0.0164	NA	NA	18.15%	26.46%	582	0.5444	0.3111	0.0290	NA	NA	-10.21%	0.71%	-0.2755***	-0.1626
Event - 4 Year	540	0.2762	0.1531	0.0167	2.71%	3.10%	15.03%	22.66%	582	0.5443	0.3068	0.0285	-0.02%	-1.38%	-10.20%	2.12%	-0.2681***	-0.1537
Event - 3 Year	539	0.2654	0.1594	0.0152	-3.91%	4.11%	19.71%	17.82%	582	0.5565	0.3089	0.0300	2.24%	0.68%	-12.17%	1.42%	-0.2911***	-0.1495
Event - 2 Year	548	0.2635	0.1585	0.0137	-0.72%	-0.56%	20.57%	18.49%	582	0.5404	0.3103	0.0282	-2.89%	0.45%	-9.55%	0.97%	-0.2769***	-0.1518
Event - 1 Year	549	0.2863	0.1600	0.0158	8.65%	0.95%	10.97%	17.38%	582	0.5119	0.3120	0.0260	-5.27%	0.55%	-4.51%	0.42%	-0.2256***	-0.1520
Event	548	0.3177	0.1878	0.0169	10.97%	17.38%	NA	NA	582	0.4888	0.3133	0.0258	-4.51%	0.42%	NA	NA	-0.1711***	-0.1255
Event + 1 Year	505	0.3361	0.1803	0.0190	5.79%	-3.99%	5.79%	-3.99%	582	0.5401	0.3019	0.0314	10.50%	-3.64%	10.50%	-3.64%	-0.204***	-0.1216
Event + 2 Year	505	0.3124	0.1638	0.0194	-7.05%	-9.15%	-1.67%	-12.78%	582	0.5041	0.2945	0.0302	-6.67%	-2.45%	3.13%	-6.00%	-0.1917***	-0.1307
Event + 3 Year	513	0.3071	0.1546	0.0192	-1.70%	-5.62%	-3.34%	-17.68%	582	0.5513	0.2911	0.0348	9.36%	-1.15%	12.79%	-7.09%	-0.2442***	-0.1365
Event + 4 Year	506	0.2607	0.1381	0.0165	-15.11%	-10.67%	-17.94%	-26.46%	582	0.5607	0.2778	0.0376	1.71%	-4.57%	14.71%	-11.33%	-0.3***	-0.1397
Event + 5 Year	504	0.2572	0.1250	0.0171	-1.34%	-9.49%	-19.04%	-33.44%	582	0.5644	0.2597	0.0389	0.66%	-6.52%	15.47%	-17.11%	-0.3072***	-0.1347
Cash / Assets																		
Event - 5 Year	552	0.1887	0.1056	0.0088	NA	NA	-0.69%	2.18%	582	0.1888	0.1390	0.0058	6.91%	8.51%	9.32%	15.97%	0.0035	-0.0227
Event - 4 Year	558	0.1923	0.1163	0.0087	1.91%	10.13%	-2.55%	-7.22%	582	0.1883	0.1397	0.0058	-0.26%	0.50%	9.61%	15.39%	0.0105	-0.0238
Event - 3 Year	557	0.1988	0.1159	0.0088	3.38%	-0.34%	-5.73%	-6.90%	582	0.1919	0.1406	0.0058	1.91%	0.64%	7.56%	14.65%	0.0046	-0.0283
Event - 2 Year	560	0.1965	0.1123	0.0088	-1.16%	-3.11%	-4.63%	-3.92%	582	0.1984	0.1459	0.0058	3.39%	3.77%	4.03%	10.49%	-0.0091	-0.0364
Event - 1 Year	562	0.1893	0.1095	0.0085	-3.66%	-2.49%	-1.00%	-1.46%	582	0.2064	0.1612	0.0058	4.03%	10.49%	NA	NA	-0.019*	-0.0533
Event	557	0.1874	0.1079	0.0085	-1.00%	-1.46%	NA	NA	582	0.1984	0.1459	0.0058	-3.88%	-9.49%	-3.88%	-9.49%	0.0013	-0.0302
Event + 1 Year	523	0.1997	0.1157	0.0096	6.56%	7.23%	6.56%	7.23%	582	0.1919	0.1406	0.0058	-3.28%	-3.63%	-7.03%	-12.78%	0.0049	-0.0336
Event + 2 Year	524	0.1968	0.1070	0.0096	-1.45%	-7.52%	5.02%	-0.83%	582	0.1883	0.1397	0.0058	-1.88%	-0.64%	-8.77%	-13.34%	0.0216*	-0.0272
Event + 3 Year	528	0.2099	0.1125	0.0101	6.66%	5.14%	12.01%	4.26%	582	0.1888	0.1390	0.0058	0.27%	-0.50%	-8.53%	-13.77%	0.01	-0.0295
Event + 4 Year	518	0.1988	0.1095	0.0098	-5.29%	-2.67%	6.08%	1.48%	582	0.1766	0.1281	0.0056	-6.46%	-7.84%	-14.44%	-20.53%	0.013	-0.0374
Event + 5 Year	519	0.1896	0.0907	0.0098	-4.63%	-17.17%	1.17%	-15.94%	582	1.9064	1.3181	0.1458	NA	NA	6.12%	8.50%	0.3669*	-0.2257

Table E.42: Long-term Operating Performance: Debt-to-EBITDA and Net Leverage Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Debt / EBITDA is (Total Debt / EBITDA) and Leverage (net) is defined as a ((Total Debt - Cash) / Total Equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	500	2.2733	1.0924	0.1707	NA	NA	7.79%	20.19%	483	1.9396	0.6650	0.1739	NA	NA	-6.78%	11.53%	0.3336	0.4274
Event - 4 Year	582	0.6976	1.0000	0.0191	2.53%	0.00%	13.41%	0.00%	583	0.5763	1.0000	0.0205	0.00%	0.00%	17.47%	NA	0.1213***	0.0000
Event - 3 Year	582	0.7096	1.0000	0.0188	1.72%	0.00%	15.36%	0.00%	583	0.6089	1.0000	0.0202	5.66%	0.00%	24.11%	NA	0.1007***	0.0000
Event - 2 Year	582	0.7045	1.0000	0.0189	-0.72%	0.00%	14.53%	0.00%	583	0.6209	1.0000	0.0201	1.97%	0.00%	26.56%	NA	0.0835***	0.0000
Event - 1 Year	582	0.0517	0.0322	0.0024	NA	NA	18.96%	101.24%	583	0.0513	0.0425	0.0023	NA	NA	20.08%	36.47%	0.0003	-0.0103
Event	582	0.0533	0.0412	0.0024	3.09%	27.95%	15.38%	57.28%	583	0.0545	0.0479	0.0023	6.24%	12.71%	13.03%	21.09%	-0.0011	-0.0067
Event + 1 Year	582	0.0554	0.0506	0.0024	3.94%	22.82%	11.01%	28.06%	583	0.0545	0.0507	0.0023	0.00%	5.85%	13.03%	14.40%	0.0009	-0.0001
Event + 2 Year	582	0.0596	0.0612	0.0024	7.58%	20.95%	3.19%	5.88%	583	0.0574	0.0543	0.0023	5.32%	7.10%	7.32%	6.81%	0.0022	0.0069
Event + 3 Year	582	0.0615	0.0664	0.0024	3.19%	8.50%	0.00%	-2.41%	583	0.0594	0.0583	0.0023	3.48%	7.37%	3.70%	-0.51%	0.0021	0.0081
Event + 4 Year	582	0.0615	0.0648	0.0025	0.00%	-2.41%	NA	NA	583	0.0616	0.0580	0.0024	3.70%	-0.51%	NA	NA	-0.0001	0.0068
Event + 5 Year	582	0.0540	0.0181	0.0025	-12.20%	-72.07%	-12.20%	-72.07%	583	0.0526	0.0439	0.0023	-14.61%	NA	-14.61%	-24.31%	0.0014	-0.0258
Leverage (net)																		
Event - 5 Year	541	0.3366	0.1169	0.0537	NA	NA	14.11%	2.48%	535	0.2018	-0.0062	0.0518	NA	NA	-24.73%	761.29%	0.1349*	0.1231
Event - 4 Year	546	0.3286	0.0619	0.0550	-2.38%	-47.05%	16.89%	93.54%	545	0.1793	-0.0606	0.0522	-11.15%	NA	-15.28%	-11.88%	0.1494**	0.1225
Event - 3 Year	547	0.2104	-0.0300	0.0495	-35.97%	-148.47%	82.56%	-499.33%	547	0.1705	-0.0557	0.0525	-4.91%	-8.09%	-10.91%	-4.13%	0.0399	0.0257
Event - 2 Year	546	0.2168	0.0267	0.0503	3.04%	-189.00%	77.17%	348.69%	546	0.1808	-0.0629	0.0516	6.04%	12.93%	-15.98%	-15.10%	0.0360	0.0896
Event - 1 Year	548	0.3114	0.0787	0.0538	43.63%	194.76%	23.35%	52.22%	546	0.1827	-0.0106	0.0487	1.05%	NA	-16.86%	403.77%	0.1287*	0.0893
Event	541	0.3841	0.1198	0.0564	23.35%	52.22%	NA	NA	559	0.1519	-0.0534	0.0493	-16.86%	NA	NA	NA	0.2322***	0.1732
Event + 1 Year	497	0.3236	0.0475	0.0588	-15.75%	-60.35%	-15.75%	-60.35%	513	0.1919	-0.0153	0.0517	26.33%	NA	26.33%	-71.35%	0.1317*	0.0628
Event + 2 Year	500	0.3151	0.0588	0.0562	-2.63%	23.79%	-17.96%	-50.92%	514	0.2156	-0.0699	0.0532	12.35%	NA	41.94%	30.90%	0.0995	0.1287
Event + 3 Year	509	0.3780	0.0720	0.0623	19.96%	22.45%	-1.59%	-39.90%	520	0.3535	-0.0096	0.0602	63.96%	NA	132.72%	-82.02%	0.0246	0.0816
Event + 4 Year	505	0.3371	0.0543	0.0579	-10.82%	-24.58%	-12.24%	-54.67%	511	0.2716	0.0030	0.0579	-23.17%	NA	78.80%	-105.62%	0.0655	0.0513
Event + 5 Year	503	0.2788	0.0884	0.0573	-17.29%	62.80%	-27.41%	-26.21%	503	0.2501	-0.0080	0.0573	-7.92%	NA	64.65%	-85.02%	0.0287	0.0964

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	500	2.2733	1.0924	0.1707	NA	NA	7.79%	20.19%	582	1.9064	1.3181	0.1458	NA	NA	6.12%	8.50%	0.3669*	-0.2257
Event - 4 Year	582	0.6976	1.0000	0.0191	2.53%	0.00%	13.41%	0.00%	582	2.1619	1.4900	0.1426	13.40%	13.04%	-6.42%	-4.02%	0.1635	-0.4570
Event - 3 Year	582	0.7096	1.0000	0.0188	1.72%	0.00%	15.36%	0.00%	582	2.0590	1.3719	0.1403	-4.76%	-7.93%	-1.74%	4.24%	0.2404	-0.4329
Event - 2 Year	582	0.7045	1.0000	0.0189	-0.72%	0.00%	14.53%	0.00%	582	2.1967	1.5228	0.1284	6.69%	11.00%	-7.90%	-6.09%	-0.3879*	-0.7509
Event - 1 Year	582	0.0517	0.0322	0.0024	NA	NA	18.96%	101.24%	582	2.0957	1.5909	0.1362	-4.60%	4.47%	-3.46%	-10.11%	0.2089	-0.4193
Event	582	0.0533	0.0412	0.0024	3.09%	27.95%	15.38%	57.28%	582	2.0231	1.4301	0.1337	-3.46%	-10.11%	NA	NA	0.4274*	-0.1171
Event + 1 Year	582	0.0554	0.0506	0.0024	3.94%	22.82%	11.01%	28.06%	582	2.2640	1.5621	0.1448	11.91%	9.23%	11.91%	9.23%	-0.0494	-0.5184
Event + 2 Year	582	0.0596	0.0612	0.0024	7.58%	20.95%	3.19%	5.88%	582	2.3365	1.6347	0.1475	3.20%	4.65%	15.49%	14.31%	-0.3436	-0.7059
Event + 3 Year	582	0.0615	0.0664	0.0024	3.19%	8.50%	0.00%	-2.41%	582	2.1002	1.4253	0.1454	-10.11%	-12.81%	3.81%	-0.34%	-0.0296	-0.3875
Event + 4 Year	582	0.0615	0.0648	0.0025	0.00%	-2.41%	NA	NA	582	2.0472	1.4438	0.1476	-2.52%	1.30%	1.19%	0.96%	-0.0462	-0.5086
Event + 5 Year	582	0.0540	0.0181	0.0025	-12.20%	-72.07%	-12.20%	-72.07%	582	2.0024	1.4896	0.1466	-2.19%	3.17%	-1.02%	4.16%	-0.0629	-0.4120
Leverage (net)																		
Event - 5 Year	541	0.3366	0.1169	0.0537	NA	NA	14.11%	2.48%	582	0.3489	0.0922	0.0526	NA	NA	-10.52%	-12.47%	-0.0123	0.0247
Event - 4 Year	546	0.3286	0.0619	0.0550	-2.38%	-47.05%	16.89%	93.54%	582	0.3433	0.0583	0.0574	-1.61%	NA	-9.06%	38.42%	-0.0147	0.0036
Event - 3 Year	547	0.2104	-0.0300	0.0495	-35.97%	-148.47%	82.56%	-499.33%	582	0.3901	0.0909	0.0547	13.63%	55.92%	-19.97%	-11.22%	-0.1797**	-0.1209
Event - 2 Year	546	0.2168	0.0267	0.0503	3.04%	-189.00%	77.17%	348.69%	582	0.3805	0.1178	0.0538	-2.46%	29.59%	-17.95%	-31.49%	-0.1637**	-0.0911
Event - 1 Year	548	0.3114	0.0787	0.0538	43.63%	194.76%	23.35%	52.22%	582	0.3457	0.1089	0.0552	-9.15%	-7.56%	-9.69%	-25.90%	-0.0343	-0.0302
Event	541	0.3841	0.1198	0.0564	23.35%	52.22%	NA	NA	582	0.3122	0.0807	0.0559	-9.69%	NA	NA	NA	0.0719	0.0391
Event + 1 Year	497	0.3236	0.0475	0.0588	-15.75%	-60.35%	-15.75%	-60.35%	582	0.4130	0.1987	0.0573	32.29%	NA	32.29%	146.22%	-0.0894	-0.1512
Event + 2 Year	500	0.3151	0.0588	0.0562	-2.63%	23.79%	-17.96%	-50.92%	582	0.3886	0.1580	0.0564	-5.91%	NA	24.47%	95.79%	-0.0735	-0.0992
Event + 3 Year	509	0.3780	0.0720	0.0623	19.96%	22.45%	-1.59%	-39.90%	582	0.4432	0.2434	0.0537	14.05%	54.05%	41.96%	201.61%	-0.0652	-0.1714
Event + 4 Year	505	0.3371	0.0543	0.0579	-10.82%	-24.58%	-12.24%	-54.67%	582	0.3370	0.1858	0.0527	-23.96%	NA	7.94%	130.24%	0.0001	-0.1315
Event + 5 Year	503	0.2788	0.0884	0.0573	-17.29%	62.80%	-27.41%	-26.21%	582	0.4111	0.2273	0.0512	21.99%	22.34%	31.68%	181.66%	-0.1323*	-0.1389

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Capital Expenditures is defined as (CAPEX / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	525	0.0168	0.0094	0.0009	NA	NA	-10.71%	-11.70%	508	0.0163	0.0088	0.0009	NA	NA	-7.36%	-6.82%	0.0005	0.0006
Event - 4 Year	536	0.0156	0.0083	0.0009	-7.14%	-11.70%	-3.85%	0.00%	523	0.0165	0.0081	0.0010	1.23%	-7.95%	-8.48%	1.23%	-0.0008	0.0002
Event - 3 Year	537	0.0155	0.0086	0.0009	-0.64%	3.61%	-3.23%	-3.49%	528	0.0160	0.0088	0.0009	-3.03%	8.64%	-5.63%	-6.82%	-0.0005	-0.0002
Event - 2 Year	542	0.0166	0.0093	0.0009	7.10%	8.14%	-9.64%	-10.75%	522	0.0161	0.0083	0.0009	0.62%	-5.68%	-6.21%	-1.20%	0.0005	0.0010
Event - 1 Year	548	0.0172	0.0087	0.0010	3.61%	-6.45%	-12.79%	-4.60%	521	0.0161	0.0086	0.0009	0.00%	3.61%	-6.21%	-4.65%	0.0012	0.0001
Event	540	0.0150	0.0083	0.0009	-12.79%	-4.60%	NA	NA	532	0.0151	0.0082	0.0009	-6.21%	-4.65%	NA	NA	-0.0001	0.0001
Event + 1 Year	466	0.0149	0.0074	0.0010	-0.67%	-10.84%	-0.67%	-10.84%	476	0.0172	0.0089	0.0010	13.91%	8.54%	13.91%	8.54%	-0.0024*	-0.0015
Event + 2 Year	455	0.0166	0.0077	0.0011	11.41%	4.05%	10.67%	-7.23%	473	0.0170	0.0080	0.0011	-1.16%	-10.11%	12.58%	-2.44%	-0.0004	-0.0003
Event + 3 Year	463	0.0161	0.0080	0.0010	-3.01%	3.90%	7.33%	-3.61%	466	0.0159	0.0085	0.0010	-6.47%	6.25%	5.30%	3.66%	0.0001	-0.0005
Event + 4 Year	459	0.0166	0.0094	0.0010	3.11%	17.50%	10.67%	13.25%	461	0.0153	0.0079	0.0010	-3.77%	-7.06%	1.32%	-3.66%	0.0014	0.0015
Event + 5 Year	451	0.0171	0.0096	0.0011	3.01%	2.13%	14.00%	15.66%	454	0.0192	0.0096	0.0011	25.49%	21.52%	27.15%	17.07%	-0.0021	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	525	0.0168	0.0094	0.0009	NA	NA	-10.71%	-11.70%	581	0.0169	0.0136	0.0006	NA	NA	-8.88%	-10.29%	-0.0001	-0.0042
Event - 4 Year	536	0.0156	0.0083	0.0009	-7.14%	-11.70%	-3.85%	0.00%	581	0.0164	0.0128	0.0006	-2.96%	-5.88%	-6.10%	-4.69%	-0.0008	-0.0045
Event - 3 Year	537	0.0155	0.0086	0.0009	-0.64%	3.61%	-3.23%	-3.49%	581	0.0157	0.0124	0.0006	-4.27%	-3.13%	-1.91%	-1.61%	-0.0002	-0.0038
Event - 2 Year	542	0.0166	0.0093	0.0009	7.10%	8.14%	-9.64%	-10.75%	581	0.0159	0.0124	0.0006	1.27%	0.00%	-3.14%	-1.61%	0.0007	-0.0031
Event - 1 Year	548	0.0172	0.0087	0.0010	3.61%	-6.45%	-12.79%	-4.60%	581	0.0158	0.0121	0.0006	-0.63%	-2.42%	-2.53%	0.83%	0.0014	-0.0034
Event	540	0.0150	0.0083	0.0009	-12.79%	-4.60%	NA	NA	581	0.0154	0.0122	0.0006	-2.53%	0.83%	NA	NA	-0.0004	-0.0039
Event + 1 Year	466	0.0149	0.0074	0.0010	-0.67%	-10.84%	-0.67%	-10.84%	578	0.0162	0.0122	0.0006	5.19%	0.00%	5.19%	0.00%	-0.0013	-0.0048
Event + 2 Year	455	0.0166	0.0077	0.0011	11.41%	4.05%	10.67%	-7.23%	576	0.0178	0.0137	0.0006	9.88%	12.30%	15.58%	12.30%	-0.0012	-0.0060
Event + 3 Year	463	0.0161	0.0080	0.0010	-3.01%	3.90%	7.33%	-3.61%	575	0.0180	0.0146	0.0006	1.12%	6.57%	16.88%	19.67%	-0.0019*	-0.0066
Event + 4 Year	459	0.0166	0.0094	0.0010	3.11%	17.50%	10.67%	13.25%	575	0.0184	0.0150	0.0006	2.22%	2.74%	19.48%	22.95%	-0.0018*	-0.0056
Event + 5 Year	451	0.0171	0.0096	0.0011	3.01%	2.13%	14.00%	15.66%	572	0.0190	0.0160	0.0006	3.26%	6.67%	23.38%	31.15%	-0.0019*	-0.0064

Table E.43: Long-term Operating Performance: Dividend Yield and Share Repurchase Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Dividend Yield is defined as (Common Dividend / Market Capitalization) and Share Repurchase is the annualized share repurchase activity. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	443	1.0083	0.0000	0.1013	NA	NA	-9.60%	NA	448	1.0196	0.0000	0.1017	NA	NA	2.28%	NA	-0.0113	0.0000
Event - 4 Year	447	0.9566	0.0000	0.0999	-5.13%	NA	-4.71%	NA	454	0.9848	0.0000	0.0964	-3.41%	NA	5.89%	NA	-0.0282	0.0000
Event - 3 Year	448	0.9353	0.0000	0.0931	-2.23%	NA	-2.54%	NA	459	0.9992	0.0000	0.0950	1.46%	NA	4.36%	NA	-0.0639	0.0000
Event - 2 Year	450	0.9530	0.0000	0.0955	1.89%	NA	-4.35%	NA	458	1.0226	0.0000	0.0972	2.34%	NA	1.98%	NA	-0.0696	0.0000
Event - 1 Year	449	0.8825	0.0000	0.0872	-7.40%	NA	3.29%	NA	465	1.0905	0.0000	0.1016	6.64%	NA	-4.37%	NA	-0.2080	0.0000
Event	449	0.9115	0.0000	0.0879	3.29%	NA	NA	NA	470	1.0428	0.0000	0.0962	-4.37%	NA	NA	NA	-0.1313	0.0000
Event + 1 Year	405	0.8118	0.0000	0.0865	-10.94%	NA	-10.94%	NA	436	0.9946	0.0000	0.0967	-4.62%	NA	-4.62%	NA	-0.1828	0.0000
Event + 2 Year	373	0.8453	0.0000	0.1016	4.13%	NA	-7.26%	NA	403	1.1525	0.0000	0.1126	15.88%	NA	10.52%	NA	-0.3072**	0.0000
Event + 3 Year	351	0.9545	0.0000	0.1106	12.92%	NA	4.72%	NA	390	1.1376	0.0000	0.1132	-1.29%	NA	9.09%	NA	-0.1831	0.0000
Event + 4 Year	335	1.1384	0.0000	0.1300	19.27%	NA	24.89%	NA	373	1.1253	0.0000	0.1165	-1.08%	NA	7.91%	NA	0.0131	0.0000
Event + 5 Year	315	1.2121	0.0000	0.1345	6.47%	NA	32.98%	NA	361	1.2163	0.0000	0.1230	8.09%	NA	16.64%	NA	-0.0042	0.0000
Share Repurchase																		
Event - 5 Year	558	0.0044	0.0000	0.0005	NA	NA	36.36%	NA	544	0.0036	0.0000	0.0005	NA	NA	94.44%	NA	0.0008	0.0000
Event - 4 Year	566	0.0040	0.0000	0.0005	-9.09%	NA	50.00%	NA	556	0.0044	0.0000	0.0005	22.22%	NA	59.09%	NA	-0.0004	0.0000
Event - 3 Year	566	0.0048	0.0000	0.0005	20.00%	NA	25.00%	NA	558	0.0049	0.0000	0.0005	11.36%	NA	42.86%	NA	-0.0001	0.0000
Event - 2 Year	568	0.0061	0.0000	0.0006	27.08%	NA	-1.64%	NA	557	0.0059	0.0000	0.0006	20.41%	NA	18.64%	NA	0.0003	0.0000
Event - 1 Year	570	0.0064	0.0000	0.0006	4.92%	NA	-6.25%	NA	554	0.0067	0.0000	0.0006	13.56%	NA	4.48%	NA	-0.0002	0.0000
Event	565	0.0060	0.0000	0.0006	-6.25%	NA	NA	NA	567	0.0070	0.0000	0.0006	4.48%	NA	NA	NA	-0.0010	0.0000
Event + 1 Year	497	0.0069	0.0000	0.0007	15.00%	NA	15.00%	NA	520	0.0061	0.0000	0.0006	-12.86%	NA	-12.86%	NA	0.0008	0.0000
Event + 2 Year	505	0.0047	0.0000	0.0005	-31.88%	NA	-21.67%	NA	523	0.0058	0.0000	0.0006	-4.92%	NA	-17.14%	NA	-0.0012	0.0000
Event + 3 Year	513	0.0047	0.0000	0.0005	0.00%	NA	-21.67%	NA	520	0.0047	0.0000	0.0005	-18.97%	NA	-32.86%	NA	0.0000	0.0000
Event + 4 Year	519	0.0032	0.0000	0.0004	-31.91%	NA	-46.67%	NA	518	0.0048	0.0000	0.0005	2.13%	NA	-31.43%	NA	-0.0016**	0.0000
Event + 5 Year	516	0.0037	0.0000	0.0005	15.63%	NA	-38.33%	NA	510	0.0044	0.0000	0.0005	-8.33%	NA	-37.14%	NA	-0.0008	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	443	1.0083	0.0000	0.1013	NA	NA	-9.60%	NA	577	1.2426	0.5748	0.0701	NA	NA	6.00%	33.28%	-0.2343**	-0.5748
Event - 4 Year	447	0.9566	0.0000	0.0999	-5.13%	NA	-4.71%	NA	576	1.2022	0.5826	0.0661	-3.25%	1.36%	9.56%	31.50%	-0.2456**	-0.5826
Event - 3 Year	448	0.9353	0.0000	0.0931	-2.23%	NA	-2.54%	NA	576	1.1958	0.6322	0.0641	-0.53%	8.51%	10.14%	21.18%	-0.2605**	-0.6322
Event - 2 Year	450	0.9530	0.0000	0.0955	1.89%	NA	-4.35%	NA	576	1.2364	0.6872	0.0641	3.40%	8.70%	6.53%	11.48%	-0.2834***	-0.6872
Event - 1 Year	449	0.8825	0.0000	0.0872	-7.40%	NA	3.29%	NA	577	1.2664	0.7422	0.0630	2.43%	8.00%	4.00%	3.22%	-0.3839***	-0.7422
Event	449	0.9115	0.0000	0.0879	3.29%	NA	NA	NA	578	1.3171	0.7661	0.0648	4.00%	3.22%	NA	NA	-0.4056***	-0.7661
Event + 1 Year	405	0.8118	0.0000	0.0865	-10.94%	NA	-10.94%	NA	573	1.2607	0.7221	0.0669	-4.28%	-5.74%	-4.28%	-5.74%	-0.4489***	-0.7221
Event + 2 Year	373	0.8453	0.0000	0.1016	4.13%	NA	-7.26%	NA	568	1.0975	0.6272	0.0620	-12.95%	-13.14%	-16.67%	-18.13%	-0.2522**	-0.6272
Event + 3 Year	351	0.9545	0.0000	0.1106	12.92%	NA	4.72%	NA	566	1.1201	0.6294	0.0644	2.06%	0.35%	-14.96%	-17.84%	-0.1656	-0.6294
Event + 4 Year	335	1.1384	0.0000	0.1300	19.27%	NA	24.89%	NA	564	1.1472	0.6289	0.0674	2.42%	-0.08%	-12.90%	-17.91%	-0.0088	-0.6289
Event + 5 Year	315	1.2121	0.0000	0.1345	6.47%	NA	32.98%	NA	560	1.2425	0.6696	0.0698	8.31%	6.47%	-5.66%	-12.60%	-0.0304	-0.6696
Share Repurchase																		
Event - 5 Year	558	0.0044	0.0000	0.0005	NA	NA	36.36%	NA	582	0.0064	0.0016	0.0003	NA	NA	75.00%	593.75%	-0.002***	-0.0016
Event - 4 Year	566	0.0040	0.0000	0.0005	-9.09%	NA	50.00%	NA	582	0.0070	0.0045	0.0003	9.38%	NA	60.00%	146.67%	-0.003***	-0.0045
Event - 3 Year	566	0.0048	0.0000	0.0005	20.00%	NA	25.00%	NA	582	0.0081	0.0064	0.0003	15.71%	42.22%	38.27%	73.44%	-0.0033***	-0.0064
Event - 2 Year	568	0.0061	0.0000	0.0006	27.08%	NA	-1.64%	NA	582	0.0092	0.0082	0.0003	13.58%	28.13%	21.74%	35.37%	-0.0031***	-0.0082
Event - 1 Year	570	0.0064	0.0000	0.0006	4.92%	NA	-6.25%	NA	582	0.0103	0.0097	0.0003	11.96%	18.29%	8.74%	14.43%	-0.0039***	-0.0097
Event	565	0.0060	0.0000	0.0006	-6.25%	NA	NA	NA	582	0.0112	0.0111	0.0003	8.74%	14.43%	NA	NA	-0.0052***	-0.0111
Event + 1 Year	497	0.0069	0.0000	0.0007	15.00%	NA	15.00%	NA	580	0.0096	0.0086	0.0003	-14.29%	NA	-14.29%	-22.52%	-0.0027***	-0.0086
Event + 2 Year	505	0.0047	0.0000	0.0005	-31.88%	NA	-21.67%	NA	582	0.0072	0.0043	0.0003	-25.00%	NA	-35.71%	-61.26%	-0.0025***	-0.0043
Event + 3 Year	513	0.0047	0.0000	0.0005	0.00%	NA	-21.67%	NA	582	0.0064	0.0017	0.0003	-11.11%	NA	-42.86%	-84.68%	-0.0017***	-0.0017
Event + 4 Year	519	0.0032	0.0000	0.0004	-31.91%	NA	-46.67%	NA	582	0.0056	0.0000	0.0003	-12.50%	NA	-50.00%	-100.00%	-0.0024***	0.0000
Event + 5 Year	516	0.0037	0.0000	0.0005	15.63%	NA	-38.33%	NA	582	0.0050	0.0000	0.0003	-10.71%	NA	-55.36%	-100.00%	-0.0013**	0.0000

Table E.44: Long-term Operating Performance: EPS Estimates and Research Analyst Recommendations Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EPS Estimate Miss is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S and Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	339	0.5103	1.0000	0.0272	NA	NA	13.76%	0.00%	348	0.4109	0.0000	0.0264	NA	NA	11.88%	NA	0.0994***	1.0000
Event - 4 Year	347	0.4640	0.0000	0.0268	-9.07%	-100.00%	25.11%	NA	373	0.4129	0.0000	0.0255	0.49%	NA	11.33%	NA	0.0511	0.0000
Event - 3 Year	355	0.4789	0.0000	0.0266	3.21%	NA	21.22%	NA	380	0.4158	0.0000	0.0253	0.70%	NA	10.56%	NA	0.0631*	0.0000
Event - 2 Year	372	0.4409	0.0000	0.0258	-7.93%	NA	31.66%	NA	385	0.4494	0.0000	0.0254	8.08%	NA	2.29%	NA	-0.0085	0.0000
Event - 1 Year	375	0.5253	1.0000	0.0258	19.14%	NA	10.51%	0.00%	396	0.3712	0.0000	0.0243	-17.40%	NA	23.84%	NA	0.1541***	1.0000
Event	379	0.5805	1.0000	0.0254	10.51%	0.00%	NA	NA	422	0.4597	0.0000	0.0243	23.84%	NA	NA	NA	0.1208***	1.0000
Event + 1 Year	332	0.5301	1.0000	0.0274	-8.68%	0.00%	-8.68%	0.00%	382	0.4529	0.0000	0.0255	-1.48%	NA	-1.48%	NA	0.0772**	1.0000
Event + 2 Year	314	0.3758	0.0000	0.0274	-29.11%	-100.00%	-35.26%	-100.00%	358	0.4749	0.0000	0.0264	4.86%	NA	3.31%	NA	-0.0991***	0.0000
Event + 3 Year	308	0.4448	0.0000	0.0284	18.36%	NA	-23.38%	-100.00%	357	0.3922	0.0000	0.0259	-17.41%	NA	-14.68%	NA	0.0526	0.0000
Event + 4 Year	331	0.4381	0.0000	0.0273	-1.51%	NA	-24.53%	-100.00%	352	0.3523	0.0000	0.0255	-10.17%	NA	-23.36%	NA	0.0858**	0.0000
Event + 5 Year	313	0.4409	0.0000	0.0281	0.64%	NA	-24.05%	-100.00%	328	0.4695	0.0000	0.0276	33.27%	NA	2.13%	NA	-0.0286	0.0000
Analyst Sell Recommendation																		
Event - 5 Year	582	0.3058	0.0000	0.0191	NA	NA	40.48%	NA	583	0.2967	0.0000	0.0189	NA	NA	19.08%	NA	0.0091	0.0000
Event - 4 Year	582	0.3265	0.0000	0.0195	6.77%	NA	31.58%	NA	583	0.2779	0.0000	0.0186	-6.34%	NA	27.13%	NA	0.0486*	0.0000
Event - 3 Year	582	0.3076	0.0000	0.0191	-5.79%	NA	39.66%	NA	583	0.3362	0.0000	0.0196	20.98%	NA	5.09%	NA	-0.0286	0.0000
Event - 2 Year	582	0.3076	0.0000	0.0191	0.00%	NA	39.66%	NA	583	0.3482	0.0000	0.0197	3.57%	NA	1.46%	NA	-0.0406	0.0000
Event - 1 Year	582	0.3574	0.0000	0.0199	16.19%	NA	20.20%	NA	583	0.3516	0.0000	0.0198	0.98%	NA	0.48%	NA	0.0058	0.0000
Event	582	0.4296	0.0000	0.0205	20.20%	NA	NA	NA	583	0.3533	0.0000	0.0198	0.48%	NA	NA	NA	0.0762***	0.0000
Event + 1 Year	582	0.3351	0.0000	0.0196	-22.00%	NA	-22.00%	NA	583	0.2916	0.0000	0.0188	-17.46%	NA	-17.46%	NA	0.0435	0.0000
Event + 2 Year	582	0.2337	0.0000	0.0176	-30.26%	NA	-45.60%	NA	583	0.2624	0.0000	0.0182	-10.01%	NA	-25.73%	NA	-0.0288	0.0000
Event + 3 Year	582	0.1804	0.0000	0.0160	-22.81%	NA	-58.01%	NA	583	0.2676	0.0000	0.0184	1.98%	NA	-24.26%	NA	-0.0872***	0.0000
Event + 4 Year	582	0.2079	0.0000	0.0168	15.24%	NA	-51.61%	NA	583	0.2264	0.0000	0.0173	-15.40%	NA	-35.92%	NA	-0.0185	0.0000
Event + 5 Year	582	0.2354	0.0000	0.0176	13.23%	NA	-45.20%	NA	583	0.2144	0.0000	0.0170	-5.30%	NA	-39.32%	NA	0.0210	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	339	0.5103	1.0000	0.0272	NA	NA	13.76%	0.00%	582	0.4258	0.4276	0.0048	NA	NA	0.12%	-0.54%	0.0845***	0.5724
Event - 4 Year	347	0.4640	0.0000	0.0268	-9.07%	-100.00%	25.11%	NA	582	0.4189	0.4207	0.0048	-1.62%	-1.61%	1.77%	1.09%	0.0451**	-0.4207
Event - 3 Year	355	0.4789	0.0000	0.0266	3.21%	NA	21.22%	NA	582	0.4269	0.4206	0.0048	1.91%	-0.02%	-0.14%	1.12%	0.052**	-0.4206
Event - 2 Year	372	0.4409	0.0000	0.0258	-7.93%	NA	31.66%	NA	582	0.4255	0.4227	0.0048	-0.33%	0.50%	0.19%	0.62%	0.0154	-0.4227
Event - 1 Year	375	0.5253	1.0000	0.0258	19.14%	NA	10.51%	0.00%	582	0.4331	0.4284	0.0047	1.79%	1.35%	-1.57%	-0.72%	0.0922***	0.5716
Event	379	0.5805	1.0000	0.0254	10.51%	0.00%	NA	NA	582	0.4263	0.4253	0.0044	-1.57%	-0.72%	NA	NA	0.1542***	0.5747
Event + 1 Year	332	0.5301	1.0000	0.0274	-8.68%	0.00%	-8.68%	0.00%	582	0.4331	0.4284	0.0047	1.60%	0.73%	1.60%	0.73%	0.097***	0.5716
Event + 2 Year	314	0.3758	0.0000	0.0274	-29.11%	-100.00%	-35.26%	-100.00%	582	0.4255	0.4227	0.0048	-1.75%	-1.33%	-0.19%	-0.61%	-0.0497**	-0.4227
Event + 3 Year	308	0.4448	0.0000	0.0284	18.36%	NA	-23.38%	-100.00%	582	0.4269	0.4206	0.0048	0.33%	-0.50%	0.14%	-1.11%	0.0179	-0.4206
Event + 4 Year	331	0.4381	0.0000	0.0273	-1.51%	NA	-24.53%	-100.00%	582	0.4189	0.4207	0.0048	-1.87%	0.02%	-1.74%	-1.08%	0.0192	-0.4207
Event + 5 Year	313	0.4409	0.0000	0.0281	0.64%	NA	-24.05%	-100.00%	582	0.4258	0.4276	0.0048	1.65%	1.64%	-0.12%	0.54%	0.0151	-0.4276
Analyst Sell Recommendation																		
Event - 5 Year	582	0.3058	0.0000	0.0191	NA	NA	40.48%	NA	582	0.3083	0.3060	0.0061	NA	NA	9.96%	6.90%	-0.0025	-0.3060
Event - 4 Year	582	0.3265	0.0000	0.0195	6.77%	NA	31.58%	NA	582	0.3179	0.3169	0.0058	3.11%	3.56%	6.64%	3.22%	0.0086	-0.3169
Event - 3 Year	582	0.3076	0.0000	0.0191	-5.79%	NA	39.66%	NA	582	0.3187	0.3219	0.0054	0.25%	1.58%	6.37%	1.62%	-0.0111	-0.3219
Event - 2 Year	582	0.3076	0.0000	0.0191	0.00%	NA	39.66%	NA	582	0.3295	0.3217	0.0053	3.39%	-0.06%	2.88%	1.68%	-0.0219	-0.3217
Event - 1 Year	582	0.3574	0.0000	0.0199	16.19%	NA	20.20%	NA	582	0.3398	0.3320	0.0052	3.13%	3.20%	-0.24%	-1.48%	0.0176	-0.3320
Event	582	0.4296	0.0000	0.0205	20.20%	NA	NA	NA	582	0.3390	0.3271	0.0053	-0.24%	-1.48%	NA	NA	0.0906***	-0.3271
Event + 1 Year	582	0.3351	0.0000	0.0196	-22.00%	NA	-22.00%	NA	582	0.3084	0.3116	0.0065	-9.03%	-4.74%	-9.03%	-4.74%	0.0267	-0.3116
Event + 2 Year	582	0.2337	0.0000	0.0176	-30.26%	NA	-45.60%	NA	582	0.2611	0.2811	0.0072	-15.34%	-9.79%	-22.98%	-14.06%	-0.0274	-0.2811
Event + 3 Year	582	0.1804	0.0000	0.0160	-22.81%	NA	-58.01%	NA	582	0.2414	0.2517	0.0073	-7.55%	NA	-28.79%	-23.05%	-0.061***	-0.2517
Event + 4 Year	582	0.2079	0.0000	0.0168	15.24%	NA	-51.61%	NA	582	0.2347	0.2380	0.0070	-2.78%	-5.44%	-30.77%	-27.24%	-0.0268	-0.2380
Event + 5 Year	582	0.2354	0.0000	0.0176	13.23%	NA	-45.20%	NA	582	0.2324	0.2302	0.0066	-0.98%	-3.28%	-31.45%	-29.62%	0.003	-0.2302

Table E.45: Long-term Operating Performance: Multiple Business Segments and Herfindahl-Hirschman Index Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event and Herfindahl-Hirschman Index is a measure of the size of Target Firm in relation to the industry and an indicator of the amount of competition among them. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	582	0.1512	0.0000	0.0149	NA	NA	15.94%	NA	583	0.1132	0.0000	0.0131	NA	NA	15.19%	NA	0.0380*	0.0000
Event - 4 Year	582	0.1546	0.0000	0.0150	2.25%	NA	13.39%	NA	583	0.1184	0.0000	0.0134	4.59%	NA	10.14%	NA	0.0363*	0.0000
Event - 3 Year	582	0.1615	0.0000	0.0153	4.46%	NA	8.54%	NA	583	0.1286	0.0000	0.0139	8.61%	NA	1.40%	NA	0.0329	0.0000
Event - 2 Year	582	0.1649	0.0000	0.0154	2.11%	NA	6.31%	NA	583	0.1252	0.0000	0.0137	-2.64%	NA	4.15%	NA	0.0397*	0.0000
Event - 1 Year	582	0.1753	0.0000	0.0158	6.31%	NA	0.00%	NA	583	0.1338	0.0000	0.0141	6.87%	NA	-2.54%	NA	0.0415*	0.0000
Event	582	0.1753	0.0000	0.0158	0.00%	NA	NA	NA	583	0.1304	0.0000	0.0140	-2.54%	NA	NA	NA	0.0449**	0.0000
Event + 1 Year	582	0.1564	0.0000	0.0151	-10.78%	NA	-10.78%	NA	583	0.1218	0.0000	0.0136	-6.60%	NA	-6.60%	NA	0.0346*	0.0000
Event + 2 Year	582	0.1323	0.0000	0.0141	-15.41%	NA	-24.53%	NA	583	0.1081	0.0000	0.0129	-11.25%	NA	-17.10%	NA	0.0242	0.0000
Event + 3 Year	582	0.1254	0.0000	0.0137	-5.22%	NA	-28.47%	NA	583	0.0961	0.0000	0.0122	-11.10%	NA	-26.30%	NA	0.0294	0.0000
Event + 4 Year	582	0.1220	0.0000	0.0136	-2.71%	NA	-30.41%	NA	583	0.1063	0.0000	0.0128	10.61%	NA	-18.48%	NA	0.0156	0.0000
Event + 5 Year	582	0.1203	0.0000	0.0135	-1.39%	NA	-31.37%	NA	583	0.1046	0.0000	0.0127	-1.60%	NA	-19.79%	NA	0.0156	0.0000
Herfindahl-Hirschman Index																		
Event - 5 Year	582	0.0768	0.0515	0.0055	NA	NA	-8.20%	2.52%	583	0.0855	0.0515	0.0068	NA	NA	-17.54%	2.52%	-0.0087	0.0000
Event - 4 Year	582	0.0720	0.0514	0.0051	-6.25%	-0.19%	-2.08%	2.72%	583	0.0725	0.0506	0.0053	-15.20%	-1.75%	-2.76%	4.35%	-0.0005	0.0008
Event - 3 Year	582	0.0733	0.0519	0.0052	1.81%	0.97%	-3.82%	1.73%	583	0.0736	0.0512	0.0054	1.52%	1.19%	-4.21%	3.13%	-0.0003	0.0007
Event - 2 Year	582	0.0693	0.0520	0.0046	-5.46%	0.19%	1.73%	1.54%	583	0.0735	0.0520	0.0054	-0.14%	1.56%	-4.08%	1.54%	-0.0042	0.0000
Event - 1 Year	582	0.0680	0.0522	0.0046	-1.88%	0.38%	3.68%	1.15%	583	0.0728	0.0522	0.0054	-0.95%	0.38%	-3.16%	1.15%	-0.0048	0.0000
Event	582	0.0705	0.0528	0.0049	3.68%	1.15%	NA	NA	583	0.0705	0.0528	0.0049	-3.16%	1.15%	NA	NA	0.0000	0.0000
Event + 1 Year	582	0.0765	0.0538	0.0054	8.51%	1.89%	8.51%	1.89%	583	0.0777	0.0530	0.0057	10.21%	0.38%	10.21%	0.38%	-0.0013	0.0008
Event + 2 Year	582	0.0794	0.0528	0.0055	3.79%	-1.86%	12.62%	0.00%	583	0.0780	0.0515	0.0058	0.39%	-2.83%	10.64%	-2.46%	0.0014	0.0013
Event + 3 Year	582	0.0817	0.0518	0.0056	2.90%	-1.89%	15.89%	-1.89%	583	0.0852	0.0521	0.0065	9.23%	1.17%	20.85%	-1.33%	-0.0035	-0.0003
Event + 4 Year	582	0.0809	0.0507	0.0058	-0.98%	-2.12%	14.75%	-3.98%	583	0.0788	0.0511	0.0058	-7.51%	-1.92%	11.77%	-3.22%	0.0021	-0.0004
Event + 5 Year	582	0.0859	0.0514	0.0064	6.18%	1.38%	21.84%	-2.65%	583	0.0819	0.0520	0.0062	3.93%	1.76%	16.17%	-1.52%	0.0040	-0.0006

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	582	0.1512	0.0000	0.0149	NA	NA	15.94%	NA	582	0.1451	0.1319	0.0042	NA	NA	5.72%	3.94%	0.0061	-0.1319
Event - 4 Year	582	0.1546	0.0000	0.0150	2.25%	NA	13.39%	NA	582	0.1505	0.1343	0.0042	3.72%	1.82%	1.93%	2.08%	0.0041	-0.1343
Event - 3 Year	582	0.1615	0.0000	0.0153	4.46%	NA	8.54%	NA	582	0.1489	0.1341	0.0042	-1.06%	-0.15%	3.02%	2.24%	0.0126	-0.1341
Event - 2 Year	582	0.1649	0.0000	0.0154	2.11%	NA	6.31%	NA	582	0.1498	0.1337	0.0042	0.60%	-0.30%	2.40%	2.54%	0.0151	-0.1337
Event - 1 Year	582	0.1753	0.0000	0.0158	6.31%	NA	0.00%	NA	582	0.1518	0.1352	0.0042	1.34%	1.12%	1.05%	1.41%	0.0235	-0.1352
Event	582	0.1753	0.0000	0.0158	0.00%	NA	NA	NA	582	0.1534	0.1371	0.0043	1.05%	1.41%	NA	NA	0.0219	-0.1371
Event + 1 Year	582	0.1564	0.0000	0.0151	-10.78%	NA	-10.78%	NA	582	0.1395	0.1238	0.0044	-9.06%	-9.70%	-9.06%	-9.70%	0.0169	-0.1238
Event + 2 Year	582	0.1323	0.0000	0.0141	-15.41%	NA	-24.53%	NA	582	0.1210	0.1008	0.0042	-13.26%	NA	-21.12%	-26.48%	0.0113	-0.1008
Event + 3 Year	582	0.1254	0.0000	0.0137	-5.22%	NA	-28.47%	NA	582	0.1219	0.1030	0.0042	0.74%	2.18%	-20.53%	-24.87%	0.0035	-0.1030
Event + 4 Year	582	0.1220	0.0000	0.0136	-2.71%	NA	-30.41%	NA	582	0.1227	0.1090	0.0042	0.66%	5.83%	-20.01%	-20.50%	-0.0007	-0.1090
Event + 5 Year	582	0.1203	0.0000	0.0135	-1.39%	NA	-31.37%	NA	582	0.1218	0.1078	0.0041	-0.73%	-1.10%	-20.60%	-21.37%	-0.0015	-0.1078
Herfindahl-Hirschman Index																		
Event - 5 Year	582	0.0768	0.0515	0.0055	NA	NA	-8.20%	2.52%	582	0.0849	0.0520	0.0059	NA	NA	-17.79%	1.73%	-0.0081	-0.0005
Event - 4 Year	582	0.0720	0.0514	0.0051	-6.25%	-0.19%	-2.08%	2.72%	582	0.0810	0.0522	0.0054	-4.59%	0.38%	-13.83%	1.34%	-0.009	-0.0008
Event - 3 Year	582	0.0733	0.0519	0.0052	1.81%	0.97%	-3.82%	1.73%	582	0.0793	0.0538	0.0049	-2.10%	3.07%	-11.98%	-1.67%	-0.006	-0.0019
Event - 2 Year	582	0.0693	0.0520	0.0046	-5.46%	0.19%	1.73%	1.54%	582	0.0769	0.0533	0.0049	-3.03%	-0.93%	-9.23%	-0.75%	-0.0076	-0.0013
Event - 1 Year	582	0.0680	0.0522	0.0046	-1.88%	0.38%	3.68%	1.15%	582	0.0750	0.0533	0.0051	-2.47%	0.00%	-6.93%	-0.75%	-0.007	-0.0011
Event	582	0.0705	0.0528	0.0049	3.68%	1.15%	NA	NA	582	0.0698	0.0529	0.0048	-6.93%	-0.75%	NA	NA	0.0007	-0.0001
Event + 1 Year	582	0.0765	0.0538	0.0054	8.51%	1.89%	8.51%	1.89%	582	0.0750	0.0533	0.0051	7.45%	0.76%	7.45%	0.76%	0.0015	0.0005
Event + 2 Year	582	0.0794	0.0528	0.0055	3.79%	-1.86%	12.62%	0.00%	582	0.0769	0.0533	0.0049	2.53%	0.00%	10.17%	0.76%	0.0025	-0.0005
Event + 3 Year	582	0.0817	0.0518	0.0056	2.90%	-1.89%	15.89%	-1.89%	582	0.0793	0.0538	0.0049	3.12%	0.94%	13.61%	1.70%	0.0024	-0.0020
Event + 4 Year	582	0.0809	0.0507	0.0058	-0.98%	-2.12%	14.75%	-3.98%	582	0.0810	0.0522	0.0054	2.14%	-2.97%	16.05%	-1.32%	-0.0001	-0.0015
Event + 5 Year	582	0.0859	0.0514	0.0064	6.18%	1.38%	21.84%	-2.65%	582	0.0849	0.0520	0.0059	4.81%	-0.38%	21.63%	-1.70%	0.001	-0.0006

Table E.46: Corporate Governance: 13D Filings Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	582	0.0309	0.0000	0.0072	NA	NA	1206.80%	NA	583	0.0292	0.0000	0.0070	NA	NA	5.82%	NA	0.0018	0.0000
Event - 4 Year	582	0.0241	0.0000	0.0064	-22.01%	NA	1575.52%	NA	583	0.0274	0.0000	0.0068	-6.16%	NA	12.77%	NA	-0.0034	0.0000
Event - 3 Year	582	0.0223	0.0000	0.0061	-7.47%	NA	1710.76%	NA	583	0.0257	0.0000	0.0066	-6.20%	NA	20.23%	NA	-0.0034	0.0000
Event - 2 Year	582	0.0292	0.0000	0.0070	30.94%	NA	1282.88%	NA	583	0.0257	0.0000	0.0066	0.00%	NA	20.23%	NA	0.0035	0.0000
Event - 1 Year	582	0.0619	0.0000	0.0100	111.99%	NA	552.34%	NA	583	0.0257	0.0000	0.0066	0.00%	NA	20.23%	NA	0.0361***	0.0000
Event	582	0.4038	0.0000	0.0204	552.34%	NA	NA	NA	583	0.0309	0.0000	0.0072	20.23%	NA	NA	NA	0.3729***	0.0000
Event + 1 Year	582	0.0395	0.0000	0.0081	-90.22%	NA	-90.22%	NA	583	0.0240	0.0000	0.0063	-22.33%	NA	-22.33%	NA	0.0155	0.0000
Event + 2 Year	582	0.0378	0.0000	0.0079	-4.30%	NA	-90.64%	NA	583	0.0463	0.0000	0.0087	92.92%	NA	49.84%	NA	-0.0085	0.0000
Event + 3 Year	582	0.0258	0.0000	0.0066	-31.75%	NA	-93.61%	NA	583	0.0172	0.0000	0.0054	-62.85%	NA	-44.34%	NA	0.0086	0.0000
Event + 4 Year	582	0.0275	0.0000	0.0068	6.59%	NA	-93.19%	NA	583	0.0309	0.0000	0.0072	79.65%	NA	0.00%	NA	-0.0034	0.0000
Event + 5 Year	582	0.0206	0.0000	0.0059	-25.09%	NA	-94.90%	NA	583	0.0240	0.0000	0.0063	-22.33%	NA	-22.33%	NA	-0.0034	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	582	0.0309	0.0000	0.0072	NA	NA	1206.80%	NA	582	0.0189	0.0163	0.0006	NA	NA	44.97%	72.39%	0.012*	-0.0163
Event - 4 Year	582	0.0241	0.0000	0.0064	-22.01%	NA	1575.52%	NA	582	0.0195	0.0176	0.0006	3.17%	7.98%	40.51%	59.66%	0.0046	-0.0176
Event - 3 Year	582	0.0223	0.0000	0.0061	-7.47%	NA	1710.76%	NA	582	0.0211	0.0201	0.0006	8.21%	14.20%	29.86%	39.80%	0.0012	-0.0201
Event - 2 Year	582	0.0292	0.0000	0.0070	30.94%	NA	1282.88%	NA	582	0.0226	0.0227	0.0006	7.11%	12.94%	21.24%	23.79%	0.0066	-0.0227
Event - 1 Year	582	0.0619	0.0000	0.0100	111.99%	NA	552.34%	NA	582	0.0226	0.0219	0.0006	0.00%	-3.52%	21.24%	28.31%	0.0393***	-0.0219
Event	582	0.4038	0.0000	0.0204	552.34%	NA	NA	NA	582	0.0274	0.0281	0.0006	21.24%	28.31%	NA	NA	0.3764***	-0.0281
Event + 1 Year	582	0.0395	0.0000	0.0081	-90.22%	NA	-90.22%	NA	582	0.0224	0.0227	0.0006	-18.25%	NA	-18.25%	-19.22%	0.0171**	-0.0227
Event + 2 Year	582	0.0378	0.0000	0.0079	-4.30%	NA	-90.64%	NA	582	0.0190	0.0179	0.0007	-15.18%	-21.15%	-30.66%	-36.30%	0.0188**	-0.0179
Event + 3 Year	582	0.0258	0.0000	0.0066	-31.75%	NA	-93.61%	NA	582	0.0171	0.0136	0.0007	-10.00%	NA	-37.59%	-51.60%	0.0087	-0.0136
Event + 4 Year	582	0.0275	0.0000	0.0068	6.59%	NA	-93.19%	NA	582	0.0158	0.0125	0.0006	-7.60%	-8.09%	-42.34%	-55.52%	0.0117*	-0.0125
Event + 5 Year	582	0.0206	0.0000	0.0059	-25.09%	NA	-94.90%	NA	582	0.0145	0.0099	0.0006	-8.23%	NA	-47.08%	-64.77%	0.0061	-0.0099

Table E.47: Corporate Governance: Classified Board and Poison Pill Ex Ante and Ex Post Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Classified Board is a dummy variable if the firm had a staggered board prior to the even and Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	582	0.1478	0.0000	0.0147	NA	NA	198.78%	NA	583	0.1338	0.0000	0.0141	NA	NA	3.81%	NA	0.0140	0.0000
Event - 4 Year	582	0.1546	0.0000	0.0150	4.60%	NA	185.64%	NA	583	0.1509	0.0000	0.0148	12.78%	NA	-7.95%	NA	0.0037	0.0000
Event - 3 Year	582	0.1426	0.0000	0.0145	-7.76%	NA	209.68%	NA	583	0.1475	0.0000	0.0147	-2.25%	NA	-5.83%	NA	-0.0049	0.0000
Event - 2 Year	582	0.1495	0.0000	0.0148	4.84%	NA	195.38%	NA	583	0.1630	0.0000	0.0153	10.51%	NA	-14.79%	NA	-0.0135	0.0000
Event - 1 Year	582	0.1409	0.0000	0.0144	-5.75%	NA	213.41%	NA	583	0.1561	0.0000	0.0150	-4.23%	NA	-11.02%	NA	-0.0152	0.0000
Event	582	0.4416	0.0000	0.0206	213.41%	NA	NA	NA	583	0.1389	0.0000	0.0143	-11.02%	NA	NA	NA	0.3026***	0.0000
Event + 1 Year	582	0.1014	0.0000	0.0125	-77.04%	NA	-77.04%	NA	583	0.1184	0.0000	0.0134	-14.76%	NA	-14.76%	NA	-0.0170	0.0000
Event + 2 Year	582	0.0739	0.0000	0.0109	-27.12%	NA	-83.27%	NA	583	0.1081	0.0000	0.0129	-8.70%	NA	-22.17%	NA	-0.0342**	0.0000
Event + 3 Year	582	0.0584	0.0000	0.0097	-20.97%	NA	-86.78%	NA	583	0.1046	0.0000	0.0127	-3.24%	NA	-24.69%	NA	-0.0462***	0.0000
Event + 4 Year	582	0.0584	0.0000	0.0097	0.00%	NA	-86.78%	NA	583	0.0909	0.0000	0.0119	-13.10%	NA	-34.56%	NA	-0.0325**	0.0000
Event + 5 Year	582	0.0515	0.0000	0.0092	-11.82%	NA	-88.34%	NA	583	0.0806	0.0000	0.0113	-11.33%	NA	-41.97%	NA	-0.0291**	0.0000
Poison Pill																		
Event - 5 Year	582	0.2251	0.0000	0.0173	NA	NA	3.82%	NA	583	0.1612	0.0000	0.0152	NA	NA	-6.39%	NA	0.0639***	0.0000
Event - 4 Year	582	0.2285	0.0000	0.0174	1.51%	NA	2.28%	NA	583	0.1630	0.0000	0.0153	1.12%	NA	-7.42%	NA	0.0656***	0.0000
Event - 3 Year	582	0.2268	0.0000	0.0174	-0.74%	NA	3.04%	NA	583	0.1578	0.0000	0.0151	-3.19%	NA	-4.37%	NA	0.0690***	0.0000
Event - 2 Year	582	0.2165	0.0000	0.0171	-4.54%	NA	7.94%	NA	583	0.1527	0.0000	0.0149	-3.23%	NA	-1.18%	NA	0.0638***	0.0000
Event - 1 Year	582	0.2045	0.0000	0.0167	-5.54%	NA	14.28%	NA	583	0.1492	0.0000	0.0148	-2.29%	NA	1.14%	NA	0.0552**	0.0000
Event	582	0.2337	0.0000	0.0176	14.28%	NA	NA	NA	583	0.1509	0.0000	0.0148	1.14%	NA	NA	NA	0.0827***	0.0000
Event + 1 Year	582	0.1838	0.0000	0.0161	-21.35%	NA	-21.35%	NA	583	0.1304	0.0000	0.0140	-13.59%	NA	-13.59%	NA	0.0535**	0.0000
Event + 2 Year	582	0.1340	0.0000	0.0141	-27.09%	NA	-42.66%	NA	583	0.1166	0.0000	0.0133	-10.58%	NA	-22.73%	NA	0.0174	0.0000
Event + 3 Year	582	0.1151	0.0000	0.0132	-14.10%	NA	-50.75%	NA	583	0.1029	0.0000	0.0126	-11.75%	NA	-31.81%	NA	0.0122	0.0000
Event + 4 Year	582	0.0928	0.0000	0.0120	-19.37%	NA	-60.29%	NA	583	0.0840	0.0000	0.0115	-18.37%	NA	-44.33%	NA	0.0087	0.0000
Event + 5 Year	582	0.0808	0.0000	0.0113	-12.93%	NA	-65.43%	NA	583	0.0720	0.0000	0.0107	-14.29%	NA	-52.29%	NA	0.0087	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	582	0.1478	0.0000	0.0147	NA	NA	198.78%	NA	582	0.1178	0.1031	0.0035	NA	NA	17.49%	21.05%	0.03**	-0.1031
Event - 4 Year	582	0.1546	0.0000	0.0150	4.60%	NA	185.64%	NA	582	0.1241	0.1094	0.0035	5.35%	6.11%	11.52%	14.08%	0.0305**	-0.1094
Event - 3 Year	582	0.1426	0.0000	0.0145	-7.76%	NA	209.68%	NA	582	0.1289	0.1151	0.0035	3.87%	5.21%	7.37%	8.43%	0.0137	-0.1151
Event - 2 Year	582	0.1495	0.0000	0.0148	4.84%	NA	195.38%	NA	582	0.1344	0.1244	0.0035	4.27%	8.08%	2.98%	0.32%	0.0151	-0.1244
Event - 1 Year	582	0.1409	0.0000	0.0144	-5.75%	NA	213.41%	NA	582	0.1394	0.1257	0.0035	3.72%	1.05%	-0.72%	-0.72%	0.0015	-0.1257
Event	582	0.4416	0.0000	0.0206	213.41%	NA	NA	NA	582	0.1384	0.1248	0.0035	-0.72%	-0.72%	NA	NA	0.3032***	-0.1248
Event + 1 Year	582	0.1014	0.0000	0.0125	-77.04%	NA	-77.04%	NA	582	0.1284	0.1150	0.0037	-7.23%	-7.85%	-7.23%	-7.85%	-0.027**	-0.1150
Event + 2 Year	582	0.0739	0.0000	0.0109	-27.12%	NA	-83.27%	NA	582	0.1117	0.1002	0.0037	-13.01%	NA	-19.29%	-19.71%	-0.0378***	-0.1002
Event + 3 Year	582	0.0584	0.0000	0.0097	-20.97%	NA	-86.78%	NA	582	0.1042	0.0927	0.0036	-6.71%	-7.49%	-24.71%	-25.72%	-0.0458***	-0.0927
Event + 4 Year	582	0.0584	0.0000	0.0097	0.00%	NA	-86.78%	NA	582	0.0991	0.0807	0.0036	-4.89%	NA	-28.40%	-35.34%	-0.0407***	-0.0807
Event + 5 Year	582	0.0515	0.0000	0.0092	-11.82%	NA	-88.34%	NA	582	0.0936	0.0730	0.0036	-5.55%	-9.54%	-32.37%	-41.51%	-0.0421***	-0.0730
Poison Pill																		
Event - 5 Year	582	0.2251	0.0000	0.0173	NA	NA	3.82%	NA	582	0.1380	0.1407	0.0036	NA	NA	-5.58%	-10.95%	0.0871***	-0.1407
Event - 4 Year	582	0.2285	0.0000	0.0174	1.51%	NA	2.28%	NA	582	0.1410	0.1457	0.0035	2.17%	3.55%	-7.59%	-14.00%	0.0875***	-0.1457
Event - 3 Year	582	0.2268	0.0000	0.0174	-0.74%	NA	3.04%	NA	582	0.1418	0.1466	0.0034	0.57%	0.62%	-8.11%	-14.53%	0.085***	-0.1466
Event - 2 Year	582	0.2165	0.0000	0.0171	-4.54%	NA	7.94%	NA	582	0.1407	0.1389	0.0034	-0.78%	-5.25%	-7.39%	-9.79%	0.0758***	-0.1389
Event - 1 Year	582	0.2045	0.0000	0.0167	-5.54%	NA	14.28%	NA	582	0.1374	0.1346	0.0032	-2.35%	-3.10%	-5.17%	-6.91%	0.0671***	-0.1346
Event	582	0.2337	0.0000	0.0176	14.28%	NA	NA	NA	582	0.1303	0.1253	0.0032	-5.17%	-6.91%	NA	NA	0.1034***	-0.1253
Event + 1 Year	582	0.1838	0.0000	0.0161	-21.35%	NA	-21.35%	NA	582	0.1162	0.1097	0.0035	-10.82%	NA	-10.82%	-12.45%	0.0676***	-0.1097
Event + 2 Year	582	0.1340	0.0000	0.0141	-27.09%	NA	-42.66%	NA	582	0.0967	0.0926	0.0034	-16.78%	NA	-25.79%	-26.10%	0.0373***	-0.0926
Event + 3 Year	582	0.1151	0.0000	0.0132	-14.10%	NA	-50.75%	NA	582	0.0877	0.0752	0.0033	-9.31%	NA	-32.69%	-39.98%	0.0274**	-0.0752
Event + 4 Year	582	0.0928	0.0000	0.0120	-19.37%	NA	-60.29%	NA	582	0.0849	0.0626	0.0033	-3.19%	NA	-34.84%	-50.04%	0.0079	-0.0626
Event + 5 Year	582	0.0808	0.0000	0.0113	-12.93%	NA	-65.43%	NA	582	0.0794	0.0546	0.0032	-6.48%	NA	-39.06%	-56.42%	0.0014	-0.0546

Table E.48: Long-term Operating Performance: Revenue Growth and Operating Margin Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Revenue Growth is defined as the LTM rolling sales and Operating Margin is (EBITDA/sales). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	109	0.0178	0.0083	0.0224	NA	NA	-345.51%	-262.65%	101	-0.0090	0.0002	0.0205	NA	NA	-57.78%	3600.00%	0.0268	0.0081
Event - 4 Year	106	0.0287	0.0068	0.0199	61.24%	-18.07%	-252.26%	-298.53%	106	0.0735	0.0458	0.0233	-916.67%	NA	-105.17%	-83.84%	-0.0448	-0.0390
Event - 3 Year	106	0.0468	0.0094	0.0248	63.07%	38.24%	-193.38%	-243.62%	112	0.0487	0.0227	0.0231	-33.74%	-50.44%	-107.80%	-67.40%	-0.0018	-0.0133
Event - 2 Year	111	0.0323	0.0352	0.0213	-30.98%	274.47%	-235.29%	-138.35%	113	0.0504	0.0497	0.0191	3.49%	118.94%	-107.54%	-85.11%	-0.0182	-0.0145
Event - 1 Year	111	0.0222	0.0383	0.0185	-31.27%	8.81%	-296.85%	-135.25%	110	0.0375	0.0125	0.0215	-25.60%	-74.85%	-110.13%	-40.80%	-0.0152	0.0258
Event	111	-0.0437	-0.0135	0.0165	-296.85%	-135.25%	NA	NA	112	-0.0038	0.0074	0.0220	-110.13%	-40.80%	NA	NA	-0.0399	-0.0209
Event + 1 Year	91	0.0160	-0.0079	0.0251	-136.61%	-41.48%	-136.61%	-41.48%	96	0.0329	0.0379	0.0205	-965.79%	412.16%	-965.79%	412.16%	-0.0169	-0.0458
Event + 2 Year	93	0.0089	0.0228	0.0197	-44.38%	-388.61%	-120.37%	-268.89%	97	-0.0150	-0.0023	0.0199	-145.59%	-106.07%	294.74%	-131.08%	0.0239	0.0251
Event + 3 Year	94	0.0256	0.0272	0.0219	187.64%	19.30%	-158.58%	-301.48%	105	0.0719	0.0336	0.0222	-579.33%	-1560.87%	-1992.11%	354.05%	-0.0463	-0.0064
Event + 4 Year	96	0.0544	0.0420	0.0222	112.50%	54.41%	-224.49%	-411.11%	106	0.0760	0.0369	0.0240	5.70%	9.82%	-2100.00%	398.65%	-0.0215	0.0051
Event + 5 Year	101	0.0249	0.0146	0.0207	-54.23%	-65.24%	-156.98%	-208.15%	96	0.0564	0.0132	0.0261	-25.79%	-64.23%	-1584.21%	78.38%	-0.0314	0.0014
Operating Margin																		
Event - 5 Year	94	-0.1959	0.0870	0.0949	NA	NA	-38.49%	-14.02%	101	-0.1021	0.1061	0.0825	NA	NA	45.25%	-20.08%	-0.0938	-0.0191
Event - 4 Year	97	-0.1732	0.0630	0.0907	-11.59%	-27.59%	-30.43%	18.73%	97	-0.1264	0.1150	0.0896	23.80%	8.39%	17.33%	-26.26%	-0.0469	-0.0520
Event - 3 Year	94	-0.0184	0.1132	0.0635	-89.38%	79.68%	554.89%	-33.92%	94	-0.0992	0.1410	0.0853	-21.52%	22.61%	49.50%	-39.86%	0.0807	-0.0278
Event - 2 Year	97	-0.0850	0.0919	0.0722	361.96%	-18.82%	41.76%	-18.61%	97	-0.0225	0.1168	0.0688	-77.32%	-17.16%	559.11%	-27.40%	-0.0624	-0.0249
Event - 1 Year	107	-0.1250	0.0861	0.0767	47.06%	-6.31%	-3.60%	-13.12%	107	-0.1676	0.1022	0.0922	644.89%	-12.50%	-11.52%	-17.03%	0.0426	-0.0161
Event	102	-0.1205	0.0748	0.0740	-3.60%	-13.12%	NA	NA	102	-0.1483	0.0848	0.0834	-11.52%	-17.03%	NA	NA	0.0278	-0.0100
Event + 1 Year	96	-0.2098	0.0638	0.0885	74.11%	-14.71%	74.11%	-14.71%	96	-0.1769	0.0925	0.0930	19.29%	9.08%	19.29%	9.08%	-0.0329	-0.0287
Event + 2 Year	94	-0.1047	0.0790	0.0799	-50.10%	23.82%	-13.11%	5.61%	94	-0.1360	0.1079	0.0905	-23.12%	16.65%	-8.29%	27.24%	0.0313	-0.0289
Event + 3 Year	94	-0.1344	0.1158	0.0896	28.37%	46.58%	11.54%	54.81%	94	-0.1024	0.1117	0.0822	-24.71%	3.52%	-30.95%	31.72%	-0.0319	0.0041
Event + 4 Year	97	0.0494	0.1539	0.0638	-136.76%	32.90%	-141.00%	105.75%	97	-0.0519	0.1240	0.0724	-49.32%	11.01%	-65.00%	46.23%	0.1013	0.0299
Event + 5 Year	97	-0.0138	0.1429	0.0772	-127.94%	-7.15%	-88.55%	91.04%	97	-0.1368	0.0876	0.0830	163.58%	-29.35%	-7.75%	3.30%	0.1230	0.0553

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	109	0.0178	0.0083	0.0224	NA	NA	-345.51%	-262.65%	121	0.2162	0.0569	0.0540	NA	NA	2.64%	-11.07%	-0.1984***	-0.0486
Event - 4 Year	106	0.0287	0.0068	0.0199	61.24%	-18.07%	-252.26%	-298.53%	121	0.1443	0.0656	0.0359	-33.26%	15.29%	53.78%	-22.87%	-0.1156***	-0.0588
Event - 3 Year	106	0.0468	0.0094	0.0248	63.07%	38.24%	-193.38%	-243.62%	121	0.2131	0.0702	0.0475	47.68%	7.01%	4.13%	-27.92%	-0.1663***	-0.0608
Event - 2 Year	111	0.0323	0.0352	0.0213	-30.98%	274.47%	-235.29%	-138.35%	121	0.1845	0.0523	0.0434	-13.42%	-25.50%	20.27%	-3.25%	-0.1522***	-0.0171
Event - 1 Year	111	0.0222	0.0383	0.0185	-31.27%	8.81%	-296.85%	-135.25%	121	0.2138	0.0631	0.0507	15.88%	20.65%	3.79%	-19.81%	-0.1916***	-0.0248
Event	111	-0.0437	-0.0135	0.0165	-296.85%	-135.25%	NA	NA	121	0.2219	0.0506	0.0543	3.79%	-19.81%	NA	NA	-0.2656***	-0.0641
Event + 1 Year	91	0.0160	-0.0079	0.0251	-136.61%	-41.48%	-136.61%	-41.48%	120	0.2633	0.0612	0.0610	18.66%	20.95%	18.66%	20.95%	-0.2473***	-0.0691
Event + 2 Year	93	0.0089	0.0228	0.0197	-44.38%	-388.61%	-120.37%	-268.89%	120	0.1777	0.0490	0.0475	-32.51%	-19.93%	-19.92%	-3.16%	-0.1688***	-0.0262
Event + 3 Year	94	0.0256	0.0272	0.0219	187.64%	19.30%	-158.58%	-301.48%	121	0.2052	0.0585	0.0503	15.48%	19.39%	-7.53%	15.61%	-0.1796***	-0.0313
Event + 4 Year	96	0.0544	0.0420	0.0222	112.50%	54.41%	-224.49%	-411.11%	121	0.1860	0.0711	0.0393	-9.36%	21.54%	-16.18%	40.51%	-0.1316***	-0.0291
Event + 5 Year	101	0.0249	0.0146	0.0207	-54.23%	-65.24%	-156.98%	-208.15%	121	0.2494	0.0730	0.0556	34.09%	2.67%	12.39%	44.27%	-0.2245***	-0.0584
Operating Margin																		
Event - 5 Year	94	-0.1959	0.0870	0.0949	NA	NA	-38.49%	-14.02%	121	-2.9643	-0.0168	0.7147	NA	NA	-2.68%	-412.50%	2.7684***	0.1038
Event - 4 Year	97	-0.1732	0.0630	0.0907	-11.59%	-27.59%	-30.43%	18.73%	121	-2.5640	0.0395	0.6621	-13.50%	-335.12%	12.52%	32.91%	2.3908***	0.0235
Event - 3 Year	94	-0.0184	0.1132	0.0635	-89.38%	79.68%	554.89%	-33.92%	121	-2.8776	0.0646	0.7155	12.23%	63.54%	0.25%	-18.73%	2.8592***	0.0486
Event - 2 Year	97	-0.0850	0.0919	0.0722	361.96%	-18.82%	41.76%	-18.61%	121	-2.6446	0.0641	0.6867	-8.10%	-0.77%	9.09%	-18.10%	2.5596***	0.0278
Event - 1 Year	107	-0.1250	0.0861	0.0767	47.06%	-6.31%	-3.60%	-13.12%	121	-2.6468	0.0515	0.6933	0.08%	-19.66%	9.00%	1.94%	2.5218***	0.0346
Event	102	-0.1205	0.0748	0.0740	-3.60%	-13.12%	NA	NA	121	-2.8849	0.0525	0.7206	9.00%	1.94%	NA	NA	2.7644***	0.0223
Event + 1 Year	96	-0.2098	0.0638	0.0885	74.11%	-14.71%	74.11%	-14.71%	121	-2.8574	0.0518	0.7336	-0.95%	-1.33%	-0.95%	-1.33%	2.6476***	0.0120
Event + 2 Year	94	-0.1047	0.0790	0.0799	-50.10%	23.82%	-13.11%	5.61%	121	-2.2496	0.0609	0.6301	-21.27%	17.57%	-22.02%	16.00%	2.1449***	0.0181
Event + 3 Year	94	-0.1344	0.1158	0.0896	28.37%	46.58%	11.54%	54.81%	121	-2.5478	0.0355	0.6380	13.26%	-41.71%	-11.68%	-32.38%	2.4134***	0.0803
Event + 4 Year	97	0.0494	0.1539	0.0638	-136.76%	32.90%	-141.00%	105.75%	121	-2.7379	0.0458	0.6873	7.46%	29.01%	-5.10%	-12.76%	2.7873***	0.1081
Event + 5 Year	97	-0.0138	0.1429	0.0772	-127.94%	-7.15%	-88.55%	91.04%	121	-2.9222	0.0521	0.7271	6.73%	13.76%	1.29%	-0.76%	2.9084***	0.0908

Table E.49: Long-term Operating Performance: ROA and Tobin's Q Ex Ante and Ex Post Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROA is defined as (EBIT * (1-tax rate)/Book Value of Total Assets) and Tobin's Q is (book value of debt + market value of equity)/(book value of debt + book value of equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	95	0.0270	0.0676	0.0213	NA	NA	-71.11%	-69.67%	96	0.0262	0.0863	0.0202	NA	NA	-95.42%	-44.84%	0.0007	-0.0187
Event - 4 Year	93	0.0134	0.0462	0.0220	-50.37%	-31.66%	-41.79%	-55.63%	101	0.0304	0.0865	0.0214	16.03%	0.23%	-96.05%	-44.97%	-0.0170	-0.0403
Event - 3 Year	90	0.0274	0.0523	0.0212	104.48%	13.20%	-71.53%	-60.80%	106	0.0434	0.0807	0.0197	42.76%	-6.71%	-97.24%	-41.02%	-0.0160	-0.0284
Event - 2 Year	96	0.0195	0.0435	0.0185	-28.83%	-16.83%	-60.00%	-52.87%	105	0.0486	0.0932	0.0200	11.98%	15.49%	-97.53%	-48.93%	-0.0291	-0.0497
Event - 1 Year	106	0.0369	0.0611	0.0164	89.23%	40.46%	-78.86%	-66.45%	102	0.0264	0.0704	0.0221	-45.68%	-24.46%	-95.45%	-32.39%	0.0106	-0.0093
Event	103	0.0078	0.0205	0.0179	-78.86%	-66.45%	NA	NA	104	0.0012	0.0476	0.0235	-95.45%	-32.39%	NA	NA	0.0066	-0.0271
Event + 1 Year	91	-0.0060	0.0371	0.0227	-176.92%	80.98%	-176.92%	80.98%	93	0.0093	0.0445	0.0223	675.00%	-6.51%	675.00%	-6.51%	-0.0154	-0.0074
Event + 2 Year	91	0.0077	0.0366	0.0202	-228.33%	-1.35%	-1.28%	78.54%	96	0.0108	0.0599	0.0212	16.13%	34.61%	800.00%	25.84%	-0.0031	-0.0233
Event + 3 Year	88	0.0169	0.0589	0.0225	119.48%	60.93%	116.67%	187.32%	102	0.0331	0.0569	0.0199	206.48%	-5.01%	2658.33%	19.54%	-0.0161	0.0020
Event + 4 Year	94	0.0529	0.1003	0.0217	213.02%	70.29%	578.21%	389.27%	100	0.0420	0.0756	0.0189	26.89%	32.86%	3400.00%	58.82%	0.0109	0.0247
Event + 5 Year	90	0.0527	0.0819	0.0200	-0.38%	-18.34%	575.64%	299.51%	90	0.0273	0.0545	0.0208	-35.00%	-27.91%	2175.00%	14.50%	0.0254	0.0274
Tobin's Q																		
Event - 5 Year	107	2.0403	1.4497	0.1624	NA	NA	-15.66%	-21.60%	109	2.0394	1.3579	0.1944	NA	NA	8.87%	-4.43%	0.0009	0.0918
Event - 4 Year	110	2.0545	1.3626	0.1678	0.70%	-6.01%	-16.24%	-16.59%	113	2.1425	1.2508	0.2067	5.06%	-7.89%	3.63%	3.76%	-0.0880	0.1118
Event - 3 Year	106	2.0199	1.3888	0.1755	-1.68%	1.92%	-14.81%	-18.16%	113	2.1195	1.2456	0.2057	-1.07%	-0.42%	4.75%	4.19%	-0.0997	0.1432
Event - 2 Year	108	2.0385	1.3237	0.1913	0.92%	-4.69%	-15.58%	-14.13%	113	2.0514	1.3080	0.1815	-3.21%	5.01%	8.23%	-0.78%	-0.0129	0.0157
Event - 1 Year	107	1.7927	1.2425	0.1609	-12.06%	-6.13%	-4.01%	-8.52%	116	2.2208	1.3002	0.2063	8.26%	-0.60%	-0.03%	-0.18%	-0.4281	-0.0577
Event	103	1.7208	1.1366	0.1600	-4.01%	-8.52%	NA	NA	116	2.2202	1.2978	0.2098	-0.03%	-0.18%	NA	NA	-0.4993*	-0.1612
Event + 1 Year	98	1.8166	1.3675	0.1527	5.57%	20.31%	5.57%	20.31%	107	2.2706	1.2926	0.2189	2.27%	-0.40%	2.27%	-0.40%	-0.4540*	0.0749
Event + 2 Year	97	2.0220	1.2862	0.1856	11.31%	-5.95%	17.50%	13.16%	107	2.0222	1.2622	0.2072	-10.94%	-2.35%	-8.92%	-2.74%	-0.0002	0.0240
Event + 3 Year	98	2.0035	1.3268	0.1885	-0.91%	3.16%	16.43%	16.73%	113	1.9815	1.2648	0.1658	-2.01%	0.21%	-10.75%	-2.54%	0.0220	0.0620
Event + 4 Year	103	2.2897	1.5040	0.2179	14.29%	13.36%	33.06%	32.32%	110	1.9812	1.3291	0.1722	-0.02%	5.08%	-10.76%	2.41%	0.3086	0.1749
Event + 5 Year	107	2.1742	1.3672	0.1982	-5.04%	-9.10%	26.35%	20.29%	102	2.0606	1.4216	0.1911	4.01%	6.96%	-7.19%	9.54%	0.1136	-0.0544

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	95	0.027	0.0676	0.0213	NA	NA	-71.11%	-69.67%	95	0.0293	0.0631	0.0023	NA	NA	43.34%	3.80%	0.0449***	0.0309
Event - 4 Year	93	0.0134	0.0462	0.0220	-50.37%	-31.66%	-41.79%	-55.63%	93	0.0340	0.0633	0.0022	16.04%	0.32%	23.53%	3.48%	0.0392***	0.0287
Event - 3 Year	90	0.0274	0.0523	0.0212	104.48%	13.20%	-71.53%	-60.80%	90	0.0374	0.0652	0.0022	10.00%	3.00%	12.30%	0.46%	0.0339***	0.0245
Event - 2 Year	96	0.0195	0.0435	0.0185	-28.83%	-16.83%	-60.00%	-52.87%	96	0.0428	0.0711	0.0021	14.44%	9.05%	-1.87%	-7.88%	0.0291***	0.0189
Event - 1 Year	106	0.0369	0.0611	0.0164	89.23%	40.46%	-78.86%	-66.45%	106	0.0408	0.0684	0.0021	-4.67%	-3.80%	2.94%	-4.24%	0.0239***	0.0167
Event	103	0.0078	0.0205	0.0179	-78.86%	-66.45%	NA	NA	103	0.0420	0.0655	0.0021	2.94%	-4.24%	NA	NA	0.009***	0.0101
Event + 1 Year	91	-0.0060	0.0371	0.0227	-176.92%	80.98%	-176.92%	80.98%	91	0.0431	0.0704	0.0020	2.62%	7.48%	2.62%	7.48%	0.0059*	0.0066
Event + 2 Year	91	0.0077	0.0366	0.0202	-228.33%	-1.35%	-1.28%	78.54%	91	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	0.0063*	0.0058
Event + 3 Year	88	0.0169	0.0589	0.0225	119.48%	60.93%	116.67%	187.32%	88	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	15.11%	0.006*	0.0070
Event + 4 Year	94	0.0529	0.1003	0.0217	213.02%	70.29%	578.21%	389.27%	94	0.0418	0.0767	0.0021	-0.48%	1.72%	-0.48%	17.10%	0.0131***	0.0106
Event + 5 Year	90	0.0527	0.0819	0.0200	-0.38%	-18.34%	575.64%	299.51%	90	0.0392	0.0740	0.0021	-6.22%	-3.52%	-6.67%	12.98%	0.0167***	0.0161
Tobin's Q																		
Event - 5 Year	107	2.0403	1.4497	0.1624	NA	NA	-15.66%	-21.60%	121	3.1245	1.9602	0.3693	NA	NA	-6.48%	0.60%	-1.0842***	-0.5105
Event - 4 Year	110	2.0545	1.3626	0.1678	0.70%	-6.01%	-16.24%	-16.59%	121	2.6840	1.9846	0.2583	-14.10%	1.24%	8.87%	-0.64%	-0.6295**	-0.6220
Event - 3 Year	106	2.0199	1.3888	0.1755	-1.68%	1.92%	-14.81%	-18.16%	121	3.1545	1.9750	0.3791	17.53%	-0.48%	-7.37%	-0.16%	-1.1346***	-0.5862
Event - 2 Year	108	2.0385	1.3237	0.1913	0.92%	-4.69%	-15.58%	-14.13%	121	3.6058	1.9047	0.5185	14.31%	-3.56%	-18.96%	3.53%	-1.5673***	-0.5810
Event - 1 Year	107	1.7927	1.2425	0.1609	-12.06%	-6.13%	-4.01%	-8.52%	121	3.0816	2.0322	0.4012	-14.54%	6.69%	-5.18%	-2.97%	-1.2889***	-0.7897
Event	103	1.7208	1.1366	0.1600	-4.01%	-8.52%	NA	NA	121	2.9221	1.9719	0.3622	-5.18%	-2.97%	NA	NA	-1.2013***	-0.8353
Event + 1 Year	98	1.8166	1.3675	0.1527	5.57%	20.31%	5.57%	20.31%	121	2.9562	1.9505	0.3691	1.17%	-1.09%	1.17%	-1.09%	-1.1396***	-0.5830
Event + 2 Year	97	2.0220	1.2862	0.1856	11.31%	-5.95%	17.50%	13.16%	121	3.2032	2.0547	0.4147	8.36%	5.34%	9.62%	4.20%	-1.1812***	-0.7685
Event + 3 Year	98	2.0035	1.3268	0.1885	-0.91%	3.16%	16.43%	16.73%	121	3.2041	2.1111	0.3986	0.03%	2.74%	9.65%	7.06%	-1.2006***	-0.7843
Event + 4 Year	103	2.2897	1.5040	0.2179	14.29%	13.36%	33.06%	32.32%	121	3.6315	2.1293	0.4635	13.34%	0.86%	24.28%	7.98%	-1.3418***	-0.6253
Event + 5 Year	107	2.1742	1.3672	0.1982	-5.04%	-9.10%	26.35%	20.29%	121	3.6198	1.8390	0.5081	-0.32%	-13.63%	23.88%	-6.74%	-1.4456***	-0.4718

Table E.50: Long-term Operating Performance: ROE and ROIC Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROE is defined as (Net Income / Book Value of Equity) and ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	110	0.0213	0.0647	0.0348	NA	NA	-576.53%	-103.40%	107	-0.1082	0.0458	0.0479	NA	NA	-18.67%	28.82%	0.1295**	0.0189
Event - 4 Year	111	-0.0718	0.0438	0.0437	-437.09%	-32.30%	41.36%	-105.02%	112	-0.0537	0.0540	0.0430	-50.37%	17.90%	63.87%	9.26%	-0.0180	-0.0102
Event - 3 Year	110	-0.0595	0.0399	0.0432	-17.13%	-8.90%	70.59%	-105.51%	115	-0.0529	0.0675	0.0466	-1.49%	25.00%	66.35%	-12.59%	-0.0066	-0.0276
Event - 2 Year	114	-0.0554	0.0481	0.0420	-6.89%	20.55%	83.21%	-104.57%	114	-0.0327	0.0787	0.0435	-38.19%	16.59%	169.11%	-25.03%	-0.0226	-0.0306
Event - 1 Year	116	-0.0879	0.0399	0.0422	58.66%	-17.05%	15.47%	-105.51%	117	-0.0658	0.0510	0.0477	101.22%	-35.20%	33.74%	15.69%	-0.0222	-0.0111
Event	113	-0.1015	-0.0022	0.0405	15.47%	-105.51%	NA	NA	116	-0.0880	0.0590	0.0467	33.74%	15.69%	NA	NA	-0.0135	-0.0612
Event + 1 Year	101	-0.1899	-0.0213	0.0535	87.09%	868.18%	87.09%	868.18%	105	-0.0810	0.0368	0.0476	-7.95%	-37.63%	-7.95%	-37.63%	-0.1089	-0.0581
Event + 2 Year	102	-0.1287	0.0101	0.0488	-32.23%	-147.42%	26.80%	-559.09%	104	-0.0505	0.0372	0.0423	-37.65%	1.09%	-42.61%	-36.95%	-0.0782	-0.0271
Event + 3 Year	98	-0.1404	0.0315	0.0534	9.09%	211.88%	38.33%	-1531.82%	110	-0.0259	0.0397	0.0373	-48.71%	6.72%	-70.57%	-32.71%	-0.1145*	-0.0082
Event + 4 Year	104	-0.0418	0.0696	0.0470	-70.23%	120.95%	-58.82%	-3263.64%	110	-0.0696	0.0468	0.0423	168.73%	17.88%	-20.91%	-20.68%	0.0278	0.0228
Event + 5 Year	103	-0.0554	0.0915	0.0503	32.54%	31.47%	-45.42%	-4259.09%	100	-0.0629	0.0310	0.0421	-9.63%	-33.76%	-28.52%	-47.46%	0.0075	0.0605
ROIC																		
Event - 5 Year	106	0.0041	0.0393	0.0163	NA	NA	-831.71%	-52.42%	104	-0.0122	0.0413	0.0179	NA	NA	61.48%	-19.37%	0.0162	-0.0020
Event - 4 Year	108	-0.0224	0.0333	0.0191	-646.34%	-15.27%	33.93%	-43.84%	108	-0.0061	0.0390	0.0187	-50.00%	-5.57%	222.95%	-14.62%	-0.0163	-0.0057
Event - 3 Year	102	0.0031	0.0281	0.0174	-113.84%	-15.62%	-1067.74%	-33.45%	114	0.0069	0.0496	0.0182	-213.11%	27.18%	-385.51%	-32.86%	-0.0037	-0.0215
Event - 2 Year	110	-0.0095	0.0309	0.0158	-406.45%	9.96%	215.79%	-39.48%	110	0.0175	0.0532	0.0179	153.62%	7.26%	-212.57%	-37.41%	-0.0270	-0.0223
Event - 1 Year	112	-0.0043	0.0335	0.0147	-54.74%	8.41%	597.67%	-44.18%	113	0.0023	0.0399	0.0192	-86.86%	-25.00%	-956.52%	-16.54%	-0.0066	-0.0064
Event	108	-0.0300	0.0187	0.0162	597.67%	-44.18%	NA	NA	110	-0.0197	0.0333	0.0200	-956.52%	-16.54%	NA	NA	-0.0103	-0.0146
Event + 1 Year	98	-0.0384	0.0152	0.0202	28.00%	-18.72%	28.00%	-18.72%	100	-0.0029	0.0366	0.0182	-85.28%	9.91%	-85.28%	9.91%	-0.0355	-0.0214
Event + 2 Year	98	-0.0288	0.0243	0.0186	-25.00%	59.87%	-4.00%	29.95%	100	-0.0133	0.0360	0.0187	358.62%	-1.64%	-32.49%	8.11%	-0.0155	-0.0117
Event + 3 Year	96	-0.0162	0.0330	0.0209	-43.75%	35.80%	-46.00%	76.47%	110	0.0063	0.0358	0.0164	-147.37%	-0.56%	-131.98%	7.51%	-0.0224	-0.0028
Event + 4 Year	100	0.0248	0.0550	0.0188	-253.09%	66.67%	-182.67%	194.12%	110	0.0027	0.0382	0.0149	-57.14%	6.70%	-113.71%	14.71%	0.0221	0.0168
Event + 5 Year	102	0.0153	0.0583	0.0174	-38.31%	6.00%	-151.00%	211.76%	96	-0.0030	0.0265	0.0169	-211.11%	-30.63%	-84.77%	-20.42%	0.0183	0.0318

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	110	0.0213	0.0647	0.0348	NA	NA	-576.53%	-103.40%	110	-0.0002	0.0047	0.0089	NA	NA	-8000.00%	317.02%	-0.0114	0.0658
Event - 4 Year	111	-0.0718	0.0438	0.0437	-437.09%	-32.30%	41.36%	-105.02%	111	0.0029	0.0065	0.0089	-1550.00%	38.30%	444.83%	201.54%	-0.0203*	0.0644
Event - 3 Year	110	-0.0595	0.0399	0.0432	-17.13%	-8.90%	70.59%	-105.51%	110	0.0297	0.0150	0.0089	924.14%	130.77%	-46.80%	30.67%	-0.0371***	0.0518
Event - 2 Year	114	-0.0554	0.0481	0.0420	-6.89%	20.55%	83.21%	-104.57%	114	0.0272	0.0202	0.0087	-8.42%	34.67%	-41.91%	-2.97%	-0.0495***	0.0416
Event - 1 Year	116	-0.0879	0.0399	0.0422	58.66%	-17.05%	15.47%	-105.51%	116	0.0209	0.0166	0.0086	-23.16%	-17.82%	-24.40%	18.07%	-0.0584***	0.0368
Event	113	-0.1015	-0.0022	0.0405	15.47%	-105.51%	NA	NA	113	0.0158	0.0196	0.0085	-24.40%	18.07%	NA	NA	-0.0795***	0.0157
Event + 1 Year	101	-0.1899	-0.0213	0.0535	87.09%	868.18%	87.09%	868.18%	101	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	-0.103***	0.0246
Event + 2 Year	102	-0.1287	0.0101	0.0488	-32.23%	-147.42%	26.80%	-559.09%	102	0.0008	0.0202	0.0083	-97.50%	-2.88%	-94.94%	3.06%	-0.0634***	0.0353
Event + 3 Year	98	-0.1404	0.0315	0.0534	9.09%	211.88%	38.33%	-1531.82%	98	0.0148	0.0232	0.0085	1750.00%	14.85%	-6.33%	18.37%	-0.0659***	0.0399
Event + 4 Year	104	-0.0418	0.0696	0.0470	-70.23%	120.95%	-58.82%	-3263.64%	104	0.0241	0.0232	0.0086	62.84%	0.00%	52.53%	18.37%	-0.0694***	0.0443
Event + 5 Year	103	-0.0554	0.0915	0.0503	32.54%	31.47%	-45.42%	-4259.09%	103	0.0161	0.0181	0.0085	-33.20%	-21.98%	1.90%	-7.65%	-0.0422***	0.0553
ROIC																		
Event - 5 Year	106	0.0041	0.0393	0.0163	NA	NA	-831.71%	-52.42%	121	0.0370	0.0378	0.0177	NA	NA	-62.43%	-2.12%	-0.0329	0.0015
Event - 4 Year	108	-0.0224	0.0333	0.0191	-646.34%	-15.27%	33.93%	-43.84%	121	0.0203	0.0413	0.0153	-45.14%	9.26%	-31.53%	-10.41%	-0.0427*	-0.0080
Event - 3 Year	102	0.0031	0.0281	0.0174	-113.84%	-15.62%	-1067.74%	-33.45%	121	0.0366	0.0470	0.0128	80.30%	13.80%	-62.02%	-21.28%	-0.0335	-0.0189
Event - 2 Year	110	-0.0095	0.0309	0.0158	-406.45%	9.96%	215.79%	-39.48%	121	0.0201	0.0434	0.0140	-45.08%	-7.66%	-30.85%	-14.75%	-0.0296	-0.0125
Event - 1 Year	112	-0.0043	0.0335	0.0147	-54.74%	8.41%	597.67%	-44.18%	121	0.0277	0.0429	0.0153	37.81%	-1.15%	-49.82%	-13.75%	-0.032	-0.0094
Event	108	-0.0300	0.0187	0.0162	597.67%	-44.18%	NA	NA	121	0.0139	0.0370	0.0153	-49.82%	-13.75%	NA	NA	-0.0439**	-0.0183
Event + 1 Year	98	-0.0384	0.0152	0.0202	28.00%	-18.72%	28.00%	-18.72%	121	0.0379	0.0383	0.0176	172.66%	3.51%	172.66%	3.51%	-0.0763***	-0.0231
Event + 2 Year	98	-0.0288	0.0243	0.0186	-25.00%	59.87%	-4.00%	29.95%	121	0.0396	0.0501	0.0154	4.49%	30.81%	184.89%	35.41%	-0.0684***	-0.0258
Event + 3 Year	96	-0.0162	0.0330	0.0209	-43.75%	35.80%	-46.00%	76.47%	121	0.0416	0.0507	0.0172	5.05%	1.20%	199.28%	37.03%	-0.0578**	-0.0177
Event + 4 Year	100	0.0248	0.0550	0.0188	-253.09%	66.67%	-182.67%	194.12%	121	0.0470	0.0528	0.0177	12.98%	4.14%	238.13%	42.70%	-0.0222	0.0022
Event + 5 Year	102	0.0153	0.0583	0.0174	-38.31%	6.00%	-151.00%	211.76%	121	0.0501	0.0519	0.0189	6.60%	-1.70%	260.43%	40.27%	-0.0348	0.0064

Table E.51: Long-term Operating Performance: Enterprise Value / LTM EBITDA Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EV / EBITDA is ((book value of debt + book value of equity − cash) / LTM EBITDA). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	90	6.2004	5.3240	1.4857	NA	NA	-20.98%	12.33%	90	3.6201	5.0276	1.7366	NA	NA	29.36%	18.53%	2.5804	0.2964
Event - 4 Year	91	2.0143	5.5649	1.7175	-67.51%	4.52%	143.23%	7.47%	91	6.2083	7.0172	1.5368	71.50%	39.57%	-24.57%	-15.07%	-4.1940*	-1.4523
Event - 3 Year	90	3.2703	6.1224	1.9196	62.35%	10.02%	49.82%	-2.32%	90	4.1280	4.9140	1.2219	-33.51%	-29.97%	13.44%	21.27%	-0.8577	1.2084
Event - 2 Year	91	4.4936	6.6628	1.6296	37.41%	8.83%	9.03%	-10.24%	91	7.0791	7.4246	1.2083	71.49%	51.09%	-33.85%	-19.73%	-2.5855	-0.7618
Event - 1 Year	99	9.9649	6.9245	1.8042	121.76%	3.93%	-50.83%	-13.63%	99	6.9058	6.3763	1.4740	-2.45%	-14.12%	-32.19%	-6.54%	3.0592	0.5482
Event	95	4.8994	5.9805	1.7700	-50.83%	-13.63%	NA	NA	95	4.6828	5.9594	1.5723	-32.19%	-6.54%	NA	NA	0.2166	0.0211
Event + 1 Year	86	3.7866	5.6103	1.8112	-22.71%	-6.19%	-22.71%	-6.19%	86	5.9665	5.5163	1.8823	27.41%	-7.44%	27.41%	-7.44%	-2.1799	0.0940
Event + 2 Year	81	4.7143	5.6860	1.7933	24.50%	1.35%	-3.78%	-4.92%	81	4.5466	5.6547	1.5539	-23.80%	2.51%	-2.91%	-5.11%	0.1677	0.0313
Event + 3 Year	80	3.1856	5.1914	1.6251	-32.43%	-8.70%	-34.98%	-13.19%	80	6.9164	6.5069	1.6278	52.12%	15.07%	47.70%	9.19%	-3.7308	-1.3155
Event + 4 Year	91	7.8850	7.4966	1.7135	147.52%	44.40%	60.94%	25.35%	91	4.0141	6.1010	1.6488	-41.96%	-6.24%	-14.28%	2.38%	3.8709	1.3956
Event + 5 Year	90	1.8143	5.7250	1.5841	-76.99%	-23.63%	-62.97%	-4.27%	90	2.1568	5.0599	1.8010	-46.27%	-17.06%	-53.94%	-15.09%	-0.3426	0.6651

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 4 Year	91	2.0143	5.5649	1.7175	-67.51%	4.52%	143.23%	7.47%	91	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.8584***	0.3335
Event - 3 Year	90	3.2703	6.1224	1.9196	62.35%	10.02%	49.82%	-2.32%	90	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.5593**	0.3734
Event - 2 Year	91	4.4936	6.6628	1.6296	37.41%	8.83%	9.03%	-10.24%	91	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	0.96***	0.3668
Event - 1 Year	99	9.9649	6.9245	1.8042	121.76%	3.93%	-50.83%	-13.63%	99	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	1.2535***	0.3395
Event	95	4.8994	5.9805	1.7700	-50.83%	-13.63%	NA	NA	95	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	0.5913**	0.2441
Event + 1 Year	86	3.7866	5.6103	1.8112	-22.71%	-6.19%	-22.71%	-6.19%	86	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	0.2388	-0.1440
Event + 2 Year	81	4.7143	5.6860	1.7933	24.50%	1.35%	-3.78%	-4.92%	81	5.9542	6.6791	0.0896	-3.44%	-1.33%	-6.92%	-5.12%	0.3551	-0.1811
Event + 3 Year	80	3.1856	5.1914	1.6251	-32.43%	-8.70%	-34.98%	-13.19%	80	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	0.17	-0.0354
Event + 4 Year	91	7.8850	7.4966	1.7135	147.52%	44.40%	60.94%	25.35%	91	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	0.8668***	0.1248
Event + 5 Year	90	1.8143	5.7250	1.5841	-76.99%	-23.63%	-62.97%	-4.27%	90	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	0.5143**	0.2794

Table E.52: Long-term Operating Performance: Cash-to-Market Capitalization and Cash-to-Assets Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Cash/Market Cap is defined as (Total Cash / Market Capitalization) and Cash/Assets is (Total Cash / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	110	0.2600	0.1670	0.0336	NA	NA	29.46%	-1.02%	110	0.3146	0.1598	0.0406	NA	NA	-1.27%	-10.58%	-0.0546	0.0072
Event - 4 Year	111	0.2882	0.2109	0.0316	10.85%	26.29%	16.79%	-21.62%	115	0.2779	0.1589	0.0362	-11.67%	-0.56%	11.77%	-10.07%	0.0103	0.0520
Event - 3 Year	111	0.2837	0.1767	0.0354	-1.56%	-16.22%	18.65%	-6.45%	113	0.2715	0.1425	0.0331	-2.30%	-10.32%	14.40%	0.28%	0.0122	0.0342
Event - 2 Year	110	0.2806	0.1763	0.0337	-1.09%	-0.23%	19.96%	-6.24%	115	0.3187	0.1706	0.0403	17.38%	19.72%	-2.54%	-16.24%	-0.0380	0.0057
Event - 1 Year	109	0.2985	0.1456	0.0366	6.38%	-17.41%	12.76%	13.53%	116	0.2937	0.1203	0.0400	-7.84%	-29.48%	5.75%	18.79%	0.0048	0.0253
Event	104	0.3366	0.1653	0.0418	12.76%	13.53%	NA	NA	116	0.3106	0.1429	0.0404	5.75%	18.79%	NA	NA	0.0260	0.0224
Event + 1 Year	100	0.3678	0.1977	0.0497	9.27%	19.60%	9.27%	19.60%	108	0.3073	0.1240	0.0437	-1.06%	-13.23%	-1.06%	-13.23%	0.0605	0.0737
Event + 2 Year	99	0.3989	0.2354	0.0489	8.46%	19.07%	18.51%	42.41%	107	0.3276	0.1342	0.0479	6.61%	8.23%	5.47%	-6.09%	0.0713	0.1012
Event + 3 Year	100	0.4025	0.2130	0.0498	0.90%	-9.52%	19.58%	28.86%	113	0.2870	0.1638	0.0355	-12.39%	22.06%	-7.60%	14.63%	0.1155*	0.0492
Event + 4 Year	105	0.2859	0.1539	0.0387	-28.97%	-27.75%	-15.06%	-6.90%	110	0.2748	0.1287	0.0431	-4.25%	-21.43%	-11.53%	-9.94%	0.0111	0.0252
Event + 5 Year	109	0.3174	0.1412	0.0476	11.02%	-8.25%	-5.70%	-14.58%	103	0.3165	0.1246	0.0545	15.17%	-3.19%	1.90%	-12.81%	0.0010	0.0166
Cash / Assets																		
Event - 5 Year	114	0.2228	0.1008	0.0241	NA	NA	-8.71%	-7.94%	112	0.2061	0.1091	0.0208	NA	NA	-8.83%	4.58%	0.0167	-0.0083
Event - 4 Year	115	0.2219	0.1367	0.0222	-0.40%	35.62%	-8.34%	-32.11%	117	0.1995	0.1135	0.0210	-3.20%	4.03%	-5.81%	0.53%	0.0224	0.0232
Event - 3 Year	115	0.1947	0.0970	0.0212	-12.26%	-29.04%	4.47%	-4.33%	116	0.1863	0.0958	0.0197	-6.62%	-15.59%	0.86%	19.10%	0.0084	0.0012
Event - 2 Year	117	0.2084	0.0994	0.0221	7.04%	2.47%	-2.40%	-6.64%	116	0.2035	0.1340	0.0193	9.23%	39.87%	-7.67%	-14.85%	0.0050	-0.0346
Event - 1 Year	117	0.2009	0.1057	0.0215	-3.60%	6.34%	1.24%	-12.20%	118	0.1800	0.0970	0.0196	-11.55%	-27.61%	4.39%	17.63%	0.0209	0.0087
Event	113	0.2034	0.0928	0.0224	1.24%	-12.20%	NA	NA	117	0.1879	0.1141	0.0204	4.39%	17.63%	NA	NA	0.0155	-0.0213
Event + 1 Year	109	0.2106	0.0873	0.0230	3.54%	-5.93%	3.54%	-5.93%	112	0.1840	0.0868	0.0215	-2.08%	-23.93%	-2.08%	-23.93%	0.0266	0.0005
Event + 2 Year	108	0.2230	0.1082	0.0236	5.89%	23.94%	9.64%	16.59%	109	0.1947	0.0843	0.0238	5.82%	-2.88%	3.62%	-26.12%	0.0283	0.0239
Event + 3 Year	108	0.2133	0.1109	0.0227	-4.35%	2.50%	4.87%	19.50%	115	0.2042	0.0925	0.0224	4.88%	9.73%	8.67%	-18.93%	0.0090	0.0184
Event + 4 Year	111	0.1873	0.0928	0.0211	-12.19%	-16.32%	-7.92%	0.00%	114	0.1989	0.0784	0.0232	-2.60%	-15.24%	5.85%	-31.29%	-0.0116	0.0144
Event + 5 Year	110	0.1738	0.0831	0.0202	-7.21%	-10.45%	-14.55%	-10.45%	106	0.1938	0.0809	0.0228	-2.56%	3.19%	3.14%	-29.10%	-0.0200	0.0022

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	110	0.2600	0.1670	0.0336	NA	NA	29.46%	-1.02%	121	0.5113	0.3135	0.0626	NA	NA	37.32%	-0.86%	-0.2513***	-0.1465
Event - 4 Year	111	0.2882	0.2109	0.0316	10.85%	26.29%	16.79%	-21.62%	121	0.4850	0.3021	0.0546	-5.14%	-3.64%	44.76%	2.88%	-0.1968***	-0.0912
Event - 3 Year	111	0.2837	0.1767	0.0354	-1.56%	-16.22%	18.65%	-6.45%	121	0.4998	0.2995	0.0611	3.05%	-0.86%	40.48%	3.77%	-0.2161***	-0.1228
Event - 2 Year	110	0.2806	0.1763	0.0337	-1.09%	-0.23%	19.96%	-6.24%	121	0.5043	0.2909	0.0649	0.90%	-2.87%	39.22%	6.84%	-0.2237***	-0.1146
Event - 1 Year	109	0.2985	0.1456	0.0366	6.38%	-17.41%	12.76%	13.53%	121	0.5946	0.2968	0.0782	17.91%	2.03%	18.08%	4.72%	-0.2961***	-0.1512
Event	104	0.3366	0.1653	0.0418	12.76%	13.53%	NA	NA	121	0.7021	0.3108	0.0943	18.08%	4.72%	NA	NA	-0.3655***	-0.1455
Event + 1 Year	100	0.3678	0.1977	0.0497	9.27%	19.60%	9.27%	19.60%	121	0.6332	0.2900	0.0886	-9.81%	-6.69%	-9.81%	-6.69%	-0.2654***	-0.0923
Event + 2 Year	99	0.3989	0.2354	0.0489	8.46%	19.07%	18.51%	42.41%	121	0.6046	0.3271	0.0855	-4.52%	12.79%	-13.89%	5.24%	-0.2057**	-0.0917
Event + 3 Year	100	0.4025	0.2130	0.0498	0.90%	-9.52%	19.58%	28.86%	121	0.5991	0.3254	0.0823	-0.91%	-0.52%	-14.67%	4.70%	-0.1966**	-0.1124
Event + 4 Year	105	0.2859	0.1539	0.0387	-28.97%	-27.75%	-15.06%	-6.90%	121	0.5564	0.2751	0.0782	-7.13%	-15.46%	-20.75%	-11.49%	-0.2705***	-0.1212
Event + 5 Year	109	0.3174	0.1412	0.0476	11.02%	-8.25%	-5.70%	-14.58%	121	0.5688	0.2594	0.0784	2.23%	-5.71%	-18.99%	-16.54%	-0.2514***	-0.1182
Cash / Assets																		
Event - 5 Year	114	0.2228	0.1008	0.0241	NA	NA	-8.71%	-7.94%	121	0.1875	0.1278	0.0133	2.57%	8.58%	1.60%	7.98%	0.0344	0.0089
Event - 4 Year	115	0.2219	0.1367	0.0222	-0.40%	35.62%	-8.34%	-32.11%	121	0.1976	0.1286	0.0135	5.39%	0.63%	-3.59%	7.31%	-0.0029	-0.0316
Event - 3 Year	115	0.1947	0.0970	0.0212	-12.26%	-29.04%	4.47%	-4.33%	121	0.1971	0.1281	0.0134	-0.25%	-0.39%	-3.35%	7.73%	0.0113	-0.0287
Event - 2 Year	117	0.2084	0.0994	0.0221	7.04%	2.47%	-2.40%	-6.64%	121	0.1976	0.1309	0.0141	0.25%	2.19%	-3.59%	5.42%	0.0033	-0.0252
Event - 1 Year	117	0.2009	0.1057	0.0215	-3.60%	6.34%	1.24%	-12.20%	121	0.1905	0.1380	0.0123	-3.59%	5.42%	NA	NA	0.0129	-0.0452
Event	113	0.2034	0.0928	0.0224	1.24%	-12.20%	NA	NA	121	0.1976	0.1309	0.0141	3.73%	-5.14%	3.73%	-5.14%	0.013	-0.0436
Event + 1 Year	109	0.2106	0.0873	0.0230	3.54%	-5.93%	3.54%	-5.93%	121	0.1971	0.1281	0.0134	-0.25%	-2.14%	3.46%	-7.17%	0.0259	-0.0199
Event + 2 Year	108	0.2230	0.1082	0.0236	5.89%	23.94%	9.64%	16.59%	121	0.1976	0.1286	0.0135	0.25%	0.39%	3.73%	-6.81%	0.0157	-0.0177
Event + 3 Year	108	0.2133	0.1109	0.0227	-4.35%	2.50%	4.87%	19.50%	121	0.1875	0.1278	0.0133	-5.11%	-0.62%	-1.57%	-7.39%	-0.0002	-0.0350
Event + 4 Year	111	0.1873	0.0928	0.0211	-12.19%	-16.32%	-7.92%	0.00%	121	0.1828	0.1177	0.0140	-2.51%	-7.90%	-4.04%	-14.71%	-0.009	-0.0346
Event + 5 Year	110	0.1738	0.0831	0.0202	-7.21%	-10.45%	-14.55%	-10.45%	121	3.0632	1.7339	0.3607	NA	NA	-23.23%	-20.89%	-0.5719	-1.0110

Table E.53: Long-term Operating Performance: Debt-to-EBITDA and Net Leverage Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Debt / EBITDA is (Total Debt / EBITDA) and Leverage (net) is defined as a ((Total Debt - Cash) / Total Equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	94	2.4913	0.7229	0.4511	NA	NA	6.28%	-36.75%	96	1.9578	1.1049	0.3789	NA	NA	9.26%	-42.40%	0.5335	-0.3820
Event - 4 Year	121	0.6446	1.0000	0.0437	2.63%	0.00%	9.85%	0.00%	121	0.6529	1.0000	0.0435	9.73%	0.00%	46.29%	NA	-0.0083	0.0000
Event - 3 Year	121	0.6446	1.0000	0.0437	0.00%	0.00%	9.85%	0.00%	121	0.5868	1.0000	0.0450	-10.12%	0.00%	31.48%	NA	0.0579	0.0000
Event - 2 Year	121	0.6777	1.0000	0.0427	5.13%	0.00%	15.49%	0.00%	121	0.6116	1.0000	0.0445	4.23%	0.00%	37.04%	NA	0.0661	0.0000
Event - 1 Year	121	0.0336	0.0000	0.0043	NA	NA	19.05%	NA	121	0.0497	0.0250	0.0053	NA	NA	-3.22%	48.40%	-0.0160**	-0.0250
Event	121	0.0349	0.0000	0.0043	3.87%	NA	14.61%	NA	121	0.0471	0.0296	0.0050	-5.23%	18.40%	2.12%	25.34%	-0.0122*	-0.0296
Event + 1 Year	121	0.0360	0.0000	0.0044	3.15%	NA	11.11%	NA	121	0.0446	0.0270	0.0046	-5.31%	-8.78%	7.85%	37.41%	-0.0086	-0.0270
Event + 2 Year	121	0.0362	0.0000	0.0043	0.56%	NA	10.50%	NA	121	0.0518	0.0434	0.0048	16.14%	60.74%	-7.14%	-14.52%	-0.0155**	-0.0434
Event + 3 Year	121	0.0378	0.0000	0.0043	4.42%	NA	5.82%	NA	121	0.0500	0.0413	0.0047	-3.47%	-4.84%	-3.80%	-10.17%	-0.0122*	-0.0413
Event + 4 Year	121	0.0400	0.0000	0.0047	5.82%	NA	NA	NA	121	0.0481	0.0371	0.0047	-3.80%	-10.17%	NA	NA	-0.0081	-0.0371
Event + 5 Year	121	0.0372	0.0000	0.0047	-7.00%	NA	-7.00%	NA	121	0.0464	0.0270	0.0048	-3.53%	-27.22%	-3.53%	-27.22%	-0.0092	-0.0270
Leverage (net)																		
Event - 5 Year	111	0.5209	0.0863	0.1473	NA	NA	-38.78%	-11.70%	110	0.2285	-0.0104	0.1145	NA	NA	21.88%	-670.19%	0.2924	0.0967
Event - 4 Year	113	0.4216	0.0738	0.1349	-19.06%	-14.48%	-24.36%	3.25%	115	0.3623	0.0916	0.1226	58.56%	-980.77%	-23.13%	-35.26%	0.0593	-0.0178
Event - 3 Year	109	0.4480	0.0407	0.1383	6.26%	-44.85%	-28.82%	87.22%	115	0.3209	0.0748	0.1175	-11.43%	-18.34%	-13.21%	-20.72%	0.1271	-0.0341
Event - 2 Year	112	0.3567	0.0222	0.1346	-20.38%	-45.45%	-10.60%	243.24%	114	0.2450	0.1026	0.0968	-23.65%	37.17%	13.67%	-42.20%	0.1116	-0.0804
Event - 1 Year	115	0.4520	0.1844	0.1321	26.72%	730.63%	-29.45%	-58.68%	118	0.2484	0.1124	0.1006	1.39%	9.55%	12.12%	-47.24%	0.2036	0.0720
Event	111	0.3189	0.0762	0.1242	-29.45%	-58.68%	NA	NA	116	0.2785	0.0593	0.1005	12.12%	-47.24%	NA	NA	0.0404	0.0169
Event + 1 Year	105	0.2698	0.0246	0.1228	-15.40%	-67.72%	-15.40%	-67.72%	108	0.4809	0.2916	0.1262	72.68%	391.74%	72.68%	391.74%	-0.2111	-0.2670
Event + 2 Year	104	0.3285	0.1085	0.1352	21.76%	341.06%	3.01%	42.39%	106	0.3643	0.1325	0.1194	-24.25%	-54.56%	30.81%	123.44%	-0.0358	-0.0240
Event + 3 Year	103	0.3094	0.0591	0.1346	-5.81%	-45.53%	-2.98%	-22.44%	114	0.4065	0.0361	0.1282	11.58%	-72.75%	45.96%	-39.12%	-0.0970	0.0230
Event + 4 Year	107	0.4832	0.1274	0.1409	56.17%	115.57%	51.52%	67.19%	112	0.3389	0.0799	0.1175	-16.63%	121.33%	21.69%	34.74%	0.1443	0.0475
Event + 5 Year	107	0.3800	0.2224	0.1205	-21.36%	74.57%	19.16%	191.86%	103	0.2190	0.0248	0.1178	-35.38%	-68.96%	-21.36%	-58.18%	0.1610	0.1976

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	94	2.4913	0.7229	0.4511	NA	NA	6.28%	-36.75%	121	3.0632	1.7339	0.3607	NA	NA	-23.23%	-20.89%	-0.5719	-1.0110
Event - 4 Year	121	0.6446	1.0000	0.0437	2.63%	0.00%	9.85%	0.00%	121	2.4830	1.3884	0.3752	-18.94%	-19.93%	-5.29%	-1.20%	-1.1385**	-1.3610
Event - 3 Year	121	0.6446	1.0000	0.0437	0.00%	0.00%	9.85%	0.00%	121	2.3512	1.6096	0.3125	-5.31%	15.93%	0.02%	-14.78%	0.0709	-1.1401
Event - 2 Year	121	0.6777	1.0000	0.0427	5.13%	0.00%	15.49%	0.00%	121	2.3282	1.4671	0.3418	-0.98%	-8.85%	1.01%	-6.50%	0.1811	-1.1626
Event - 1 Year	121	0.0336	0.0000	0.0043	NA	NA	19.05%	NA	121	2.5546	1.6347	0.3720	9.72%	11.42%	-7.95%	-16.09%	0.7043	-0.6520
Event	121	0.0349	0.0000	0.0043	3.87%	NA	14.61%	NA	121	2.3516	1.3717	0.3304	-7.95%	-16.09%	NA	NA	0.2962	-0.9145
Event + 1 Year	121	0.0360	0.0000	0.0044	3.15%	NA	11.11%	NA	121	2.1165	1.3434	0.3264	-10.00%	-2.06%	-10.00%	-2.06%	0.0173	-0.9412
Event + 2 Year	121	0.0362	0.0000	0.0043	0.56%	NA	10.50%	NA	121	2.4674	1.7404	0.3457	16.58%	29.55%	4.92%	26.88%	-0.3258	-0.9595
Event + 3 Year	121	0.0378	0.0000	0.0043	4.42%	NA	5.82%	NA	121	2.4711	1.7257	0.3444	0.15%	-0.84%	5.08%	25.81%	-0.5406	-1.1207
Event + 4 Year	121	0.0400	0.0000	0.0047	5.82%	NA	NA	NA	121	2.2151	1.4263	0.3267	-10.36%	-17.35%	-5.80%	3.98%	0.7095	-0.2917
Event + 5 Year	121	0.0372	0.0000	0.0047	-7.00%	NA	-7.00%	NA	121	2.1308	1.5882	0.2825	-3.81%	11.35%	-9.39%	15.78%	-0.5647	-0.7124
Leverage (net)																		
Event - 5 Year	111	0.5209	0.0863	0.1473	NA	NA	-38.78%	-11.70%	121	0.4660	0.2236	0.1116	NA	NA	-1.80%	8.81%	0.0549	-0.1373
Event - 4 Year	113	0.4216	0.0738	0.1349	-19.06%	-14.48%	-24.36%	3.25%	121	0.5568	0.3297	0.1188	19.48%	47.45%	-17.82%	-26.21%	-0.1352	-0.2559
Event - 3 Year	109	0.4480	0.0407	0.1383	6.26%	-44.85%	-28.82%	87.22%	121	0.5705	0.2537	0.1202	2.46%	-23.05%	-19.79%	-4.10%	-0.1225	-0.2130
Event - 2 Year	112	0.3567	0.0222	0.1346	-20.38%	-45.45%	-10.60%	243.24%	121	0.4324	0.2311	0.1253	-24.21%	-8.91%	5.83%	5.28%	-0.0757	-0.2089
Event - 1 Year	115	0.4520	0.1844	0.1321	26.72%	730.63%	-29.45%	-58.68%	121	0.4878	0.2198	0.1238	12.81%	-4.89%	-6.19%	10.69%	-0.0358	-0.0354
Event	111	0.3189	0.0762	0.1242	-29.45%	-58.68%	NA	NA	121	0.4576	0.2433	0.1246	-6.19%	10.69%	NA	NA	-0.1387	-0.1671
Event + 1 Year	105	0.2698	0.0246	0.1228	-15.40%	-67.72%	-15.40%	-67.72%	121	0.4825	0.3646	0.1200	5.44%	49.86%	5.44%	49.86%	-0.2127	-0.3400
Event + 2 Year	104	0.3285	0.1085	0.1352	21.76%	341.06%	3.01%	42.39%	121	0.4769	0.1089	0.1295	-1.16%	-70.13%	4.22%	-55.24%	-0.1484	-0.0004
Event + 3 Year	103	0.3094	0.0591	0.1346	-5.81%	-45.53%	-2.98%	-22.44%	121	0.3647	0.0415	0.1222	-23.53%	-61.89%	-20.30%	-82.94%	-0.0553	0.0176
Event + 4 Year	107	0.4832	0.1274	0.1409	56.17%	115.57%	51.52%	67.19%	121	0.3608	0.2188	0.1205	-1.07%	427.23%	-21.15%	-10.07%	0.1224	-0.0914
Event + 5 Year	107	0.3800	0.2224	0.1205	-21.36%	74.57%	19.16%	191.86%	121	0.4352	0.3778	0.1076	20.62%	72.67%	-4.90%	55.28%	-0.0552	-0.1554

Table E.54: Long-term Operating Performance: Capital Expenditure Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Capital Expenditures is defined as (CAPEX / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	108	0.0154	0.0074	0.0020	NA	NA	-15.58%	-12.16%	99	0.0171	0.0098	0.0023	NA	NA	-11.70%	-38.78%	-0.0017	-0.0024
Event - 4 Year	107	0.0139	0.0063	0.0017	-9.74%	-14.86%	-6.47%	3.17%	101	0.0198	0.0091	0.0026	15.79%	-7.14%	-23.74%	-34.07%	-0.0059*	-0.0028
Event - 3 Year	99	0.0132	0.0050	0.0019	-5.04%	-20.63%	-1.52%	30.00%	105	0.0162	0.0076	0.0022	-18.18%	-16.48%	-6.79%	-21.05%	-0.0031	-0.0026
Event - 2 Year	110	0.0134	0.0074	0.0018	1.52%	48.00%	-2.99%	-12.16%	107	0.0179	0.0074	0.0024	10.49%	-2.63%	-15.64%	-18.92%	-0.0045	0.0000
Event - 1 Year	112	0.0156	0.0089	0.0019	16.42%	20.27%	-16.67%	-26.97%	109	0.0146	0.0077	0.0019	-18.44%	4.05%	3.42%	-22.08%	0.0010	0.0012
Event	108	0.0130	0.0065	0.0018	-16.67%	-26.97%	NA	NA	110	0.0151	0.0060	0.0021	3.42%	-22.08%	NA	NA	-0.0020	0.0005
Event + 1 Year	99	0.0122	0.0058	0.0016	-6.15%	-10.77%	-6.15%	-10.77%	101	0.0145	0.0078	0.0021	-3.97%	30.00%	-3.97%	30.00%	-0.0023	-0.0020
Event + 2 Year	97	0.0133	0.0060	0.0020	9.02%	3.45%	2.31%	-7.69%	98	0.0138	0.0067	0.0021	-4.83%	-14.10%	-8.61%	11.67%	-0.0005	-0.0007
Event + 3 Year	95	0.0170	0.0065	0.0024	27.82%	8.33%	30.77%	0.00%	104	0.0140	0.0063	0.0020	1.45%	-5.97%	-7.28%	5.00%	0.0030	0.0002
Event + 4 Year	95	0.0202	0.0108	0.0027	18.82%	66.15%	55.38%	66.15%	104	0.0155	0.0076	0.0022	10.71%	20.63%	2.65%	26.67%	0.0047	0.0032
Event + 5 Year	93	0.0173	0.0085	0.0025	-14.36%	-21.30%	33.08%	30.77%	92	0.0148	0.0095	0.0020	-4.52%	25.00%	-1.99%	58.33%	0.0025	-0.0010

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	108	0.0154	0.0074	0.0020	NA	NA	-15.58%	-12.16%	121	1.3936	0.5725	0.1625	#VALUE!	#VALUE!	#VALUE!	#VALUE!	-0.0003	-0.0051
Event - 4 Year	107	0.0139	0.0063	0.0017	-9.74%	-14.86%	-6.47%	3.17%	121	1.3326	0.6363	0.1544	-4.38%	11.14%	0.11%	17.68%	-1.3187***	-0.6300
Event - 3 Year	99	0.0132	0.0050	0.0019	-5.04%	-20.63%	-1.52%	30.00%	120	1.3217	0.7223	0.1465	0.00%	0.82%	-8.28%	-1.60%	-1.3085***	-0.0073
Event - 2 Year	110	0.0134	0.0074	0.0018	1.52%	48.00%	-2.99%	-12.16%	120	1.3494	0.6642	0.1567	0.69%	0.81%	0.69%	1.64%	-1.336***	-0.0050
Event - 1 Year	112	0.0156	0.0089	0.0019	16.42%	20.27%	-16.67%	-26.97%	120	1.3425	0.6901	0.1473	-4.83%	-5.65%	-4.17%	-4.88%	-1.3269***	-0.0028
Event	108	0.0130	0.0065	0.0018	-16.67%	-26.97%	NA	NA	120	1.3340	0.7488	0.1375	-2.90%	-0.85%	-7.59%	-6.45%	-1.321***	-0.0051
Event + 1 Year	99	0.0122	0.0058	0.0016	-6.15%	-10.77%	-6.15%	-10.77%	117	1.2468	0.6772	0.1362	20.15%	6.90%	16.67%	5.98%	-1.2346***	-0.0066
Event + 2 Year	97	0.0133	0.0060	0.0020	9.02%	3.45%	2.31%	-7.69%	117	1.3474	0.7308	0.1585	2.48%	-0.81%	23.13%	6.03%	-1.3341***	-0.0063
Event + 3 Year	95	0.0170	0.0065	0.0024	27.82%	8.33%	30.77%	0.00%	118	1.2834	0.7031	0.1528	-1.21%	4.07%	1.24%	3.23%	-1.2664***	-0.0063
Event + 4 Year	95	0.0202	0.0108	0.0027	18.82%	66.15%	55.38%	66.15%	118	1.4086	0.6309	0.1615	4.29%	11.72%	3.03%	16.26%	-1.3884***	-0.0035
Event + 5 Year	93	0.0173	0.0085	0.0025	-14.36%	-21.30%	33.08%	30.77%	119	1.4198	0.8135	0.1585	2.35%	3.50%	6.75%	15.63%	-1.4025***	-0.0063

Table E.55: Long-term Operating Performance: Dividend Yield and Share Repurchase Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Dividend Yield is defined as (Common Dividend / Market Capitalization) and Share Repurchase is the annualized share repurchase activity. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms							Matched Firms							Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	80	1.0426	0.0000	0.2261	NA	NA	-13.69%	NA	92	0.9666	0.0000	0.1952	NA	NA	13.16%	NA	0.0760	0.0000
Event - 4 Year	79	1.2200	0.0000	0.2766	17.02%	NA	-26.24%	NA	93	1.1174	0.0000	0.2243	15.60%	NA	-2.11%	NA	0.1026	0.0000
Event - 3 Year	77	0.8081	0.0000	0.1988	-33.76%	NA	11.36%	NA	93	1.2555	0.0000	0.2300	12.36%	NA	-12.88%	NA	-0.4474	0.0000
Event - 2 Year	78	0.8794	0.0000	0.2138	8.82%	NA	2.33%	NA	93	1.4678	0.0000	0.2503	16.91%	NA	-25.48%	NA	-0.5885*	0.0000
Event - 1 Year	78	0.8800	0.0000	0.2084	0.07%	NA	2.26%	NA	91	1.2931	0.0000	0.2422	-11.90%	NA	-15.41%	NA	-0.4131	0.0000
Event	78	0.8999	0.0000	0.2244	2.26%	NA	NA	NA	91	1.0938	0.0000	0.2138	-15.41%	NA	NA	NA	-0.1940	0.0000
Event + 1 Year	72	1.1376	0.0000	0.2765	26.41%	NA	26.41%	NA	86	0.9372	0.0000	0.1942	-14.32%	NA	-14.32%	NA	0.2004	0.0000
Event + 2 Year	74	1.5953	0.0000	0.3397	40.23%	NA	77.28%	NA	83	1.1801	0.0000	0.2442	25.92%	NA	7.89%	NA	0.4151	0.0000
Event + 3 Year	74	1.4999	0.0000	0.3151	-5.98%	NA	66.67%	NA	79	1.4465	0.0000	0.2950	22.57%	NA	32.25%	NA	0.0534	0.0000
Event + 4 Year	75	1.6949	0.0000	0.3384	13.00%	NA	88.34%	NA	77	1.3496	0.0000	0.2695	-6.70%	NA	23.39%	NA	0.3453	0.0000
Event + 5 Year	67	1.6945	0.0000	0.3508	-0.02%	NA	88.30%	NA	76	1.3067	0.0000	0.2911	-3.18%	NA	19.46%	NA	0.3878	0.0000
Share Repurchase																		
Event - 5 Year	119	0.0019	0.0000	0.0007	NA	NA	152.63%	NA	107	0.0051	0.0000	0.0012	NA	NA	-3.92%	NA	-0.0033**	0.0000
Event - 4 Year	117	0.0036	0.0000	0.0010	89.47%	NA	33.33%	NA	110	0.0027	0.0000	0.0009	-47.06%	NA	81.48%	NA	0.0009	0.0000
Event - 3 Year	114	0.0027	0.0000	0.0009	-25.00%	NA	77.78%	NA	113	0.0035	0.0000	0.0010	29.63%	NA	40.00%	NA	-0.0008	0.0000
Event - 2 Year	118	0.0036	0.0000	0.0010	33.33%	NA	33.33%	NA	116	0.0044	0.0000	0.0011	25.71%	NA	11.36%	NA	-0.0009	0.0000
Event - 1 Year	120	0.0036	0.0000	0.0011	0.00%	NA	33.33%	NA	119	0.0046	0.0000	0.0010	4.55%	NA	6.52%	NA	-0.0009	0.0000
Event	116	0.0048	0.0000	0.0012	33.33%	NA	NA	NA	117	0.0049	0.0000	0.0012	6.52%	NA	NA	NA	-0.0001	0.0000
Event + 1 Year	105	0.0039	0.0000	0.0011	-18.75%	NA	-18.75%	NA	107	0.0041	0.0000	0.0011	-16.33%	NA	-16.33%	NA	-0.0002	0.0000
Event + 2 Year	108	0.0046	0.0000	0.0012	17.95%	NA	-4.17%	NA	109	0.0047	0.0000	0.0011	14.63%	NA	-4.08%	NA	0.0000	0.0000
Event + 3 Year	107	0.0036	0.0000	0.0011	-21.74%	NA	-25.00%	NA	113	0.0031	0.0000	0.0009	-34.04%	NA	-36.73%	NA	0.0005	0.0000
Event + 4 Year	111	0.0028	0.0000	0.0009	-22.22%	NA	-41.67%	NA	113	0.0035	0.0000	0.0010	12.90%	NA	-28.57%	NA	-0.0007	0.0000
Event + 5 Year	109	0.0015	0.0000	0.0007	-46.43%	NA	-68.75%	NA	104	0.0025	0.0000	0.0009	-28.57%	NA	-48.98%	NA	-0.0011	0.0000

	Target Firms							Industry Adjusted							Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	80	1.0426	0.0000	0.2261	NA	NA	-13.69%	NA	121	0.0046	0.0000	0.0006	7909.20%	3768.24%	8097.65%	3903.50%	1.038***	-0.5725
Event - 4 Year	79	1.2200	0.0000	0.2766	17.02%	NA	-26.24%	NA	121	0.0056	0.0017	0.0007	-4.38%	11.14%	7558.62%	4199.32%	1.2144***	-0.6363
Event - 3 Year	77	0.8081	0.0000	0.1988	-33.76%	NA	11.36%	NA	121	0.0068	0.0043	0.0007	-0.82%	13.52%	-5.16%	26.17%	0.8013***	-0.7223
Event - 2 Year	78	0.8794	0.0000	0.2138	8.82%	NA	2.33%	NA	121	0.0076	0.0062	0.0007	2.10%	-8.04%	1.26%	4.38%	0.8718***	-0.6642
Event - 1 Year	78	0.8800	0.0000	0.2084	0.07%	NA	2.26%	NA	121	0.0086	0.0079	0.0007	-0.51%	3.90%	1.57%	-4.46%	0.8714***	-0.6901
Event	78	0.8999	0.0000	0.2244	2.26%	NA	NA	NA	121	0.0092	0.0084	0.0007	-0.63%	8.51%	-1.14%	12.74%	0.8907***	-0.7488
Event + 1 Year	72	1.1376	0.0000	0.2765	26.41%	NA	26.41%	NA	121	0.0078	0.0046	0.0008	-6.54%	-9.56%	-7.13%	-1.87%	1.1298***	-0.6772
Event + 2 Year	74	1.5953	0.0000	0.3397	40.23%	NA	77.28%	NA	121	0.0066	0.0032	0.0007	8.07%	7.91%	1.00%	-2.40%	1.5887***	-0.7308
Event + 3 Year	74	1.4999	0.0000	0.3151	-5.98%	NA	66.67%	NA	121	0.0060	0.0018	0.0007	-4.75%	-3.79%	2.94%	3.82%	1.4939***	-0.7031
Event + 4 Year	75	1.6949	0.0000	0.3384	13.00%	NA	88.34%	NA	121	0.0051	0.0000	0.0006	9.76%	-10.27%	4.54%	-13.67%	1.6898***	-0.6309
Event + 5 Year	67	1.6945	0.0000	0.3508	-0.02%	NA	88.30%	NA	121	0.0040	0.0000	0.0006	0.80%	28.94%	10.63%	15.70%	1.6905***	-0.8135
Share Repurchase																		
Event - 5 Year	119	0.0019	0.0000	0.0007	NA	NA	152.63%	NA	121	0.4205	0.4060	0.0102	-99.68%	-100.00%	-99.67%	-100.00%	-0.4186***	0.0000
Event - 4 Year	117	0.0036	0.0000	0.0010	89.47%	NA	33.33%	NA	121	0.4246	0.4326	0.0099	21.74%	NA	-99.61%	-99.79%	-0.421***	-0.0017
Event - 3 Year	114	0.0027	0.0000	0.0009	-25.00%	NA	77.78%	NA	121	0.4251	0.4286	0.0100	21.43%	152.94%	47.83%	NA	-0.4224***	-0.0043
Event - 2 Year	118	0.0036	0.0000	0.0010	33.33%	NA	33.33%	NA	121	0.4454	0.4469	0.0100	11.76%	44.19%	35.71%	264.71%	-0.4418***	-0.0062
Event - 1 Year	120	0.0036	0.0000	0.0011	0.00%	NA	33.33%	NA	121	0.4378	0.4369	0.0101	13.16%	27.42%	26.47%	83.72%	-0.4342***	-0.0079
Event	116	0.0048	0.0000	0.0012	33.33%	NA	NA	NA	121	0.4419	0.4501	0.0107	6.98%	6.33%	21.05%	35.48%	-0.4371***	-0.0084
Event + 1 Year	105	0.0039	0.0000	0.0011	-18.75%	NA	-18.75%	NA	121	0.4378	0.4369	0.0101	-15.22%	-45.24%	-9.30%	-41.77%	-0.4339***	-0.0046
Event + 2 Year	108	0.0046	0.0000	0.0012	17.95%	NA	-4.17%	NA	121	0.4454	0.4469	0.0100	-15.38%	-30.43%	-28.26%	-61.90%	-0.4408***	-0.0032
Event + 3 Year	107	0.0036	0.0000	0.0011	-21.74%	NA	-25.00%	NA	121	0.4251	0.4286	0.0100	-9.09%	-43.75%	-23.08%	-60.87%	-0.4215***	-0.0018
Event + 4 Year	111	0.0028	0.0000	0.0009	-22.22%	NA	-41.67%	NA	121	0.4246	0.4326	0.0099	-15.00%	-100.00%	-22.73%	-100.00%	-0.4218***	0.0000
Event + 5 Year	109	0.0015	0.0000	0.0007	-46.43%	NA	-68.75%	NA	121	0.4205	0.4060	0.0102	-21.57%	NA	-33.33%	-100.00%	-0.419***	0.0000

Table E.56: Long-term Operating Performance: EPS Estimates and Research Analyst Recommendations Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EPS Estimate Miss is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S and Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	66	0.4545	0.0000	0.0618	NA	NA	43.50%	NA	57	0.4737	0.0000	0.0667	NA	NA	-10.34%	NA	-0.0191	0.0000
Event - 4 Year	63	0.4444	0.0000	0.0631	-2.22%	NA	46.76%	NA	62	0.3710	0.0000	0.0618	-21.68%	NA	14.47%	NA	0.0735	0.0000
Event - 3 Year	60	0.4167	0.0000	0.0642	-6.23%	NA	56.52%	NA	59	0.5593	1.0000	0.0652	50.75%	NA	-24.07%	-100.00%	-0.1427	-1.0000
Event - 2 Year	66	0.3333	0.0000	0.0585	-20.01%	NA	95.68%	NA	67	0.3582	0.0000	0.0590	-35.96%	-100.00%	18.57%	NA	-0.0249	0.0000
Event - 1 Year	67	0.5075	1.0000	0.0615	52.27%	NA	28.51%	0.00%	66	0.3636	0.0000	0.0597	1.51%	NA	16.80%	NA	0.1438*	1.0000
Event	69	0.6522	1.0000	0.0578	28.51%	0.00%	NA	NA	73	0.4247	0.0000	0.0583	16.80%	NA	NA	NA	0.2275***	1.0000
Event + 1 Year	65	0.4462	0.0000	0.0621	-31.59%	-100.00%	-31.59%	-100.00%	71	0.4507	0.0000	0.0595	6.12%	NA	6.12%	NA	-0.0046	0.0000
Event + 2 Year	54	0.4444	0.0000	0.0683	-0.40%	NA	-31.86%	-100.00%	66	0.5758	1.0000	0.0613	27.76%	NA	35.58%	NA	-0.1313	-1.0000
Event + 3 Year	54	0.5000	0.5000	0.0687	12.51%	NA	-23.34%	-50.00%	69	0.5072	1.0000	0.0606	-11.91%	0.00%	19.43%	NA	-0.0072	-0.5000
Event + 4 Year	58	0.4310	0.0000	0.0656	-13.80%	-100.00%	-33.92%	-100.00%	68	0.4412	0.0000	0.0607	-13.01%	-100.00%	3.89%	NA	-0.0101	0.0000
Event + 5 Year	59	0.4915	0.0000	0.0656	14.04%	NA	-24.64%	-100.00%	64	0.4063	0.0000	0.0619	-7.91%	NA	-4.33%	NA	0.0853	0.0000
Analyst Sell Recommendation																		
Event - 5 Year	121	0.3058	0.0000	0.0421	NA	NA	2.68%	NA	121	0.2066	0.0000	0.0370	NA	NA	63.99%	NA	0.0992*	0.0000
Event - 4 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	121	0.2397	0.0000	0.0390	16.02%	NA	41.34%	NA	0.0496	0.0000
Event - 3 Year	121	0.2975	0.0000	0.0417	2.83%	NA	5.55%	NA	121	0.2810	0.0000	0.0410	17.23%	NA	20.57%	NA	0.0165	0.0000
Event - 2 Year	121	0.3058	0.0000	0.0421	2.79%	NA	2.68%	NA	121	0.2975	0.0000	0.0417	5.87%	NA	13.88%	NA	0.0083	0.0000
Event - 1 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	121	0.3140	0.0000	0.0424	5.55%	NA	7.90%	NA	-0.0248	0.0000
Event	121	0.3140	0.0000	0.0424	8.54%	NA	NA	NA	121	0.3388	0.0000	0.0432	7.90%	NA	NA	NA	-0.0248	0.0000
Event + 1 Year	121	0.2562	0.0000	0.0398	-18.41%	NA	-18.41%	NA	121	0.3223	0.0000	0.0427	-4.87%	NA	-4.87%	NA	-0.0661	0.0000
Event + 2 Year	121	0.2066	0.0000	0.0370	-19.36%	NA	-34.20%	NA	121	0.3223	0.0000	0.0427	0.00%	NA	-4.87%	NA	-0.1157**	0.0000
Event + 3 Year	121	0.1736	0.0000	0.0346	-15.97%	NA	-44.71%	NA	121	0.2149	0.0000	0.0375	-33.32%	NA	-36.57%	NA	-0.0413	0.0000
Event + 4 Year	121	0.1653	0.0000	0.0339	-4.78%	NA	-47.36%	NA	121	0.2231	0.0000	0.0380	3.82%	NA	-34.15%	NA	-0.0579	0.0000
Event + 5 Year	121	0.1488	0.0000	0.0325	-9.98%	NA	-52.61%	NA	121	0.2066	0.0000	0.0370	-7.40%	NA	-39.02%	NA	-0.0579	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	66	0.4545	0.0000	0.0618	NA	NA	43.50%	NA	121	0.2866	0.2983	0.0130	10412.50%	NA	8145.10%	NA	0.1679***	-0.4060
Event - 4 Year	63	0.4444	0.0000	0.0631	-2.22%	NA	46.76%	NA	121	0.2931	0.3118	0.0121	0.98%	6.55%	10515.00%	NA	0.1513***	-0.4326
Event - 3 Year	60	0.4167	0.0000	0.0642	-6.23%	NA	56.52%	NA	121	0.3122	0.3154	0.0122	0.12%	-0.92%	1.09%	5.57%	0.1045**	-0.4286
Event - 2 Year	66	0.3333	0.0000	0.0585	-20.01%	NA	95.68%	NA	121	0.3214	0.3252	0.0125	4.78%	4.27%	4.90%	3.31%	0.0119	-0.4469
Event - 1 Year	67	0.5075	1.0000	0.0615	52.27%	NA	28.51%	0.00%	121	0.3292	0.3228	0.0124	-1.71%	-2.24%	2.99%	1.94%	0.1783***	0.5631
Event	69	0.6522	1.0000	0.0578	28.51%	0.00%	NA	NA	121	0.3371	0.3231	0.0126	0.94%	3.02%	-0.79%	0.72%	0.3151***	0.5499
Event + 1 Year	65	0.4462	0.0000	0.0621	-31.59%	-100.00%	-31.59%	-100.00%	121	0.2935	0.2953	0.0143	-0.93%	-2.93%	0.00%	0.00%	0.1527***	-0.4369
Event + 2 Year	54	0.4444	0.0000	0.0683	-0.40%	NA	-31.86%	-100.00%	121	0.2641	0.2784	0.0152	1.74%	2.29%	0.79%	-0.71%	0.1803***	-0.4469
Event + 3 Year	54	0.5000	0.5000	0.0687	12.51%	NA	-23.34%	-50.00%	121	0.2507	0.2534	0.0155	-4.56%	-4.09%	-2.90%	-1.90%	0.2493***	0.0714
Event + 4 Year	58	0.4310	0.0000	0.0656	-13.80%	-100.00%	-33.92%	-100.00%	121	0.2312	0.2273	0.0156	-0.12%	0.93%	-4.67%	-3.20%	0.1998***	-0.4326
Event + 5 Year	59	0.4915	0.0000	0.0656	14.04%	NA	-24.64%	-100.00%	121	0.2293	0.2405	0.0147	-0.97%	-6.15%	-1.08%	-5.27%	0.2622***	-0.4060
Analyst Sell Recommendation																		
Event - 5 Year	121	0.3058	0.0000	0.0421	NA	NA	2.68%	NA	121	0.1455	0.1355	0.0097	-31.84%	-26.53%	-32.50%	-31.04%	0.1603***	-0.2983
Event - 4 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	121	0.1471	0.1342	0.0098	2.27%	4.53%	-30.30%	-23.20%	0.1422***	-0.3118
Event - 3 Year	121	0.2975	0.0000	0.0417	2.83%	NA	5.55%	NA	121	0.1509	0.1341	0.0099	6.52%	1.15%	8.93%	5.73%	0.1466***	-0.3154
Event - 2 Year	121	0.3058	0.0000	0.0421	2.79%	NA	2.68%	NA	121	0.1541	0.1407	0.0100	2.95%	3.11%	9.66%	4.30%	0.1517***	-0.3252
Event - 1 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	121	0.1579	0.1442	0.0100	2.43%	-0.74%	5.45%	2.35%	0.1314***	-0.3228
Event	121	0.3140	0.0000	0.0424	8.54%	NA	NA	NA	121	0.1531	0.1378	0.0100	2.40%	0.09%	4.88%	-0.65%	0.1609***	-0.3231
Event + 1 Year	121	0.2562	0.0000	0.0398	-18.41%	NA	-18.41%	NA	121	0.1348	0.1154	0.0098	-12.93%	-8.60%	-10.84%	-8.52%	0.1214***	-0.2953
Event + 2 Year	121	0.2066	0.0000	0.0370	-19.36%	NA	-34.20%	NA	121	0.1239	0.1059	0.0094	-10.02%	-5.72%	-21.66%	-13.83%	0.0827**	-0.2784
Event + 3 Year	121	0.1736	0.0000	0.0346	-15.97%	NA	-44.71%	NA	121	0.1107	0.0941	0.0089	-5.07%	-8.98%	-14.58%	-14.19%	0.0629*	-0.2534
Event + 4 Year	121	0.1653	0.0000	0.0339	-4.78%	NA	-47.36%	NA	121	0.1066	0.0835	0.0087	-7.78%	-10.30%	-12.46%	-18.35%	0.0587	-0.2273
Event + 5 Year	121	0.1488	0.0000	0.0325	-9.98%	NA	-52.61%	NA	121	0.1025	0.0833	0.0087	-0.82%	5.81%	-8.54%	-5.09%	0.0463	-0.2405

Table E.57: Long-term Operating Performance: Multiple Business Segments and Herfindahl-Hirschman Index Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event and Herfindahl-Hirschman Index is a measure of the size of Target Firm in relation to the industry and an indicator of the amount of competition among them. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	121	0.1736	0.0000	0.0346	NA	NA	33.29%	NA	121	0.0992	0.0000	0.0273	NA	NA	66.63%	NA	0.0744*	0.0000
Event - 4 Year	121	0.1901	0.0000	0.0358	9.50%	NA	21.73%	NA	121	0.1240	0.0000	0.0301	25.00%	NA	33.31%	NA	0.0661	0.0000
Event - 3 Year	121	0.1983	0.0000	0.0364	4.31%	NA	16.69%	NA	121	0.1405	0.0000	0.0317	13.31%	NA	17.65%	NA	0.0579	0.0000
Event - 2 Year	121	0.2149	0.0000	0.0375	8.37%	NA	7.68%	NA	121	0.1405	0.0000	0.0317	0.00%	NA	17.65%	NA	0.0744	0.0000
Event - 1 Year	121	0.2231	0.0000	0.0380	3.82%	NA	3.72%	NA	121	0.1570	0.0000	0.0332	11.74%	NA	5.29%	NA	0.0661	0.0000
Event	121	0.2314	0.0000	0.0385	3.72%	NA	NA	NA	121	0.1653	0.0000	0.0339	5.29%	NA	NA	NA	0.0661	0.0000
Event + 1 Year	121	0.1653	0.0000	0.0339	-28.57%	NA	-28.57%	NA	121	0.1405	0.0000	0.0317	-15.00%	NA	-15.00%	NA	0.0248	0.0000
Event + 2 Year	121	0.1240	0.0000	0.0301	-24.98%	NA	-46.41%	NA	121	0.1074	0.0000	0.0283	-23.56%	NA	-35.03%	NA	0.0165	0.0000
Event + 3 Year	121	0.0909	0.0000	0.0262	-26.69%	NA	-60.72%	NA	121	0.1074	0.0000	0.0283	0.00%	NA	-35.03%	NA	-0.0165	0.0000
Event + 4 Year	121	0.0909	0.0000	0.0262	0.00%	NA	-60.72%	NA	121	0.0992	0.0000	0.0273	-7.64%	NA	-39.99%	NA	-0.0083	0.0000
Event + 5 Year	121	0.1074	0.0000	0.0283	18.15%	NA	-53.59%	NA	121	0.0909	0.0000	0.0262	-8.37%	NA	-45.01%	NA	0.0165	0.0000
Herfindahl-Hirschman Index																		
Event - 5 Year	121	0.0761	0.0446	0.0138	NA	NA	-9.86%	9.87%	121	0.0696	0.0476	0.0115	NA	NA	-1.44%	2.94%	0.0065	-0.0030
Event - 4 Year	121	0.0600	0.0485	0.0083	-21.16%	8.74%	14.33%	1.03%	121	0.0533	0.0500	0.0030	-23.42%	5.04%	28.71%	-2.00%	0.0067	-0.0015
Event - 3 Year	121	0.0548	0.0476	0.0043	-8.67%	-1.86%	25.18%	2.94%	121	0.0517	0.0466	0.0029	-3.00%	-6.80%	32.69%	5.15%	0.0031	0.0010
Event - 2 Year	121	0.0586	0.0489	0.0064	6.93%	2.73%	17.06%	0.20%	121	0.0573	0.0481	0.0058	10.83%	3.22%	19.72%	1.87%	0.0013	0.0008
Event - 1 Year	121	0.0635	0.0503	0.0090	8.36%	2.86%	8.03%	-2.58%	121	0.0637	0.0500	0.0092	11.17%	3.95%	7.69%	-2.00%	-0.0002	0.0003
Event	121	0.0686	0.0490	0.0115	8.03%	-2.58%	NA	NA	121	0.0686	0.0490	0.0115	7.69%	-2.00%	NA	NA	0.0000	0.0000
Event + 1 Year	121	0.0761	0.0519	0.0137	10.93%	5.92%	10.93%	5.92%	121	0.0829	0.0522	0.0156	20.85%	6.53%	20.85%	6.53%	-0.0069	-0.0003
Event + 2 Year	121	0.0841	0.0533	0.0145	10.51%	2.70%	22.59%	8.78%	121	0.0879	0.0546	0.0156	6.03%	4.60%	28.13%	11.43%	-0.0038	-0.0013
Event + 3 Year	121	0.0907	0.0529	0.0158	7.85%	-0.75%	32.22%	7.96%	121	0.0854	0.0510	0.0155	-2.84%	-6.59%	24.49%	4.08%	0.0054	0.0019
Event + 4 Year	121	0.0956	0.0500	0.0177	5.40%	-5.48%	39.36%	2.04%	121	0.0824	0.0498	0.0141	-3.51%	-2.35%	20.12%	1.63%	0.0132	0.0002
Event + 5 Year	121	0.0854	0.0509	0.0143	-10.67%	1.80%	24.49%	3.88%	121	0.0804	0.0512	0.0117	-2.43%	2.81%	17.20%	4.49%	0.0050	-0.0003

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	121	0.1736	0.0000	0.0346	NA	NA	33.29%	NA	121	0.0835	0.0523	0.0125	-36.55%	-43.66%	-37.07%	-40.39%	0.0901**	-0.1355
Event - 4 Year	121	0.1901	0.0000	0.0358	9.50%	NA	21.73%	NA	121	0.0937	0.0523	0.0159	1.10%	-0.96%	-35.85%	-44.20%	0.0964***	-0.1342
Event - 3 Year	121	0.1983	0.0000	0.0364	4.31%	NA	16.69%	NA	121	0.0837	0.0546	0.0135	2.58%	-0.07%	3.71%	-1.03%	0.1146***	-0.1341
Event - 2 Year	121	0.2149	0.0000	0.0375	8.37%	NA	7.68%	NA	121	0.0846	0.0552	0.0142	2.12%	4.92%	4.76%	4.84%	0.1303***	-0.1407
Event - 1 Year	121	0.2231	0.0000	0.0380	3.82%	NA	3.72%	NA	121	0.0759	0.0519	0.0129	2.47%	2.49%	4.64%	7.53%	0.1472***	-0.1442
Event	121	0.2314	0.0000	0.0385	3.72%	NA	NA	NA	121	0.0716	0.0495	0.0118	-3.04%	-4.44%	-0.65%	-2.06%	0.1598***	-0.1378
Event + 1 Year	121	0.1653	0.0000	0.0339	-28.57%	NA	-28.57%	NA	121	0.0759	0.0519	0.0129	-11.95%	-16.26%	-14.63%	-19.97%	0.0894**	-0.1154
Event + 2 Year	121	0.1240	0.0000	0.0301	-24.98%	NA	-46.41%	NA	121	0.0846	0.0552	0.0142	-8.09%	-8.23%	-19.07%	-23.15%	0.0394	-0.1059
Event + 3 Year	121	0.0909	0.0000	0.0262	-26.69%	NA	-60.72%	NA	121	0.0837	0.0546	0.0135	-10.65%	-11.14%	-17.88%	-18.46%	0.0072	-0.0941
Event + 4 Year	121	0.0909	0.0000	0.0262	0.00%	NA	-60.72%	NA	121	0.0937	0.0523	0.0159	-3.70%	-11.26%	-13.96%	-21.15%	-0.0028	-0.0835
Event + 5 Year	121	0.1074	0.0000	0.0283	18.15%	NA	-53.59%	NA	121	0.0835	0.0523	0.0125	-3.85%	-0.24%	-7.41%	-11.48%	0.0239	-0.0833
Herfindahl-Hirschman Index																		
Event - 5 Year	121	0.0761	0.0446	0.0138	NA	NA	-9.86%	9.87%	121	0.0154	0.0142	0.0011	-18.54%	-37.21%	-21.67%	-37.37%	0.0607***	-0.0077
Event - 4 Year	121	0.0600	0.0485	0.0083	-21.16%	8.74%	14.33%	1.03%	121	0.0182	0.0162	0.0012	12.22%	0.00%	-8.59%	-37.21%	0.0418**	-0.0038
Event - 3 Year	121	0.0548	0.0476	0.0043	-8.67%	-1.86%	25.18%	2.94%	121	0.0198	0.0172	0.0013	-10.67%	4.40%	0.24%	4.40%	0.035**	-0.0070
Event - 2 Year	121	0.0586	0.0489	0.0064	6.93%	2.73%	17.06%	0.20%	121	0.0184	0.0173	0.0011	1.08%	1.10%	-9.71%	5.54%	0.0402***	-0.0063
Event - 1 Year	121	0.0635	0.0503	0.0090	8.36%	2.86%	8.03%	-2.58%	121	0.0204	0.0197	0.0013	-10.28%	-5.98%	-9.32%	-4.95%	0.0431***	-0.0016
Event	121	0.0686	0.0490	0.0115	8.03%	-2.58%	NA	NA	121	0.0246	0.0238	0.0012	-5.67%	-4.62%	-15.37%	-10.33%	0.044***	-0.0005
Event + 1 Year	121	0.0761	0.0519	0.0137	10.93%	5.92%	10.93%	5.92%	121	0.0199	0.0191	0.0014	6.01%	4.85%	0.00%	0.00%	0.0562***	0.0000
Event + 2 Year	121	0.0841	0.0533	0.0145	10.51%	2.70%	22.59%	8.78%	121	0.0190	0.0168	0.0015	11.46%	6.36%	18.16%	11.52%	0.0651***	-0.0019
Event + 3 Year	121	0.0907	0.0529	0.0158	7.85%	-0.75%	32.22%	7.96%	121	0.0156	0.0109	0.0014	-1.06%	-1.09%	10.28%	5.20%	0.0751***	-0.0017
Event + 4 Year	121	0.0956	0.0500	0.0177	5.40%	-5.48%	39.36%	2.04%	121	0.0132	0.0083	0.0013	11.95%	-4.21%	10.76%	-5.25%	0.0824***	-0.0023
Event + 5 Year	121	0.0854	0.0509	0.0143	-10.67%	1.80%	24.49%	3.88%	121	0.0134	0.0077	0.0014	-10.89%	0.00%	-0.24%	-4.21%	0.072***	-0.0014

Table E.58: Corporate Governance: 13D Filings Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	121	0.0413	0.0000	0.0182	NA	NA	760.53%	NA	121	0.0248	0.0000	0.0142	NA	NA	-33.47%	NA	0.0165	0.0000
Event - 4 Year	121	0.0000	0.0000	0.0000	-100.00%	NA	NA	NA	121	0.0083	0.0000	0.0083	-66.53%	NA	98.80%	NA	-0.0083	0.0000
Event - 3 Year	121	0.0579	0.0000	0.0213	NA	NA	513.82%	NA	121	0.0331	0.0000	0.0163	298.80%	NA	-50.15%	NA	0.0248	0.0000
Event - 2 Year	121	0.0496	0.0000	0.0198	-14.34%	NA	616.53%	NA	121	0.0165	0.0000	0.0116	-50.15%	NA	0.00%	NA	0.0331	0.0000
Event - 1 Year	121	0.0661	0.0000	0.0227	33.27%	NA	437.67%	NA	121	0.0000	0.0000	0.0000	-100.00%	NA	NA	NA	0.0661***	0.0000
Event	121	0.3554	0.0000	0.0437	437.67%	NA	NA	NA	121	0.0165	0.0000	0.0116	NA	NA	NA	NA	0.3388***	0.0000
Event + 1 Year	121	0.0496	0.0000	0.0198	-86.04%	NA	-86.04%	NA	121	0.0496	0.0000	0.0198	200.61%	NA	200.61%	NA	0.0000	0.0000
Event + 2 Year	121	0.0579	0.0000	0.0213	16.73%	NA	-83.71%	NA	121	0.0331	0.0000	0.0163	-33.27%	NA	100.61%	NA	0.0248	0.0000
Event + 3 Year	121	0.0000	0.0000	0.0000	-100.00%	NA	-100.00%	NA	121	0.0165	0.0000	0.0116	-50.15%	NA	0.00%	NA	-0.0165	0.0000
Event + 4 Year	121	0.0413	0.0000	0.0182	NA	NA	-88.38%	NA	121	0.0083	0.0000	0.0083	-49.70%	NA	-49.70%	NA	0.0331*	0.0000
Event + 5 Year	121	0.0165	0.0000	0.0116	-60.05%	NA	-95.36%	NA	121	0.0248	0.0000	0.0142	198.80%	NA	50.30%	NA	-0.0083	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	121	0.0413	0.0000	0.0182	NA	NA	760.53%	NA	121	0.1047	0.0787	0.0080	-81.56%	-72.85%	-83.56%	-72.85%	-0.0634***	-0.0142
Event - 4 Year	121	0.0000	0.0000	0.0000	-100.00%	NA	NA	NA	121	0.1114	0.0933	0.0078	18.18%	14.08%	-78.20%	-69.02%	-0.1114***	-0.0162
Event - 3 Year	121	0.0579	0.0000	0.0213	NA	NA	513.82%	NA	121	0.1201	0.1000	0.0079	8.79%	6.17%	28.57%	21.13%	-0.0622***	-0.0172
Event - 2 Year	121	0.0496	0.0000	0.0198	-14.34%	NA	616.53%	NA	121	0.1275	0.1108	0.0080	-7.07%	0.58%	1.10%	6.79%	-0.0779***	-0.0173
Event - 1 Year	121	0.0661	0.0000	0.0227	33.27%	NA	437.67%	NA	121	0.1322	0.1204	0.0078	10.87%	13.87%	3.03%	14.53%	-0.0661***	-0.0197
Event	121	0.3554	0.0000	0.0437	437.67%	NA	NA	NA	121	0.1356	0.1272	0.0078	20.59%	20.81%	33.70%	37.57%	0.2198***	-0.0238
Event + 1 Year	121	0.0496	0.0000	0.0198	-86.04%	NA	-86.04%	NA	121	0.1194	0.1111	0.0079	-19.11%	-19.75%	-2.45%	-3.05%	-0.0698***	-0.0191
Event + 2 Year	121	0.0579	0.0000	0.0213	16.73%	NA	-83.71%	NA	121	0.1070	0.0966	0.0076	-4.52%	-12.04%	-22.76%	-29.41%	-0.0491**	-0.0168
Event + 3 Year	121	0.0000	0.0000	0.0000	-100.00%	NA	-100.00%	NA	121	0.1010	0.0943	0.0075	-17.89%	-35.12%	-21.61%	-42.93%	-0.101***	-0.0109
Event + 4 Year	121	0.0413	0.0000	0.0182	NA	NA	-88.38%	NA	121	0.0923	0.0791	0.0072	-15.38%	-23.85%	-30.53%	-50.60%	-0.051***	-0.0083
Event + 5 Year	121	0.0165	0.0000	0.0116	-60.05%	NA	-95.36%	NA	121	0.0892	0.0695	0.0072	1.52%	-7.23%	-14.10%	-29.36%	-0.0727***	-0.0077

Table E.59: Corporate Governance: Classified Board and Poison Pill Ex Ante and Ex Post Non-Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Classified Board is a dummy variable if the firm had a staggered board prior to the even and Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	121	0.0661	0.0000	0.0227	NA	NA	625.11%	NA	121	0.0992	0.0000	0.0273	NA	NA	0.00%	NA	-0.0331	0.0000
Event - 4 Year	121	0.0744	0.0000	0.0240	12.56%	NA	544.22%	NA	121	0.1074	0.0000	0.0283	8.27%	NA	-7.64%	NA	-0.0331	0.0000
Event - 3 Year	121	0.0744	0.0000	0.0240	0.00%	NA	544.22%	NA	121	0.0992	0.0000	0.0273	-7.64%	NA	0.00%	NA	-0.0248	0.0000
Event - 2 Year	121	0.0744	0.0000	0.0240	0.00%	NA	544.22%	NA	121	0.0909	0.0000	0.0262	-8.37%	NA	9.13%	NA	-0.0165	0.0000
Event - 1 Year	121	0.0744	0.0000	0.0240	0.00%	NA	544.22%	NA	121	0.0826	0.0000	0.0251	-9.13%	NA	20.10%	NA	-0.0083	0.0000
Event	121	0.4793	0.0000	0.0456	544.22%	NA	NA	NA	121	0.0992	0.0000	0.0273	20.10%	NA	NA	NA	0.3802***	0.0000
Event + 1 Year	121	0.0744	0.0000	0.0240	-84.48%	NA	-84.48%	NA	121	0.1074	0.0000	0.0283	8.27%	NA	8.27%	NA	-0.0331	0.0000
Event + 2 Year	121	0.0496	0.0000	0.0198	-33.33%	NA	-89.65%	NA	121	0.0992	0.0000	0.0273	-7.64%	NA	0.00%	NA	-0.0496	0.0000
Event + 3 Year	121	0.0413	0.0000	0.0182	-16.73%	NA	-91.38%	NA	121	0.1157	0.0000	0.0292	16.63%	NA	16.63%	NA	-0.0744**	0.0000
Event + 4 Year	121	0.0496	0.0000	0.0198	20.10%	NA	-89.65%	NA	121	0.0992	0.0000	0.0273	-14.26%	NA	0.00%	NA	-0.0496	0.0000
Event + 5 Year	121	0.0661	0.0000	0.0227	33.27%	NA	-86.21%	NA	121	0.0909	0.0000	0.0262	-8.37%	NA	-8.37%	NA	-0.0248	0.0000
Poison Pill																		
Event - 5 Year	121	0.2231	0.0000	0.0380	NA	NA	14.84%	NA	121	0.1074	0.0000	0.0283	NA	NA	0.00%	NA	0.1157**	0.0000
Event - 4 Year	121	0.2149	0.0000	0.0375	-3.68%	NA	19.22%	NA	121	0.1322	0.0000	0.0309	23.09%	NA	-18.76%	NA	0.0826*	0.0000
Event - 3 Year	121	0.2066	0.0000	0.0370	-3.86%	NA	24.01%	NA	121	0.1488	0.0000	0.0325	12.56%	NA	-27.82%	NA	0.0579	0.0000
Event - 2 Year	121	0.2397	0.0000	0.0390	16.02%	NA	6.88%	NA	121	0.1322	0.0000	0.0309	-11.16%	NA	-18.76%	NA	0.1074**	0.0000
Event - 1 Year	121	0.2562	0.0000	0.0398	6.88%	NA	0.00%	NA	121	0.1240	0.0000	0.0301	-6.20%	NA	-13.39%	NA	0.1322***	0.0000
Event	121	0.2562	0.0000	0.0398	0.00%	NA	NA	NA	121	0.1074	0.0000	0.0283	-13.39%	NA	NA	NA	0.1488***	0.0000
Event + 1 Year	121	0.2149	0.0000	0.0375	-16.12%	NA	-16.12%	NA	121	0.1240	0.0000	0.0301	15.46%	NA	15.46%	NA	0.0909*	0.0000
Event + 2 Year	121	0.1240	0.0000	0.0301	-42.30%	NA	-51.60%	NA	121	0.1157	0.0000	0.0292	-6.69%	NA	7.73%	NA	0.0083	0.0000
Event + 3 Year	121	0.1157	0.0000	0.0292	-6.69%	NA	-54.84%	NA	121	0.1074	0.0000	0.0283	-7.17%	NA	0.00%	NA	0.0083	0.0000
Event + 4 Year	121	0.0992	0.0000	0.0273	-14.26%	NA	-61.28%	NA	121	0.0909	0.0000	0.0262	-15.36%	NA	-15.36%	NA	0.0083	0.0000
Event + 5 Year	121	0.1074	0.0000	0.0283	8.27%	NA	-58.08%	NA	121	0.0909	0.0000	0.0262	0.00%	NA	-15.36%	NA	0.0165	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	121	0.0661	0.0000	0.0227	NA	NA	625.11%	NA	121	0.1047	0.0787	0.0080	681.34%	922.08%	693.18%	848.19%	-0.0595**	-0.0787
Event - 4 Year	121	0.0744	0.0000	0.0240	12.56%	NA	544.22%	NA	121	0.1114	0.0933	0.0078	6.40%	18.55%	731.34%	1111.69%	-0.0601**	-0.0933
Event - 3 Year	121	0.0744	0.0000	0.0240	0.00%	NA	544.22%	NA	121	0.1201	0.1000	0.0079	7.81%	7.18%	14.71%	27.06%	-0.0633**	-0.1000
Event - 2 Year	121	0.0744	0.0000	0.0240	0.00%	NA	544.22%	NA	121	0.1275	0.1108	0.0080	6.16%	10.80%	14.45%	18.76%	-0.0649***	-0.1108
Event - 1 Year	121	0.0744	0.0000	0.0240	0.00%	NA	544.22%	NA	121	0.1322	0.1204	0.0078	3.69%	8.66%	10.07%	20.40%	-0.0623**	-0.1204
Event	121	0.4793	0.0000	0.0456	544.22%	NA	NA	NA	121	0.1356	0.1272	0.0078	2.57%	5.65%	6.35%	14.80%	0.3446***	-0.1272
Event + 1 Year	121	0.0744	0.0000	0.0240	-84.48%	NA	-84.48%	NA	121	0.1194	0.1111	0.0079	-11.95%	-12.66%	-9.68%	-7.72%	-0.041	-0.1111
Event + 2 Year	121	0.0496	0.0000	0.0198	-33.33%	NA	-89.65%	NA	121	0.1070	0.0966	0.0076	-10.39%	-13.05%	-21.09%	-24.06%	-0.0545***	-0.0966
Event + 3 Year	121	0.0413	0.0000	0.0182	-16.73%	NA	-91.38%	NA	121	0.1010	0.0943	0.0075	-5.61%	-2.38%	-15.41%	-15.12%	-0.0492**	-0.0943
Event + 4 Year	121	0.0496	0.0000	0.0198	20.10%	NA	-89.65%	NA	121	0.0923	0.0791	0.0072	-8.61%	-16.12%	-13.74%	-18.12%	-0.0297	-0.0791
Event + 5 Year	121	0.0661	0.0000	0.0227	33.27%	NA	-86.21%	NA	121	0.0892	0.0695	0.0072	-3.36%	-12.14%	-11.68%	-26.30%	-0.0109	-0.0695
Poison Pill																		
Event - 5 Year	121	0.2231	0.0000	0.0380	NA	NA	14.84%	NA	121	0.1256	0.1149	0.0079	40.81%	65.32%	36.08%	45.26%	#VALUE!	-0.1149
Event - 4 Year	121	0.2149	0.0000	0.0375	-3.68%	NA	19.22%	NA	121	0.1345	0.1331	0.0077	7.09%	15.84%	50.78%	91.51%	0.2149***	-0.1331
Event - 3 Year	121	0.2066	0.0000	0.0370	-3.86%	NA	24.01%	NA	121	0.1377	0.1320	0.0077	2.38%	-0.83%	9.63%	14.88%	0.2066***	-0.1320
Event - 2 Year	121	0.2397	0.0000	0.0390	16.02%	NA	6.88%	NA	121	0.1393	0.1379	0.0075	1.16%	4.47%	3.57%	3.61%	0.2397***	-0.1379
Event - 1 Year	121	0.2562	0.0000	0.0398	6.88%	NA	0.00%	NA	121	0.1367	0.1299	0.0072	-1.87%	-5.80%	-0.73%	-1.59%	0.2562***	-0.1299
Event	121	0.2562	0.0000	0.0398	0.00%	NA	NA	NA	121	0.1347	0.1294	0.0075	-1.46%	-0.38%	-3.30%	-6.16%	0.2562***	-0.1294
Event + 1 Year	121	0.2149	0.0000	0.0375	-16.12%	NA	-16.12%	NA	121	0.1154	0.1126	0.0078	-14.33%	-12.98%	-15.58%	-13.32%	0.2149***	-0.1126
Event + 2 Year	121	0.1240	0.0000	0.0301	-42.30%	NA	-51.60%	NA	121	0.1041	0.1023	0.0078	-9.79%	-9.15%	-22.72%	-20.94%	0.124***	-0.1023
Event + 3 Year	121	0.1157	0.0000	0.0292	-6.69%	NA	-54.84%	NA	121	0.0905	0.0833	0.0074	-13.06%	-18.57%	-21.58%	-26.02%	0.1157***	-0.0833
Event + 4 Year	121	0.0992	0.0000	0.0273	-14.26%	NA	-61.28%	NA	121	0.0793	0.0624	0.0074	-12.38%	-25.09%	-23.82%	-39.00%	0.0992***	-0.0624
Event + 5 Year	121	0.1074	0.0000	0.0283	8.27%	NA	-58.08%	NA	121	0.0770	0.0474	0.0073	-2.90%	-24.04%	-14.92%	-43.10%	0.1074***	-0.0474

Table E.60: Long-term Operating Performance: Revenue Growth and Operating Margin Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Revenue Growth is defined as the LTM rolling sales and Operating Margin is (EBITDA/sales). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	90	0.0280	0.0093	0.0200	NA	NA	-72.14%	-40.86%	88	0.0604	0.0373	0.0188	NA	NA	-36.09%	-25.74%	-0.0324	-0.0280
Event - 4 Year	91	0.0534	0.0388	0.0252	90.71%	317.20%	-85.39%	-85.82%	84	0.0359	0.0261	0.0215	-40.56%	NA	7.52%	6.13%	0.0175	0.0127
Event - 3 Year	89	0.0485	0.0189	0.0209	-9.18%	-51.29%	-83.92%	-70.90%	88	0.0437	0.0184	0.0213	21.73%	NA	-11.67%	50.54%	0.0048	0.0005
Event - 2 Year	89	0.0364	0.0310	0.0174	-24.95%	64.02%	-78.57%	-82.26%	87	0.0687	0.0373	0.0224	57.21%	NA	-43.81%	-25.74%	-0.0323	-0.0063
Event - 1 Year	88	0.0083	0.0109	0.0146	-77.20%	-64.84%	-6.02%	-49.54%	91	0.0353	0.0320	0.0172	-48.62%	NA	9.35%	-13.44%	-0.0270	-0.0211
Event	85	0.0078	0.0055	0.0153	-6.02%	-49.54%	NA	NA	90	0.0386	0.0277	0.0172	9.35%	NA	NA	NA	-0.0307	-0.0222
Event + 1 Year	80	0.0037	0.0032	0.0184	-52.56%	-41.82%	-52.56%	-41.82%	79	0.0328	0.0271	0.0194	-15.03%	-2.17%	-15.03%	-2.17%	-0.0292	-0.0239
Event + 2 Year	81	0.0180	0.0000	0.0199	386.49%	-100.00%	130.77%	-100.00%	81	0.0334	0.0130	0.0226	1.83%	NA	-13.47%	-53.07%	-0.0154	-0.0130
Event + 3 Year	79	0.0035	-0.0001	0.0233	-80.56%	NA	-55.13%	-101.82%	86	0.0436	0.0122	0.0234	30.54%	-6.15%	12.95%	-55.96%	-0.0401	-0.0123
Event + 4 Year	81	0.0454	0.0055	0.0233	1197.14%	NA	482.05%	0.00%	88	0.0188	0.0145	0.0218	-56.88%	NA	-51.30%	-47.65%	0.0266	-0.0090
Event + 5 Year	84	0.0432	0.0007	0.0257	-4.85%	-87.27%	453.85%	-87.27%	88	0.0327	0.0147	0.0208	73.94%	1.38%	-15.28%	-46.93%	0.0105	-0.0140
Operating Margin																		
Event - 5 Year	87	-0.0124	0.1060	0.0636	NA	NA	-388.71%	0.38%	84	0.0125	0.1354	0.0731	NA	NA	620.80%	13.00%	-0.0249	-0.0294
Event - 4 Year	89	0.0682	0.1262	0.0474	-650.00%	19.06%	-47.51%	-15.69%	89	0.0415	0.1461	0.0711	232.00%	7.90%	117.11%	4.72%	0.0267	-0.0199
Event - 3 Year	85	0.0805	0.1237	0.0475	18.04%	-1.98%	-55.53%	-13.99%	85	-0.0139	0.1464	0.0816	-133.49%	0.21%	-748.20%	4.51%	0.0944	-0.0227
Event - 2 Year	85	0.1127	0.1269	0.0427	40.00%	2.59%	-68.23%	-16.15%	85	0.0251	0.1605	0.0791	NA	9.63%	258.96%	-4.67%	0.0876	-0.0336
Event - 1 Year	86	0.0635	0.1240	0.0540	-43.66%	-2.29%	-43.62%	-14.19%	86	0.1240	0.1596	0.0471	394.02%	NA	-27.34%	-4.14%	-0.0605	-0.0356
Event	84	0.0358	0.1064	0.0640	-43.62%	-14.19%	NA	NA	84	0.0901	0.1530	0.0458	-27.34%	-4.14%	NA	NA	-0.0542	-0.0466
Event + 1 Year	82	0.0236	0.1133	0.0627	-34.08%	6.48%	-34.08%	6.48%	82	0.0232	0.1575	0.0714	-74.25%	2.94%	-74.25%	2.94%	0.0003	-0.0442
Event + 2 Year	85	0.0484	0.1120	0.0574	105.08%	-1.15%	35.20%	5.26%	85	-0.0091	0.1309	0.0918	-139.22%	NA	-110.10%	-14.44%	0.0576	-0.0189
Event + 3 Year	81	-0.0227	0.1055	0.0784	-146.90%	-5.80%	-163.41%	-0.85%	81	-0.0171	0.1235	0.0799	87.91%	NA	-118.98%	-19.28%	-0.0056	-0.0180
Event + 4 Year	81	0.0436	0.1366	0.0622	-292.07%	29.48%	21.79%	28.38%	81	-0.0493	0.1034	0.0828	188.30%	NA	-154.72%	-32.42%	0.0928	0.0332
Event + 5 Year	80	-0.0273	0.1283	0.0805	-162.61%	-6.08%	-176.26%	20.58%	80	0.0061	0.0861	0.0559	-112.37%	NA	-93.23%	-43.73%	-0.0334	0.0422

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Revenue Growth																		
Event - 5 Year	90	0.0280	0.0093	0.0200	NA	NA	-72.14%	-40.86%	115	0.1146	0.0545	0.0377	NA	NA	77.05%	-13.94%	-0.0866**	-0.0452
Event - 4 Year	91	0.0534	0.0388	0.0252	90.71%	317.20%	-85.39%	-85.82%	115	0.1871	0.0523	0.0554	63.26%	NA	8.44%	-10.33%	-0.1337**	-0.0135
Event - 3 Year	89	0.0485	0.0189	0.0209	-9.18%	-51.29%	-83.92%	-70.90%	115	0.2405	0.0529	0.0614	28.54%	1.15%	-15.63%	-11.34%	-0.192***	-0.0340
Event - 2 Year	89	0.0364	0.0310	0.0174	-24.95%	64.02%	-78.57%	-82.26%	115	0.1811	0.0543	0.0473	-24.70%	2.65%	12.04%	-13.63%	-0.1447***	-0.0233
Event - 1 Year	88	0.0083	0.0109	0.0146	-77.20%	-64.84%	-6.02%	-49.54%	115	0.1777	0.0456	0.0514	-1.88%	NA	14.18%	2.85%	-0.1694***	-0.0347
Event	85	0.0078	0.0055	0.0153	-6.02%	-49.54%	NA	NA	115	0.2029	0.0469	0.0594	14.18%	2.85%	NA	NA	-0.1951***	-0.0414
Event + 1 Year	80	0.0037	0.0032	0.0184	-52.56%	-41.82%	-52.56%	-41.82%	113	0.2529	0.0415	0.0697	24.64%	NA	24.64%	-11.51%	-0.2492***	-0.0383
Event + 2 Year	81	0.0180	0.0000	0.0199	386.49%	-100.00%	130.77%	-100.00%	114	0.1797	0.0501	0.0501	-28.94%	NA	-11.43%	6.82%	-0.1617***	-0.0501
Event + 3 Year	79	0.0035	-0.0001	0.0233	-80.56%	NA	-55.13%	-101.82%	114	0.2634	0.0599	0.0657	46.58%	NA	29.82%	27.72%	-0.2599***	-0.0600
Event + 4 Year	81	0.0454	0.0055	0.0233	1197.14%	NA	482.05%	0.00%	115	0.2379	0.0543	0.0617	-9.68%	NA	17.25%	15.78%	-0.1925***	-0.0488
Event + 5 Year	84	0.0432	0.0007	0.0257	-4.85%	-87.27%	453.85%	-87.27%	115	0.2861	0.0541	0.0680	20.26%	NA	41.01%	15.35%	-0.2429***	-0.0534
Operating Margin																		
Event - 5 Year	87	-0.0124	0.1060	0.0636	NA	NA	-388.71%	0.38%	115	-1.7781	0.0706	0.5184	NA	NA	-29.86%	50.14%	1.7657***	0.0354
Event - 4 Year	89	0.0682	0.1262	0.0474	-650.00%	19.06%	-47.51%	-15.69%	115	-1.3333	0.0620	0.4967	-25.02%	NA	-6.47%	70.97%	1.4015***	0.0642
Event - 3 Year	85	0.0805	0.1237	0.0475	18.04%	-1.98%	-55.53%	-13.99%	115	-1.2028	0.0945	0.4697	-9.79%	NA	3.68%	12.17%	1.2833***	0.0292
Event - 2 Year	85	0.1127	0.1269	0.0427	40.00%	2.59%	-68.23%	-16.15%	115	-1.5297	0.1093	0.5116	27.18%	NA	-18.47%	-3.02%	1.6424***	0.0176
Event - 1 Year	86	0.0635	0.1240	0.0540	-43.66%	-2.29%	-43.62%	-14.19%	115	-1.5663	0.1106	0.4992	2.39%	1.19%	-20.38%	-4.16%	1.6298***	0.0134
Event	84	0.0358	0.1064	0.0640	-43.62%	-14.19%	NA	NA	115	-1.2471	0.1060	0.4720	-20.38%	-4.16%	NA	NA	1.2829***	0.0004
Event + 1 Year	82	0.0236	0.1133	0.0627	-34.08%	6.48%	-34.08%	6.48%	115	-1.4408	0.0848	0.4696	15.53%	NA	15.53%	-20.00%	1.4644***	0.0285
Event + 2 Year	85	0.0484	0.1120	0.0574	105.08%	-1.15%	35.20%	5.26%	115	-1.1355	0.0734	0.4069	-21.19%	NA	-8.95%	-30.75%	1.1839***	0.0386
Event + 3 Year	81	-0.0227	0.1055	0.0784	-146.90%	-5.80%	-163.41%	-0.85%	115	-1.1784	0.0804	0.3910	3.78%	9.54%	-5.51%	-24.15%	1.1557***	0.0251
Event + 4 Year	81	0.0436	0.1366	0.0622	-292.07%	29.48%	21.79%	28.38%	115	-0.9704	0.0809	0.3379	-17.65%	0.62%	-22.19%	-23.68%	1.014***	0.0557
Event + 5 Year	80	-0.0273	0.1283	0.0805	-162.61%	-6.08%	-176.26%	20.58%	115	-1.1090	0.0768	0.4463	14.28%	NA	-11.07%	-27.55%	1.0817**	0.0515

Table E.61: Long-term Operating Performance: ROA and Tobin's Q Ex Ante and Ex Post Activist Intervention

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROA is defined as (EBIT * (1-tax rate)/Book Value of Total Assets) and Tobin's Q is (book value of debt + market value of equity)/(book value of debt + book value of equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms							Matched Firms							Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	87	0.0593	0.0631	0.0160	NA	NA	1.18%	28.21%	84	0.0645	0.0856	0.0212	NA	NA	35.81%	18.34%	-0.0052	-0.0225
Event - 4 Year	85	0.0786	0.0873	0.0149	32.55%	38.35%	-23.66%	-7.33%	80	0.0666	0.0720	0.0212	3.26%	NA	31.53%	40.69%	0.0121	0.0153
Event - 3 Year	83	0.0864	0.0786	0.0154	9.92%	-9.97%	-30.56%	2.93%	83	0.0751	0.0834	0.0213	12.76%	NA	16.64%	21.46%	0.0113	-0.0048
Event - 2 Year	84	0.0979	0.0945	0.0132	13.31%	20.23%	-38.71%	-14.39%	79	0.0862	0.0998	0.0209	14.78%	NA	1.62%	1.50%	0.0117	-0.0053
Event - 1 Year	83	0.0790	0.0858	0.0136	-19.31%	-9.21%	-24.05%	-5.71%	79	0.0985	0.1084	0.0200	14.27%	8.62%	-11.07%	-6.55%	-0.0195	-0.0226
Event	81	0.0600	0.0809	0.0157	-24.05%	-5.71%	NA	NA	83	0.0876	0.1013	0.0179	-11.07%	NA	NA	NA	-0.0275	-0.0204
Event + 1 Year	74	0.0872	0.0763	0.0154	45.33%	-5.69%	45.33%	-5.69%	75	0.0903	0.0933	0.0165	3.08%	NA	3.08%	-7.90%	-0.0031	-0.0170
Event + 2 Year	79	0.0855	0.0897	0.0153	-1.95%	17.56%	42.50%	10.88%	66	0.0734	0.0805	0.0208	-18.72%	NA	-16.21%	-20.53%	0.0121	0.0092
Event + 3 Year	76	0.0456	0.0493	0.0216	-46.67%	-45.04%	-24.00%	-39.06%	70	0.0773	0.1020	0.0192	5.31%	NA	-11.76%	0.69%	-0.0317	-0.0527
Event + 4 Year	77	0.0676	0.0666	0.0196	48.25%	35.09%	12.67%	-17.68%	77	0.0600	0.0695	0.0195	-22.38%	NA	-31.51%	-31.39%	0.0076	-0.0029
Event + 5 Year	79	0.0543	0.0684	0.0183	-19.67%	2.70%	-9.50%	-15.45%	77	0.0544	0.0754	0.0189	-9.33%	8.49%	-37.90%	-25.57%	0.0000	-0.0070
Tobin's Q																		
Event - 5 Year	92	1.9436	1.3222	0.1715	NA	NA	-13.39%	7.39%	88	2.0944	1.7187	0.1538	NA	NA	-0.58%	-9.28%	-0.1508	-0.3965
Event - 4 Year	93	1.6787	1.1718	0.1422	-13.63%	-11.37%	0.27%	21.17%	88	2.0870	1.5210	0.1705	-0.35%	NA	-0.23%	2.51%	-0.4084*	-0.3492
Event - 3 Year	88	1.9910	1.3009	0.1909	18.60%	11.02%	-15.45%	9.15%	91	2.1182	1.4372	0.2054	1.49%	-5.51%	-1.70%	8.49%	-0.1272	-0.1363
Event - 2 Year	91	1.9497	1.3898	0.1675	-2.07%	6.83%	-13.66%	2.17%	91	1.9553	1.3059	0.1488	-7.69%	-9.14%	6.49%	19.40%	-0.0055	0.0839
Event - 1 Year	91	1.6982	1.4099	0.1050	-12.90%	1.45%	-0.88%	0.71%	92	2.1805	1.4763	0.1840	11.52%	NA	-4.51%	5.62%	-0.4823**	-0.0664
Event	90	1.6833	1.4199	0.1125	-0.88%	0.71%	NA	NA	93	2.0822	1.5592	0.1876	-4.51%	5.62%	NA	NA	-0.3989*	-0.1393
Event + 1 Year	87	1.8963	1.3997	0.1609	12.65%	-1.42%	12.65%	-1.42%	89	2.1546	1.6094	0.1855	3.48%	3.22%	3.48%	3.22%	-0.2583	-0.2097
Event + 2 Year	92	1.9270	1.5564	0.1598	1.62%	11.20%	14.48%	9.61%	85	1.9124	1.5098	0.1626	-11.24%	-6.19%	-8.15%	-3.17%	0.0146	0.0466
Event + 3 Year	91	2.2261	1.7296	0.1749	15.52%	11.13%	32.25%	21.81%	89	2.0166	1.3554	0.1866	5.45%	NA	-3.15%	-13.07%	0.2096	0.3742
Event + 4 Year	91	2.2127	1.5907	0.1974	-0.60%	-8.03%	31.45%	12.03%	92	2.2467	1.4333	0.1927	11.41%	5.75%	7.90%	-8.07%	-0.0340	0.1574
Event + 5 Year	88	2.3344	1.6580	0.1966	5.50%	4.23%	38.68%	16.77%	90	2.1433	1.5438	0.1802	-4.60%	7.71%	2.93%	-0.99%	0.1911	0.1142

	Target Firms							Industry Adjusted							Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROA																		
Event - 5 Year	87	0.0593	0.0631	0.016	NA	NA	1.18%	28.21%	87	0.0293	0.0631	0.0023	NA	NA	43.34%	3.80%	0.0449***	0.0309
Event - 4 Year	85	0.0786	0.0873	0.0149	32.55%	38.35%	-23.66%	-7.33%	85	0.0340	0.0633	0.0022	16.04%	0.32%	23.53%	3.48%	0.0392***	0.0287
Event - 3 Year	83	0.0864	0.0786	0.0154	9.92%	-9.97%	-30.56%	2.93%	83	0.0374	0.0652	0.0022	10.00%	3.00%	12.30%	0.46%	0.0339***	0.0245
Event - 2 Year	84	0.0979	0.0945	0.0132	13.31%	20.23%	-38.71%	-14.39%	84	0.0428	0.0711	0.0021	14.44%	9.05%	-1.87%	-7.88%	0.0291***	0.0189
Event - 1 Year	83	0.0790	0.0858	0.0136	-19.31%	-9.21%	-24.05%	-5.71%	83	0.0408	0.0684	0.0021	-4.67%	NA	2.94%	-4.24%	0.0239***	0.0167
Event	81	0.0600	0.0809	0.0157	-24.05%	-5.71%	NA	NA	81	0.0420	0.0655	0.0021	2.94%	NA	NA	NA	0.009***	0.0101
Event + 1 Year	74	0.0872	0.0763	0.0154	45.33%	-5.69%	45.33%	-5.69%	74	0.0431	0.0704	0.0020	2.62%	7.48%	2.62%	7.48%	0.0059*	0.0066
Event + 2 Year	79	0.0855	0.0897	0.0153	-1.95%	17.56%	42.50%	10.88%	79	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	0.0063*	0.0058
Event + 3 Year	76	0.0456	0.0493	0.0216	-46.67%	-45.04%	-24.00%	-39.06%	76	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	15.11%	0.006*	0.0070
Event + 4 Year	77	0.0676	0.0666	0.0196	48.25%	35.09%	12.67%	-17.68%	77	0.0418	0.0767	0.0021	-0.48%	1.72%	-0.48%	17.10%	0.0131***	0.0106
Event + 5 Year	79	0.0543	0.0684	0.0183	-19.67%	2.70%	-9.50%	-15.45%	79	0.0392	0.0740	0.0021	-6.22%	NA	-6.67%	12.98%	0.0167***	0.0161
Tobin's Q																		
Event - 5 Year	92	1.9436	1.3222	0.1715	NA	NA	-13.39%	7.39%	115	2.7174	1.9505	0.3168	NA	NA	-2.69%	-16.24%	-0.7738**	-0.6283
Event - 4 Year	93	1.6787	1.1718	0.1422	-13.63%	-11.37%	0.27%	21.17%	115	2.6065	1.8984	0.2715	-4.08%	NA	1.45%	-13.94%	-0.9278***	-0.7266
Event - 3 Year	88	1.9910	1.3009	0.1909	18.60%	11.02%	-15.45%	9.15%	115	3.1967	1.9507	0.4206	22.64%	2.75%	-17.28%	-16.25%	-1.2057***	-0.6498
Event - 2 Year	91	1.9497	1.3898	0.1675	-2.07%	6.83%	-13.66%	2.17%	115	3.2746	2.0913	0.4132	2.44%	7.21%	-19.25%	-21.88%	-1.3249***	-0.7015
Event - 1 Year	91	1.6982	1.4099	0.1050	-12.90%	1.45%	-0.88%	0.71%	115	3.1071	1.8700	0.4048	-5.12%	NA	-14.89%	-12.63%	-1.4089***	-0.4601
Event	90	1.6833	1.4199	0.1125	-0.88%	0.71%	NA	NA	115	2.6444	1.6338	0.3320	-14.89%	NA	NA	NA	-0.9611***	-0.2139
Event + 1 Year	87	1.8963	1.3997	0.1609	12.65%	-1.42%	12.65%	-1.42%	115	3.1357	1.8554	0.4164	18.58%	NA	18.58%	13.56%	-1.2394***	-0.4557
Event + 2 Year	92	1.9270	1.5564	0.1598	1.62%	11.20%	14.48%	9.61%	115	3.8735	1.9404	0.5492	23.53%	4.58%	46.48%	18.77%	-1.9465***	-0.3840
Event + 3 Year	91	2.2261	1.7296	0.1749	15.52%	11.13%	32.25%	21.81%	115	3.7599	2.0345	0.5115	-2.93%	4.85%	42.18%	24.53%	-1.5338***	-0.3049
Event + 4 Year	91	2.2127	1.5907	0.1974	-0.60%	-8.03%	31.45%	12.03%	115	3.6414	2.0186	0.4678	-3.15%	NA	37.70%	23.55%	-1.4287***	-0.4279
Event + 5 Year	88	2.3344	1.6580	0.1966	5.50%	4.23%	38.68%	16.77%	115	3.6727	2.0290	0.4765	0.86%	0.52%	38.89%	24.19%	-1.3383***	-0.3710

Table E.62: Long-term Operating Performance: ROE and ROIC Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. ROE is defined as (Net Income / Book Value of Equity) and ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets − Current Liabilities − Cash)). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	92	-0.0850	0.0398	0.0516	NA	NA	-33.06%	31.66%	91	-0.0261	0.0744	0.0458	NA	NA	-310.73%	56.05%	-0.0588	-0.0346
Event - 4 Year	92	-0.0158	0.0558	0.0440	-81.41%	40.20%	260.13%	-6.09%	85	-0.0977	0.0853	0.0595	274.33%	NA	-156.29%	36.11%	0.0819	-0.0295
Event - 3 Year	90	-0.0324	0.0579	0.0515	105.06%	3.76%	75.62%	-9.50%	90	0.0586	0.0919	0.0379	-159.98%	7.74%	-6.14%	26.33%	-0.0909	-0.0340
Event - 2 Year	91	0.0412	0.0866	0.0438	-227.16%	49.57%	-238.11%	-39.49%	88	0.0838	0.1015	0.0340	43.00%	NA	-34.37%	14.38%	-0.0426	-0.0149
Event - 1 Year	90	0.0563	0.0788	0.0342	36.65%	-9.01%	-201.07%	-33.50%	91	0.0302	0.1031	0.0404	-63.96%	1.58%	82.12%	12.61%	0.0261	-0.0243
Event	88	-0.0569	0.0524	0.0492	-201.07%	-33.50%	NA	NA	91	0.0550	0.1161	0.0476	82.12%	12.61%	NA	NA	-0.1119	-0.0637
Event + 1 Year	84	-0.0047	0.0635	0.0465	-91.74%	21.18%	-91.74%	21.18%	85	0.0749	0.0994	0.0382	36.18%	NA	36.18%	-14.38%	-0.0796	-0.0359
Event + 2 Year	84	-0.0127	0.0809	0.0478	170.21%	27.40%	-77.68%	54.39%	82	0.0424	0.1028	0.0479	-43.39%	3.42%	-22.91%	-11.46%	-0.0550	-0.0219
Event + 3 Year	84	-0.0364	0.0869	0.0547	186.61%	7.42%	-36.03%	65.84%	88	0.0414	0.0996	0.0336	-2.36%	-3.11%	-24.73%	-14.21%	-0.0777	-0.0127
Event + 4 Year	87	0.0987	0.1001	0.0269	-371.15%	15.19%	-273.46%	91.03%	90	0.0015	0.0845	0.0397	-96.38%	NA	-97.27%	-27.22%	0.0972**	0.0156
Event + 5 Year	89	0.0400	0.0662	0.0350	-59.47%	-33.87%	-170.30%	26.34%	89	-0.0014	0.0549	0.0366	-193.33%	NA	-102.55%	-52.71%	0.0414	0.0113
ROIC																		
Event - 5 Year	91	0.0160	0.0436	0.0154	NA	NA	40.00%	4.59%	86	0.0295	0.0570	0.0196	NA	NA	55.59%	3.86%	-0.0135	-0.0134
Event - 4 Year	89	0.0338	0.0494	0.0145	111.25%	13.30%	-33.73%	-7.69%	82	0.0391	0.0471	0.0199	32.54%	NA	17.39%	25.69%	-0.0053	0.0023
Event - 3 Year	89	0.0433	0.0495	0.0151	28.11%	0.20%	-48.27%	-7.88%	86	0.0424	0.0520	0.0191	8.44%	NA	8.25%	13.85%	0.0009	-0.0025
Event - 2 Year	89	0.0570	0.0532	0.0117	31.64%	7.47%	-60.70%	-14.29%	86	0.0517	0.0549	0.0174	21.93%	5.58%	-11.22%	7.83%	0.0053	-0.0017
Event - 1 Year	89	0.0432	0.0508	0.0112	-24.21%	-4.51%	-48.15%	-10.24%	89	0.0534	0.0662	0.0172	3.29%	NA	-14.04%	-10.57%	-0.0102	-0.0154
Event	87	0.0224	0.0456	0.0138	-48.15%	-10.24%	NA	NA	90	0.0459	0.0592	0.0160	-14.04%	NA	NA	NA	-0.0235	-0.0136
Event + 1 Year	77	0.0524	0.0417	0.0135	133.93%	-8.55%	133.93%	-8.55%	82	0.0577	0.0690	0.0145	25.71%	NA	25.71%	16.55%	-0.0053	-0.0273
Event + 2 Year	82	0.0517	0.0487	0.0129	-1.34%	16.79%	130.80%	6.80%	79	0.0438	0.0633	0.0170	-24.09%	NA	-4.58%	6.93%	0.0079	-0.0146
Event + 3 Year	81	0.0231	0.0454	0.0185	-55.32%	-6.78%	3.13%	-0.44%	83	0.0432	0.0638	0.0149	-1.37%	0.79%	-5.88%	7.77%	-0.0201	-0.0184
Event + 4 Year	81	0.0499	0.0714	0.0149	116.02%	57.27%	122.77%	56.58%	88	0.0275	0.0551	0.0161	-36.34%	NA	-40.09%	-6.93%	0.0224	0.0163
Event + 5 Year	85	0.0293	0.0451	0.0159	-41.28%	-36.83%	30.80%	-1.10%	89	0.0191	0.0479	0.0155	-30.55%	NA	-58.39%	-19.09%	0.0102	-0.0028

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
ROE																		
Event - 5 Year	92	-0.0850	0.0398	0.0516	NA	NA	-33.06%	31.66%	92	-0.0002	0.0047	0.0089	NA	NA	-8000.00%	317.02%	-0.0114	0.0658
Event - 4 Year	92	-0.0158	0.0558	0.0440	-81.41%	40.20%	260.13%	-6.09%	92	0.0029	0.0065	0.0089	NA##	NA	444.83%	201.54%	-0.0203*	0.0644
Event - 3 Year	90	-0.0324	0.0579	0.0515	105.06%	3.76%	75.62%	-9.50%	90	0.0297	0.0150	0.0089	924.14%	NA	-46.80%	30.67%	-0.0371***	0.0518
Event - 2 Year	91	0.0412	0.0866	0.0438	-227.16%	49.57%	-238.11%	-39.49%	91	0.0272	0.0202	0.0087	-8.42%	NA	-41.91%	-2.97%	-0.0495***	0.0416
Event - 1 Year	90	0.0563	0.0788	0.0342	36.65%	-9.01%	-201.07%	-33.50%	90	0.0209	0.0166	0.0086	-23.16%	NA	-24.40%	18.07%	-0.0584***	0.0368
Event	88	-0.0569	0.0524	0.0492	-201.07%	-33.50%	NA	NA	88	0.0158	0.0196	0.0085	-24.40%	NA	NA	NA	-0.0795***	0.0157
Event + 1 Year	84	-0.0047	0.0635	0.0465	-91.74%	21.18%	-91.74%	21.18%	84	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	-0.103***	0.0246
Event + 2 Year	84	-0.0127	0.0809	0.0478	170.21%	27.40%	-77.68%	54.39%	84	0.0008	0.0202	0.0083	-97.50%	NA	-94.94%	3.06%	-0.0634***	0.0353
Event + 3 Year	84	-0.0364	0.0869	0.0547	186.61%	7.42%	-36.03%	65.84%	84	0.0148	0.0232	0.0085	NA##	NA	-6.33%	18.37%	-0.0659***	0.0399
Event + 4 Year	87	0.0987	0.1001	0.0269	-371.15%	15.19%	-273.46%	91.03%	87	0.0241	0.0232	0.0086	62.84%	0.00%	52.53%	18.37%	-0.0694***	0.0443
Event + 5 Year	89	0.0400	0.0662	0.0350	-59.47%	-33.87%	-170.30%	26.34%	89	0.0161	0.0181	0.0085	-33.20%	NA	1.90%	-7.65%	-0.0422***	0.0553
ROIC																		
Event - 5 Year	91	0.0160	0.0436	0.0154	NA	NA	40.00%	4.59%	115	0.0014	0.0293	0.0164	NA	NA	1564.29%	52.22%	0.0146	0.0143
Event - 4 Year	89	0.0338	0.0494	0.0145	111.25%	13.30%	-33.73%	-7.69%	115	0.0090	0.0284	0.0144	542.86%	NA	158.89%	57.04%	0.0248	0.0210
Event - 3 Year	89	0.0433	0.0495	0.0151	28.11%	0.20%	-48.27%	-7.88%	115	0.0080	0.0358	0.0137	-11.11%	NA	191.25%	24.58%	0.0353*	0.0137
Event - 2 Year	89	0.0570	0.0532	0.0117	31.64%	7.47%	-60.70%	-14.29%	115	0.0257	0.0496	0.0140	221.25%	NA	-9.34%	-10.08%	0.0313*	0.0036
Event - 1 Year	89	0.0432	0.0508	0.0112	-24.21%	-4.51%	-48.15%	-10.24%	115	0.0052	0.0413	0.0118	-79.77%	NA	348.08%	7.99%	0.038**	0.0095
Event	87	0.0224	0.0456	0.0138	-48.15%	-10.24%	NA	NA	114	0.0233	0.0446	0.0148	348.08%	7.99%	NA	NA	-0.0009	0.0010
Event + 1 Year	77	0.0524	0.0417	0.0135	133.93%	-8.55%	133.93%	-8.55%	115	0.0133	0.0284	0.0128	-42.92%	NA	-42.92%	-36.32%	0.0391**	0.0133
Event + 2 Year	82	0.0517	0.0487	0.0129	-1.34%	16.79%	130.80%	6.80%	115	0.0491	0.0347	0.0175	269.17%	NA	110.73%	-22.20%	0.0026	0.0140
Event + 3 Year	81	0.0231	0.0454	0.0185	-55.32%	-6.78%	3.13%	-0.44%	115	0.0509	0.0406	0.0159	3.67%	NA	118.45%	-8.97%	-0.0278	0.0048
Event + 4 Year	81	0.0499	0.0714	0.0149	116.02%	57.27%	122.77%	56.58%	115	0.0703	0.0477	0.0160	38.11%	NA	201.72%	6.95%	-0.0204	0.0237
Event + 5 Year	85	0.0293	0.0451	0.0159	-41.28%	-36.83%	30.80%	-1.10%	115	0.0419	0.0483	0.0151	-40.40%	1.26%	79.83%	8.30%	-0.0126	-0.0032

Table E.63: Long-term Operating Performance: Enterprise Value / LTM EBITDA Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EV / EBITDA is ((book value of debt + book value of equity − cash) / LTM EBITDA). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
textbfEV / LTM EBITDA																		
Event - 5 Year	86	6.4012	7.6399	1.7767	NA	NA	6.51%	-3.71%	81	9.1708	7.8444	1.3774	NA	NA	-21.55%	-4.56%	-2.7696	-0.2045
Event - 4 Year	84	6.6170	7.1542	1.7694	3.37%	-6.36%	3.03%	2.83%	81	10.0220	7.7406	1.7801	9.28%	-1.32%	-28.21%	-3.28%	-3.4050	-0.5864
Event - 3 Year	81	9.7517	8.8800	1.7680	47.37%	24.12%	-30.09%	-17.15%	81	8.6101	7.9714	1.3010	-14.09%	2.98%	-16.44%	-6.08%	1.1416	0.9086
Event - 2 Year	83	14.0626	9.6538	1.8340	44.21%	8.71%	-51.52%	-23.79%	79	9.6033	7.7649	1.5642	11.54%	-2.59%	-25.08%	-3.58%	4.4593*	1.8889
Event - 1 Year	83	10.1467	8.4113	1.6965	-27.85%	-12.87%	-32.81%	-12.54%	79	9.1291	7.5181	1.3077	-4.94%	-3.18%	-21.19%	-0.41%	1.0176	0.8932
Event	80	6.8178	7.3568	1.9528	-32.81%	-12.54%	NA	NA	84	7.1945	7.4869	1.6456	-21.19%	-0.41%	NA	NA	-0.3767	-0.1301
Event + 1 Year	75	10.3262	9.5623	1.8309	51.46%	29.98%	51.46%	29.98%	76	5.2282	8.2753	1.7584	-27.33%	10.53%	-27.33%	10.53%	5.0980**	1.2870
Event + 2 Year	82	5.5638	6.3989	1.9149	-46.12%	-33.08%	-18.39%	-13.02%	68	8.2400	8.6602	1.4767	57.61%	4.65%	14.53%	15.67%	-2.6762	-2.2613
Event + 3 Year	78	7.1608	6.5121	2.1587	28.70%	1.77%	5.03%	-11.48%	68	6.0691	7.7222	1.5919	-26.35%	-10.83%	-15.64%	3.14%	1.0917	-1.2101
Event + 4 Year	78	6.5083	6.8705	2.0274	-9.11%	5.50%	-4.54%	-6.61%	75	7.6425	7.3358	1.8502	25.92%	-5.00%	6.23%	-2.02%	-1.1342	-0.4653
Event + 5 Year	79	7.5351	7.9952	2.0528	15.78%	16.37%	10.52%	8.68%	76	3.7886	6.6854	1.6336	-50.43%	-8.87%	-47.34%	-10.71%	3.7465	1.3098

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																		
Event - 5 Year	86	6.4012	7.6399	1.7767	NA	NA	6.51%	-3.71%	115	6.8951	7.0335	0.5351	NA	NA	-19.47%	-8.29%	-0.4939	0.6064
Event - 4 Year	84	6.6170	7.1542	1.7694	3.37%	-6.36%	3.03%	2.83%	115	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.8584***	0.3335
Event - 3 Year	81	9.7517	8.8800	1.7680	47.37%	24.12%	-30.09%	-17.15%	115	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.5593**	0.3734
Event - 2 Year	83	14.0626	9.6538	1.8340	44.21%	8.71%	-51.52%	-23.79%	115	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	0.96***	0.3668
Event - 1 Year	83	10.1467	8.4113	1.6965	-27.85%	-12.87%	-32.81%	-12.54%	115	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	1.2535***	0.3395
Event	80	6.8178	7.3568	1.9528	-32.81%	-12.54%	NA	NA	115	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	0.5913**	0.2441
Event + 1 Year	75	10.3262	9.5623	1.8309	51.46%	29.98%	51.46%	29.98%	115	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	0.2388	-0.1440
Event + 2 Year	82	5.5638	6.3989	1.9149	-46.12%	-33.08%	-18.39%	-13.02%	115	5.9542	6.6791	0.0896	-3.44%	-1.33%	-6.92%	-5.12%	0.3551	-0.1811
Event + 3 Year	78	7.1608	6.5121	2.1587	28.70%	1.77%	5.03%	-11.48%	115	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	0.17	-0.0354
Event + 4 Year	78	6.5083	6.8705	2.0274	-9.11%	5.50%	-4.54%	-6.61%	115	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	0.8668***	0.1248
Event + 5 Year	79	7.5351	7.9952	2.0528	15.78%	16.37%	10.52%	8.68%	115	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	0.5143**	0.2794

Table E.64: Long-term Operating Performance: Cash-to-Market Capitalization and Cash-to-Assets Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Cash/Market Cap is defined as (Total Cash / Market Capitalization) and Cash/Assets is (Total Cash / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	92	0.2395	0.1413	0.0324	NA	NA	10.31%	12.31%	91	0.2333	0.1269	0.0324	NA	NA	39.26%	16.55%	0.0061	0.0144
Event - 4 Year	93	0.2809	0.1645	0.0365	17.29%	16.42%	-5.95%	-3.53%	90	0.3226	0.1488	0.0502	38.28%	NA	0.71%	-0.60%	-0.0417	0.0157
Event - 3 Year	88	0.2345	0.1352	0.0287	-16.52%	-17.81%	12.67%	17.38%	92	0.3142	0.1528	0.0505	-2.60%	2.69%	3.41%	-3.21%	-0.0796	-0.0176
Event - 2 Year	91	0.2101	0.1374	0.0228	-10.41%	1.63%	25.75%	15.50%	92	0.2746	0.1456	0.0431	-12.60%	-4.71%	18.32%	1.58%	-0.0645	-0.0082
Event - 1 Year	91	0.2690	0.1595	0.0370	28.03%	16.08%	-1.78%	-0.50%	92	0.2995	0.1420	0.0469	9.07%	NA	8.48%	4.15%	-0.0305	0.0175
Event	90	0.2642	0.1587	0.0388	-1.78%	-0.50%	NA	NA	93	0.3249	0.1479	0.0494	8.48%	4.15%	NA	NA	-0.0608	0.0108
Event + 1 Year	88	0.2917	0.1185	0.0459	10.41%	-25.33%	10.41%	-25.33%	89	0.3148	0.1318	0.0518	-3.11%	NA	-3.11%	-10.89%	-0.0232	-0.0133
Event + 2 Year	91	0.3060	0.1256	0.0495	4.90%	5.99%	15.82%	-20.86%	86	0.3343	0.1742	0.0500	6.19%	NA	2.89%	17.78%	-0.0283	-0.0486
Event + 3 Year	92	0.2771	0.1200	0.0406	-9.44%	-4.46%	4.88%	-24.39%	91	0.3458	0.1723	0.0466	3.44%	-1.09%	6.43%	16.50%	-0.0687	-0.0523
Event + 4 Year	93	0.2631	0.0973	0.0420	-5.05%	-18.92%	-0.42%	-38.69%	92	0.3269	0.1525	0.0507	-5.47%	NA	0.62%	3.11%	-0.0637	-0.0552
Event + 5 Year	90	0.2721	0.1088	0.0473	3.42%	11.82%	2.99%	-31.44%	90	0.3267	0.1575	0.0505	-0.06%	3.28%	0.55%	6.49%	-0.0546	-0.0487
Cash / Assets																		
Event - 5 Year	93	0.1647	0.0826	0.0212	NA	NA	-2.00%	-8.23%	91	0.1780	0.0842	0.0231	NA	NA	-10.96%	21.73%	-0.0133	-0.0016
Event - 4 Year	94	0.1599	0.0643	0.0209	-2.91%	-22.15%	0.94%	17.88%	90	0.1846	0.0864	0.0230	3.71%	2.61%	-14.14%	18.63%	-0.0247	-0.0221
Event - 3 Year	91	0.1640	0.0777	0.0213	2.56%	20.84%	-1.59%	-2.45%	93	0.1770	0.0909	0.0206	-4.12%	5.21%	-10.45%	12.76%	-0.0130	-0.0132
Event - 2 Year	92	0.1609	0.0627	0.0208	-1.89%	-19.31%	0.31%	20.89%	93	0.1676	0.0844	0.0197	-5.31%	-7.15%	-5.43%	21.45%	-0.0067	-0.0217
Event - 1 Year	92	0.1728	0.0778	0.0216	7.40%	24.08%	-6.60%	-2.57%	92	0.1701	0.0971	0.0184	1.49%	NA	-6.82%	5.56%	0.0027	-0.0193
Event	91	0.1614	0.0758	0.0206	-6.60%	-2.57%	NA	NA	93	0.1585	0.1025	0.0183	-6.82%	5.56%	NA	NA	0.0029	-0.0267
Event + 1 Year	90	0.1557	0.0656	0.0217	-3.53%	-13.46%	-3.53%	-13.46%	89	0.1725	0.0741	0.0227	8.83%	NA	8.83%	-27.71%	-0.0168	-0.0085
Event + 2 Year	92	0.1578	0.0623	0.0218	1.35%	-5.03%	-2.23%	-17.81%	87	0.1825	0.0894	0.0237	5.80%	NA	15.14%	-12.78%	-0.0246	-0.0271
Event + 3 Year	95	0.1708	0.0782	0.0214	8.24%	25.52%	5.82%	3.17%	92	0.1821	0.1028	0.0206	-0.22%	NA	14.89%	0.29%	-0.0113	-0.0246
Event + 4 Year	93	0.1748	0.0718	0.0229	2.34%	-8.18%	8.30%	-5.28%	93	0.2197	0.1079	0.0238	20.65%	4.96%	38.61%	5.27%	-0.0450	-0.0361
Event + 5 Year	90	0.1931	0.0772	0.0256	10.47%	7.52%	19.64%	1.85%	92	0.2017	0.1131	0.0230	-8.19%	4.82%	27.26%	10.34%	-0.0086	-0.0359

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Cash / Market Cap																		
Event - 5 Year	92	0.2395	0.1413	0.0324	NA	NA	10.31%	12.31%	115	0.6685	0.3791	0.0860	NA	NA	5.80%	-22.32%	-0.429***	-0.2378
Event - 4 Year	93	0.2809	0.1645	0.0365	17.29%	16.42%	-5.95%	-3.53%	115	0.7140	0.3984	0.0920	6.81%	5.09%	-0.94%	-26.08%	-0.4331***	-0.2339
Event - 3 Year	88	0.2345	0.1352	0.0287	-16.52%	-17.81%	12.67%	17.38%	115	0.6670	0.3764	0.0937	-6.58%	NA	6.04%	-21.76%	-0.4325***	-0.2412
Event - 2 Year	91	0.2101	0.1374	0.0228	-10.41%	1.63%	25.75%	15.50%	115	0.6166	0.3432	0.0895	-7.56%	NA	14.71%	-14.19%	-0.4065***	-0.2058
Event - 1 Year	91	0.2690	0.1595	0.0370	28.03%	16.08%	-1.78%	-0.50%	115	0.6781	0.3714	0.1000	9.97%	8.22%	4.31%	-20.71%	-0.4091***	-0.2119
Event	90	0.2642	0.1587	0.0388	-1.78%	-0.50%	NA	NA	115	0.7073	0.2945	0.1008	4.31%	NA	NA	NA	-0.4431***	-0.1358
Event + 1 Year	88	0.2917	0.1185	0.0459	10.41%	-25.33%	10.41%	-25.33%	115	0.6405	0.3455	0.0869	-9.44%	NA	-9.44%	17.32%	-0.3488***	-0.2270
Event + 2 Year	91	0.3060	0.1256	0.0495	4.90%	5.99%	15.82%	-20.86%	115	0.6422	0.3224	0.0839	0.27%	NA	-9.20%	9.47%	-0.3362***	-0.1968
Event + 3 Year	92	0.2771	0.1200	0.0406	-9.44%	-4.46%	4.88%	-24.39%	115	0.7123	0.3108	0.0935	10.92%	NA	0.71%	5.53%	-0.4352***	-0.1908
Event + 4 Year	93	0.2631	0.0973	0.0420	-5.05%	-18.92%	-0.42%	-38.69%	115	0.6829	0.3547	0.0852	-4.13%	14.12%	-3.45%	20.44%	-0.4198***	-0.2574
Event + 5 Year	90	0.2721	0.1088	0.0473	3.42%	11.82%	2.99%	-31.44%	115	0.5932	0.3352	0.0714	-13.14%	NA	-16.13%	13.82%	-0.3211***	-0.2264
Cash / Assets																		
Event - 5 Year	93	0.1647	0.0826	0.0212	NA	NA	-2.00%	-8.23%	115	0.1930	0.1403	0.0145	-1.63%	4.62%	8.29%	-2.71%	-0.0331	-0.0760
Event - 4 Year	94	0.1599	0.0643	0.0209	-2.91%	-22.15%	0.94%	17.88%	115	0.1978	0.1449	0.0139	2.49%	3.28%	5.66%	-5.80%	-0.0338	-0.0672
Event - 3 Year	91	0.1640	0.0777	0.0213	2.56%	20.84%	-1.59%	-2.45%	115	0.2010	0.1338	0.0146	1.62%	NA	3.98%	2.02%	-0.0401*	-0.0711
Event - 2 Year	92	0.1609	0.0627	0.0208	-1.89%	-19.31%	0.31%	20.89%	115	0.2207	0.1475	0.0160	9.80%	NA	-5.30%	-7.46%	-0.0479*	-0.0697
Event - 1 Year	92	0.1728	0.0778	0.0216	7.40%	24.08%	-6.60%	-2.57%	115	0.2090	0.1365	0.0150	-5.30%	NA	NA	NA	-0.0476**	-0.0607
Event	91	0.1614	0.0758	0.0206	-6.60%	-2.57%	NA	NA	115	0.2207	0.1475	0.0160	5.60%	8.06%	5.60%	8.06%	-0.065***	-0.0819
Event + 1 Year	90	0.1557	0.0656	0.0217	-3.53%	-13.46%	-3.53%	-13.46%	115	0.2010	0.1338	0.0146	-8.93%	NA	-3.83%	-1.98%	-0.0432*	-0.0715
Event + 2 Year	92	0.1578	0.0623	0.0218	1.35%	-5.03%	-2.23%	-17.81%	115	0.1978	0.1449	0.0139	-1.59%	8.30%	-5.36%	6.15%	-0.027	-0.0667
Event + 3 Year	95	0.1708	0.0782	0.0214	8.24%	25.52%	5.82%	3.17%	115	0.1930	0.1403	0.0145	-2.43%	-3.17%	-7.66%	2.78%	-0.0182	-0.0685
Event + 4 Year	93	0.1748	0.0718	0.0229	2.34%	-8.18%	8.30%	-5.28%	115	0.1962	0.1341	0.0150	1.66%	NA	-6.12%	-1.76%	-0.0031	-0.0569
Event + 5 Year	90	0.1931	0.0772	0.0256	10.47%	7.52%	19.64%	1.85%	115	2.4811	1.9966	0.3673	NA	NA	-2.13%	-25.51%	-0.106	-0.6696

Table E.65: Long-term Operating Performance: Debt-to-EBITDA and Net Leverage Ex Ante and Ex Post Failed Attempt to Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Debt / EBITDA is (Total Debt / EBITDA) and Leverage (net) is defined as a ((Total Debt - Cash) / Total Equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	87	2.3751	1.3270	0.5002	NA	NA	25.34%	20.28%	81	2.8078	1.0485	0.4836	NA	NA	-10.36%	-24.16%	-0.4327	0.2785
Event - 4 Year	115	0.6435	1.0000	0.0449	0.00%	0.00%	13.85%	0.00%	115	0.5652	1.0000	0.0464	-7.15%	0.00%	16.06%	NA	0.0783	0.0000
Event - 3 Year	115	0.6087	1.0000	0.0457	-5.41%	0.00%	7.70%	0.00%	115	0.5739	1.0000	0.0463	1.54%	0.00%	17.84%	NA	0.0348	0.0000
Event - 2 Year	115	0.6087	1.0000	0.0457	0.00%	0.00%	7.70%	0.00%	115	0.5478	1.0000	0.0466	-4.55%	0.00%	12.48%	NA	0.0609	0.0000
Event - 1 Year	115	0.0383	0.0020	0.0046	NA	NA	47.26%	2235.00%	115	0.0384	0.0037	0.0048	NA	NA	18.23%	483.78%	-0.0001	-0.0017
Event	115	0.0409	0.0217	0.0045	6.79%	985.00%	37.90%	115.21%	115	0.0391	0.0055	0.0046	1.82%	NA	16.11%	292.73%	0.0017	0.0162
Event + 1 Year	115	0.0442	0.0370	0.0044	8.07%	70.51%	27.60%	26.22%	115	0.0458	0.0071	0.0053	17.14%	NA	-0.87%	204.23%	-0.0016	0.0299
Event + 2 Year	115	0.0489	0.0389	0.0049	10.63%	5.14%	15.34%	20.05%	115	0.0457	0.0079	0.0053	-0.22%	11.27%	-0.66%	173.42%	0.0032	0.0310
Event + 3 Year	115	0.0532	0.0362	0.0055	8.79%	-6.94%	6.02%	29.01%	115	0.0460	0.0172	0.0051	0.66%	NA	-1.30%	25.58%	0.0072	0.0190
Event + 4 Year	115	0.0564	0.0467	0.0057	6.02%	29.01%	NA	NA	115	0.0454	0.0216	0.0049	-1.30%	NA	NA	NA	0.0111	0.0251
Event + 5 Year	115	0.0501	0.0225	0.0054	-11.17%	-51.82%	-11.17%	-51.82%	115	0.0397	0.0091	0.0047	-12.56%	NA	-12.56%	-57.87%	0.0105	0.0134
Leverage (net)																		
Event - 5 Year	92	0.7343	0.2751	0.1676	NA	NA	3.79%	15.12%	88	0.5129	0.2178	0.1424	NA	NA	46.31%	-51.56%	0.2214	0.0573
Event - 4 Year	94	0.7564	0.3308	0.1718	3.01%	20.25%	0.75%	-4.26%	88	0.5958	0.1667	0.1522	16.16%	NA	25.95%	-36.71%	0.1605	0.1641
Event - 3 Year	91	0.6970	0.3045	0.1801	-7.85%	-7.95%	9.34%	4.01%	92	0.4382	0.1030	0.1399	-26.45%	NA	71.25%	2.43%	0.2587	0.2015
Event - 2 Year	92	0.8463	0.2298	0.1783	21.42%	-24.53%	-9.95%	37.82%	91	0.5108	0.1068	0.1404	16.57%	3.69%	46.91%	-1.22%	0.3355	0.1230
Event - 1 Year	91	0.7886	0.2352	0.1765	-6.82%	2.35%	-3.36%	34.65%	92	0.6227	0.1513	0.1492	21.91%	NA	20.51%	-30.27%	0.1659	0.0839
Event	91	0.7621	0.3167	0.1688	-3.36%	34.65%	NA	NA	93	0.7504	0.1055	0.1645	20.51%	NA	NA	NA	0.0117	0.2112
Event + 1 Year	85	0.7271	0.3795	0.1719	-4.59%	19.83%	-4.59%	19.83%	89	0.5969	0.1125	0.1539	-20.46%	6.64%	-20.46%	6.64%	0.1302	0.2670
Event + 2 Year	89	0.6703	0.1892	0.1759	-7.81%	-50.14%	-12.05%	-40.26%	85	0.5458	0.0815	0.1370	-8.56%	NA	-27.27%	-22.75%	0.1245	0.1077
Event + 3 Year	89	0.3981	0.0835	0.1654	-40.61%	-55.87%	-47.76%	-73.63%	87	0.5011	0.0284	0.1377	-8.19%	NA	-33.22%	-73.08%	-0.1030	0.0551
Event + 4 Year	90	0.1675	0.0493	0.1372	-57.93%	-40.96%	-78.02%	-84.43%	91	0.2347	0.0266	0.1061	-53.16%	NA	-68.72%	-74.79%	-0.0672	0.0227
Event + 5 Year	88	0.2215	0.0776	0.1453	32.24%	57.40%	-70.94%	-75.50%	88	0.3203	-0.0141	0.1357	36.47%	NA	-57.32%	-113.36%	-0.0989	0.0917

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Debt / EBITDA																		
Event - 5 Year	87	2.3751	1.3270	0.5002	NA	NA	25.34%	20.28%	115	2.4811	1.9966	0.3673	NA	NA	-2.13%	-25.51%	-0.106	-0.6696
Event - 4 Year	115	0.6435	1.0000	0.0449	0.00%	0.00%	13.85%	0.00%	115	1.7662	1.4528	0.3479	-28.81%	NA	37.48%	2.37%	1.0543*	-0.0885
Event - 3 Year	115	0.6087	1.0000	0.0457	-5.41%	0.00%	7.70%	0.00%	115	1.9285	1.2719	0.3401	9.19%	NA	25.91%	16.93%	1.5406***	0.4745
Event - 2 Year	115	0.6087	1.0000	0.0457	0.00%	0.00%	7.70%	0.00%	115	2.2632	1.7284	0.3742	17.36%	NA	7.29%	-13.96%	2.0334***	0.5979
Event - 1 Year	115	0.0383	0.0020	0.0046	NA	NA	47.26%	2235.00%	115	1.8311	1.2970	0.3536	-19.09%	NA	32.61%	14.66%	1.8904***	0.5258
Event	115	0.0409	0.0217	0.0045	6.79%	985.00%	37.90%	115.21%	115	2.4282	1.4872	0.4054	32.61%	NA	NA	NA	0.5487	0.1089
Event + 1 Year	115	0.0442	0.0370	0.0044	8.07%	70.51%	27.60%	26.22%	115	2.2652	1.1517	0.4084	-6.71%	NA	-6.71%	-22.56%	0.9492	0.4618
Event + 2 Year	115	0.0489	0.0389	0.0049	10.63%	5.14%	15.34%	20.05%	115	2.0532	1.3107	0.3827	-9.36%	13.81%	-15.44%	-11.87%	-0.1366	-0.1622
Event + 3 Year	115	0.0532	0.0362	0.0055	8.79%	-6.94%	6.02%	29.01%	115	1.5765	1.1601	0.3740	-23.22%	NA	-35.08%	-21.99%	0.5964	-0.1327
Event + 4 Year	115	0.0564	0.0467	0.0057	6.02%	29.01%	NA	NA	115	1.8672	1.5219	0.3732	18.44%	31.19%	-23.10%	2.33%	0.3329	-0.5244
Event + 5 Year	115	0.0501	0.0225	0.0054	-11.17%	-51.82%	-11.17%	-51.82%	115	2.2514	1.4532	0.3921	20.58%	-4.51%	-7.28%	-2.29%	0.0173	-0.6037
Leverage (net)																		
Event - 5 Year	92	0.7343	0.2751	0.1676	NA	NA	3.79%	15.12%	115	0.4421	0.2039	0.1178	NA	NA	82.88%	96.42%	0.2922	0.0712
Event - 4 Year	94	0.7564	0.3308	0.1718	3.01%	20.25%	0.75%	-4.26%	115	0.4557	0.3088	0.1237	3.08%	NA	77.42%	29.70%	0.3007	0.0220
Event - 3 Year	91	0.6970	0.3045	0.1801	-7.85%	-7.95%	9.34%	4.01%	115	0.5642	0.2888	0.1291	23.81%	NA	43.30%	38.68%	0.1328	0.0157
Event - 2 Year	92	0.8463	0.2298	0.1783	21.42%	-24.53%	-9.95%	37.82%	115	0.5544	0.2599	0.1365	-1.74%	NA	45.83%	54.10%	0.2919	-0.0301
Event - 1 Year	91	0.7886	0.2352	0.1765	-6.82%	2.35%	-3.36%	34.65%	115	0.6968	0.3554	0.1444	25.69%	NA	16.03%	12.69%	0.0918	-0.1202
Event	91	0.7621	0.3167	0.1688	-3.36%	34.65%	NA	NA	115	0.8085	0.4005	0.1541	16.03%	NA	NA	NA	-0.0464	-0.0838
Event + 1 Year	85	0.7271	0.3795	0.1719	-4.59%	19.83%	-4.59%	19.83%	115	0.5798	0.1916	0.1661	-28.29%	NA	-28.29%	-52.16%	0.1473	0.1879
Event + 2 Year	89	0.6703	0.1892	0.1759	-7.81%	-50.14%	-12.05%	-40.26%	115	0.7712	0.3804	0.1708	33.01%	NA	-4.61%	-5.02%	-0.1009	-0.1912
Event + 3 Year	89	0.3981	0.0835	0.1654	-40.61%	-55.87%	-47.76%	-73.63%	115	0.5846	0.1234	0.1569	-24.20%	NA	-27.69%	-69.19%	-0.1865	-0.0399
Event + 4 Year	90	0.1675	0.0493	0.1372	-57.93%	-40.96%	-78.02%	-84.43%	115	0.5410	0.2801	0.1299	-7.46%	NA	-33.09%	-30.06%	-0.3735**	-0.2308
Event + 5 Year	88	0.2215	0.0776	0.1453	32.24%	57.40%	-70.94%	-75.50%	115	0.4309	0.1320	0.1413	-20.35%	NA	-46.70%	-67.04%	-0.2094	-0.0544

Table E.66: Long-term Operating Performance: Capital Expenditure Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Capital Expenditures is defined as (CAPEX / Total Assets). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	84	0.0158	0.0082	0.0021	NA	NA	-19.62%	-32.93%	76	0.0204	0.0106	0.0027	NA	NA	-31.86%	-35.85%	-0.0045	-0.0024
Event - 4 Year	82	0.0164	0.0063	0.0025	3.80%	-23.17%	-22.56%	-12.70%	70	0.0150	0.0079	0.0023	-26.47%	NA	-7.33%	-13.92%	0.0014	-0.0016
Event - 3 Year	81	0.0128	0.0067	0.0017	-21.95%	6.35%	-0.78%	-17.91%	76	0.0167	0.0082	0.0023	11.33%	3.80%	-16.77%	-17.07%	-0.0038	-0.0015
Event - 2 Year	85	0.0128	0.0067	0.0019	0.00%	0.00%	-0.78%	-17.91%	74	0.0158	0.0103	0.0022	-5.39%	NA	-12.03%	-33.98%	-0.0030	-0.0036
Event - 1 Year	87	0.0129	0.0057	0.0020	0.78%	-14.93%	-1.55%	-3.51%	81	0.0145	0.0064	0.0022	-8.23%	NA	-4.14%	6.25%	-0.0016	-0.0007
Event	86	0.0127	0.0055	0.0019	-1.55%	-3.51%	NA	NA	84	0.0139	0.0068	0.0022	-4.14%	6.25%	NA	NA	-0.0011	-0.0013
Event + 1 Year	79	0.0122	0.0075	0.0017	-3.94%	36.36%	-3.94%	36.36%	76	0.0113	0.0061	0.0017	-18.71%	NA	-18.71%	-10.29%	0.0009	0.0014
Event + 2 Year	80	0.0131	0.0082	0.0020	7.38%	9.33%	3.15%	49.09%	73	0.0109	0.0053	0.0019	-3.54%	NA	-21.58%	-22.06%	0.0021	0.0029
Event + 3 Year	79	0.0167	0.0085	0.0027	27.48%	3.66%	31.50%	54.55%	77	0.0173	0.0072	0.0025	58.72%	NA	24.46%	5.88%	-0.0006	0.0013
Event + 4 Year	88	0.0146	0.0083	0.0021	-12.57%	-2.35%	14.96%	50.91%	85	0.0179	0.0073	0.0029	3.47%	1.39%	28.78%	7.35%	-0.0033	0.0010
Event + 5 Year	84	0.0170	0.0083	0.0026	16.44%	0.00%	33.86%	50.91%	82	0.0187	0.0088	0.0029	4.47%	NA	34.53%	29.41%	-0.0017	-0.0005

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Capital Expenditures																		
Event - 5 Year	84	0.0158	0.0082	0.0021	NA	NA	-19.62%	-32.93%	113	2.1306	0.9831	0.2345	#VALUE!	NA	#VALUE!	#VALUE!	-0.0003	-0.0054
Event - 4 Year	82	0.0164	0.0063	0.0025	3.80%	-23.17%	-22.56%	-12.70%	113	2.2088	0.9517	0.2396	-9.32%	NA	#VALUE!	#VALUE!	0.0018	-0.0065
Event - 3 Year	81	0.0128	0.0067	0.0017	-21.95%	6.35%	-0.78%	-17.91%	111	2.3505	0.9496	0.2525	-12.33%	NA	#VALUE!	#VALUE!	0	-0.0046
Event - 2 Year	85	0.0128	0.0067	0.0019	0.00%	0.00%	-0.78%	-17.91%	111	2.4436	1.0324	0.2581	-1.56%	NA	#VALUE!	#VALUE!	0.0002	-0.0045
Event - 1 Year	87	0.0129	0.0057	0.0020	0.78%	-14.93%	-1.55%	-3.51%	111	2.5379	1.2622	0.2532	-1.59%	3.57%	#VALUE!	#VALUE!	0.0005	-0.0059
Event	86	0.0127	0.0055	0.0019	-1.55%	-3.51%	NA	NA	112	2.5845	1.6173	0.2416	0.00%	4.31%	-22.98%	-11.03%	0.0003	-0.0066
Event + 1 Year	79	0.0122	0.0075	0.0017	-3.94%	36.36%	-3.94%	36.36%	111	2.4324	1.4830	0.2385	6.45%	NA	-9.59%	-12.50%	-0.001	-0.0037
Event + 2 Year	80	0.0131	0.0082	0.0020	7.38%	9.33%	3.15%	49.09%	112	2.1621	0.9658	0.2320	3.79%	9.82%	7.03%	8.85%	-0.0006	-0.0041
Event + 3 Year	79	0.0167	0.0085	0.0027	27.48%	3.66%	31.50%	54.55%	112	1.8281	0.7227	0.2214	2.19%	6.50%	11.11%	16.96%	0.0027	-0.0046
Event + 4 Year	88	0.0146	0.0083	0.0021	-12.57%	-2.35%	14.96%	50.91%	113	1.7979	0.7184	0.2159	7.14%	3.05%	20.97%	16.38%	-0.0004	-0.0052
Event + 5 Year	84	0.0170	0.0083	0.0026	16.44%	0.00%	33.86%	50.91%	112	1.7438	0.8354	0.2070	3.33%	7.41%	25.00%	19.83%	0.0015	-0.0062

Table E.67: Long-term Operating Performance: Dividend Yield and Share Repurchase Ex Ante and Ex Post Faile Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Dividend Yield is defined as (Common Dividend / Market Capitalization) and Share Repurchase is the annualized share repurchase activity. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	82	2.0066	0.1700	0.3396	NA	NA	11.64%	611.76%	83	2.1099	0.3100	0.3305	NA	NA	8.74%	159.68%	-0.1033	-0.1400
Event - 4 Year	83	2.0308	0.2000	0.3318	1.21%	17.65%	10.31%	505.00%	85	2.4173	0.8200	0.3380	14.57%	NA	-5.08%	-1.83%	-0.3865	-0.6200
Event - 3 Year	83	2.0805	0.9200	0.3253	2.45%	360.00%	7.68%	31.52%	85	1.9733	0.6400	0.2980	-18.37%	NA	16.27%	25.78%	0.1072	0.2800
Event - 2 Year	84	2.0813	0.8150	0.3279	0.04%	-11.41%	7.63%	48.47%	86	2.1698	0.7050	0.3074	9.96%	10.16%	5.74%	14.18%	-0.0885	0.1100
Event - 1 Year	82	2.0423	0.7900	0.3176	-1.87%	-3.07%	9.69%	53.16%	85	2.4555	1.3000	0.3250	13.17%	NA	-6.56%	-38.08%	-0.4132	-0.5100
Event	82	2.2402	1.2100	0.3150	9.69%	53.16%	NA	NA	84	2.2944	0.8050	0.3279	-6.56%	NA	NA	NA	-0.0542	0.4050
Event + 1 Year	83	2.6028	1.6000	0.3379	16.19%	32.23%	16.19%	32.23%	82	2.4180	0.9500	0.3214	5.39%	18.01%	5.39%	18.01%	0.1847	0.6500
Event + 2 Year	76	2.5132	1.4850	0.3565	-3.44%	-7.19%	12.19%	22.73%	75	2.7843	1.4700	0.3652	15.15%	NA	21.35%	82.61%	-0.2711	0.0150
Event + 3 Year	77	2.1934	0.0300	0.3459	-12.72%	-97.98%	-2.09%	-97.52%	77	2.3455	1.1600	0.3370	-15.76%	NA	2.23%	44.10%	-0.1521	-1.1300
Event + 4 Year	76	2.2342	0.0200	0.3635	1.86%	-33.33%	-0.27%	-98.35%	75	2.2228	0.7900	0.3268	-5.23%	NA	-3.12%	-1.86%	0.0114	-0.7700
Event + 5 Year	72	2.1267	0.6200	0.3474	-4.81%	NA##	-5.07%	-48.76%	75	2.0316	0.0000	0.3241	-8.60%	NA	-11.45%	-100.00%	0.0951	0.6200
Share Repurchase																		
Event - 5 Year	110	0.0023	0.0000	0.0009	NA	NA	108.70%	NA	111	0.0037	0.0000	0.0011	NA	NA	167.57%	NA	-0.0014	0.0000
Event - 4 Year	113	0.0032	0.0000	0.0010	39.13%	NA	50.00%	NA	104	0.0034	0.0000	0.0011	-8.11%	NA	191.18%	NA	-0.0002	0.0000
Event - 3 Year	112	0.0045	0.0000	0.0012	40.63%	NA	6.67%	NA	109	0.0050	0.0000	0.0013	47.06%	NA	98.00%	NA	-0.0005	0.0000
Event - 2 Year	113	0.0046	0.0000	0.0012	2.22%	NA	4.35%	NA	107	0.0048	0.0000	0.0012	-4.00%	NA	106.25%	NA	-0.0002	0.0000
Event - 1 Year	112	0.0045	0.0000	0.0010	-2.17%	NA	6.67%	NA	108	0.0072	0.0000	0.0014	50.00%	NA	37.50%	NA	-0.0027	0.0000
Event	111	0.0048	0.0000	0.0012	6.67%	NA	NA	NA	111	0.0099	0.0000	0.0015	37.50%	NA	NA	NA	-0.0052***	0.0000
Event + 1 Year	103	0.0055	0.0000	0.0012	14.58%	NA	14.58%	NA	104	0.0075	0.0000	0.0014	-24.24%	NA	-24.24%	NA	-0.0020	0.0000
Event + 2 Year	102	0.0052	0.0000	0.0013	-5.45%	NA	8.33%	NA	100	0.0064	0.0000	0.0015	-14.67%	NA	-35.35%	NA	-0.0013	0.0000
Event + 3 Year	102	0.0050	0.0000	0.0012	-3.85%	NA	4.17%	NA	109	0.0039	0.0000	0.0010	-39.06%	NA	-60.61%	NA	0.0011	0.0000
Event + 4 Year	107	0.0045	0.0000	0.0012	-10.00%	NA	-6.25%	NA	108	0.0035	0.0000	0.0010	-10.26%	NA	-64.65%	NA	0.0010	0.0000
Event + 5 Year	105	0.0028	0.0000	0.0009	-37.78%	NA	-41.67%	NA	109	0.0036	0.0000	0.0010	2.86%	NA	-63.64%	NA	-0.0008	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Dividend Yield																		
Event - 5 Year	82	2.0066	0.1700	0.3396	NA	NA	11.64%	611.76%	115	0.0055	0.0000	0.0007	NA	NA	16040.91%	8677.68%	-0.124	-0.8131
Event - 4 Year	83	2.0308	0.2000	0.3318	1.21%	17.65%	10.31%	505.00%	115	0.0056	0.0000	0.0007	3.67%	-3.19%	16022.63%	7637.40%	-0.178	-0.7517
Event - 3 Year	83	2.0805	0.9200	0.3253	2.45%	360.00%	7.68%	31.52%	115	0.0060	0.0008	0.0007	6.42%	NA	16689.29%	7148.85%	-0.27	-0.0296
Event - 2 Year	84	2.0813	0.8150	0.3279	0.04%	-11.41%	7.63%	48.47%	115	0.0067	0.0037	0.0007	3.96%	8.72%	16190.67%	7547.41%	-0.3623	-0.2174
Event - 1 Year	82	2.0423	0.7900	0.3176	-1.87%	-3.07%	9.69%	53.16%	115	0.0075	0.0048	0.0008	3.86%	NA	16273.55%	8604.83%	-0.4956	-0.4722
Event	82	2.2402	1.2100	0.3150	9.69%	53.16%	NA	NA	115	0.0080	0.0049	0.0008	1.84%	NA	21.30%	64.51%	-0.3443	-0.4073
Event + 1 Year	83	2.6028	1.6000	0.3379	16.19%	32.23%	16.19%	32.23%	115	0.0080	0.0058	0.0008	-5.89%	NA	10.12%	55.83%	0.1704	0.1170
Event + 2 Year	76	2.5132	1.4850	0.3565	-3.44%	-7.19%	12.19%	22.73%	115	0.0078	0.0038	0.0008	-11.11%	NA	-8.02%	1.71%	0.3511	0.5192
Event + 3 Year	77	2.1934	0.0300	0.3459	-12.72%	-97.98%	-2.09%	-97.52%	115	0.0066	0.0000	0.0008	-15.45%	NA	-25.19%	-30.00%	0.3653	-0.6927
Event + 4 Year	76	2.2342	0.0200	0.3635	1.86%	-33.33%	-0.27%	-98.35%	115	0.0056	0.0000	0.0008	-1.65%	NA	-29.16%	-43.08%	0.4363	-0.6984
Event + 5 Year	72	2.1267	0.6200	0.3474	-4.81%	NA	-5.07%	-48.76%	115	0.0052	0.0000	0.0008	-3.01%	NA	-32.53%	-48.35%	0.3829	-0.2154
Share Repurchase																		
Event - 5 Year	110	0.0023	0.0000	0.0009	NA	NA	108.70%	NA	115	0.4395	0.4337	0.0106	-99.68%	NA	-99.77%	-100.00%	-0.0032***	0.0000
Event - 4 Year	113	0.0032	0.0000	0.0010	39.13%	NA	50.00%	NA	115	0.4245	0.4231	0.0106	1.82%	NA	-99.74%	-100.00%	-0.0024**	0.0000
Event - 3 Year	112	0.0045	0.0000	0.0012	40.63%	NA	6.67%	NA	115	0.4332	0.4323	0.0105	7.14%	NA	-99.67%	-99.89%	-0.0015	-0.0008
Event - 2 Year	113	0.0046	0.0000	0.0012	2.22%	NA	4.35%	NA	115	0.4378	0.4280	0.0121	11.67%	NA	-99.63%	-99.48%	-0.0021	-0.0037
Event - 1 Year	112	0.0045	0.0000	0.0010	-2.17%	NA	6.67%	NA	115	0.4202	0.4125	0.0108	11.94%	NA	-99.57%	-99.43%	-0.003**	-0.0048
Event	111	0.0048	0.0000	0.0012	6.67%	NA	NA	NA	115	0.4098	0.3996	0.0104	6.67%	2.08%	45.45%	NA	-0.0032**	-0.0049
Event + 1 Year	103	0.0055	0.0000	0.0012	14.58%	NA	14.58%	NA	115	0.4202	0.4125	0.0108	0.00%	NA	42.86%	NA	-0.0025*	-0.0058
Event + 2 Year	102	0.0052	0.0000	0.0013	-5.45%	NA	8.33%	NA	115	0.4378	0.4280	0.0121	-2.50%	NA	30.00%	375.00%	-0.0026*	-0.0038
Event + 3 Year	102	0.0050	0.0000	0.0012	-3.85%	NA	4.17%	NA	115	0.4332	0.4323	0.0105	-15.38%	NA	-1.49%	-100.00%	-0.0016	0.0000
Event + 4 Year	107	0.0045	0.0000	0.0012	-10.00%	NA	-6.25%	NA	115	0.4245	0.4231	0.0106	-15.15%	NA	-25.33%	-100.00%	-0.0011	0.0000
Event + 5 Year	105	0.0028	0.0000	0.0009	-37.78%	NA	-41.67%	NA	115	0.4395	0.4337	0.0106	-7.14%	NA	-35.00%	-100.00%	-0.0024**	0.0000

Table E.68: Long-term Operating Performance: EPS Estimates and Research Analyst Recommendations Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. EPS Estimate Miss is a dummy variable if the firm missed its most recently updated estimates as reported by I/B/E/S and Analyst Sell Recommendation is a dummy variable if greater than 50% of the research Analysts had either a HOLD or SELL on the firm prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	58	0.5345	1.0000	0.0661	NA	NA	1.76%	0.00%	57	0.3860	0.0000	0.0651	NA	NA	15.65%	NA	0.1485	1.0000
Event - 4 Year	58	0.4310	0.0000	0.0656	-19.36%	-100.00%	26.19%	NA	51	0.4510	0.0000	0.0704	16.84%	NA	-1.02%	NA	-0.0199	0.0000
Event - 3 Year	57	0.5439	1.0000	0.0666	26.19%	NA	0.00%	0.00%	55	0.4364	0.0000	0.0675	-3.24%	NA	2.29%	NA	0.1075	1.0000
Event - 2 Year	55	0.5273	1.0000	0.0679	-3.05%	0.00%	3.15%	0.00%	51	0.3333	0.0000	0.0667	-23.63%	NA	33.93%	NA	0.1939**	1.0000
Event - 1 Year	58	0.5690	1.0000	0.0656	7.91%	0.00%	-4.41%	0.00%	55	0.4000	0.0000	0.0667	20.01%	NA	11.60%	NA	0.1690*	1.0000
Event	57	0.5439	1.0000	0.0666	-4.41%	0.00%	NA	NA	56	0.4464	0.0000	0.0670	11.60%	NA	NA	NA	0.0974	1.0000
Event + 1 Year	56	0.3750	0.0000	0.0653	-31.05%	-100.00%	-31.05%	-100.00%	49	0.3878	0.0000	0.0703	-13.13%	NA	-13.13%	NA	-0.0128	0.0000
Event + 2 Year	53	0.5472	1.0000	0.0690	45.92%	NA	0.61%	0.00%	52	0.4038	0.0000	0.0687	4.13%	NA	-9.54%	NA	0.1433	1.0000
Event + 3 Year	50	0.3200	0.0000	0.0666	-41.52%	-100.00%	-41.17%	-100.00%	48	0.4583	0.0000	0.0727	13.50%	NA	2.67%	NA	-0.1383	0.0000
Event + 4 Year	50	0.5400	1.0000	0.0712	68.75%	NA	-0.72%	0.00%	54	0.4815	0.0000	0.0686	5.06%	NA	7.86%	NA	0.0585	1.0000
Event + 5 Year	45	0.4667	0.0000	0.0752	-13.57%	-100.00%	-14.19%	-100.00%	54	0.5741	1.0000	0.0679	19.23%	NA	28.61%	NA	-0.1074	-1.0000
Analyst Sell Recommendation																		
Event - 5 Year	115	0.2348	0.0000	0.0397	NA	NA	51.83%	NA	115	0.2696	0.0000	0.0416	NA	NA	22.55%	NA	-0.0348	0.0000
Event - 4 Year	115	0.2783	0.0000	0.0420	18.53%	NA	28.10%	NA	115	0.2609	0.0000	0.0411	-3.23%	NA	26.64%	NA	0.0174	0.0000
Event - 3 Year	115	0.2783	0.0000	0.0420	0.00%	NA	28.10%	NA	115	0.2870	0.0000	0.0424	10.00%	NA	15.12%	NA	-0.0087	0.0000
Event - 2 Year	115	0.2696	0.0000	0.0416	-3.13%	NA	32.23%	NA	115	0.3304	0.0000	0.0441	15.12%	NA	0.00%	NA	-0.0609	0.0000
Event - 1 Year	115	0.3565	0.0000	0.0449	32.23%	NA	0.00%	NA	115	0.3130	0.0000	0.0434	-5.27%	NA	5.56%	NA	0.0435	0.0000
Event	115	0.3565	0.0000	0.0449	0.00%	NA	NA	NA	115	0.3304	0.0000	0.0441	5.56%	NA	NA	NA	0.0261	0.0000
Event + 1 Year	115	0.2957	0.0000	0.0427	-17.05%	NA	-17.05%	NA	115	0.2174	0.0000	0.0386	-34.20%	NA	-34.20%	NA	0.0783	0.0000
Event + 2 Year	115	0.2348	0.0000	0.0397	-20.60%	NA	-34.14%	NA	115	0.2696	0.0000	0.0416	24.01%	NA	-18.40%	NA	-0.0348	0.0000
Event + 3 Year	115	0.1652	0.0000	0.0348	-29.64%	NA	-53.66%	NA	115	0.2174	0.0000	0.0386	-19.36%	NA	-34.20%	NA	-0.0522	0.0000
Event + 4 Year	115	0.1478	0.0000	0.0332	-10.53%	NA	-58.54%	NA	115	0.1652	0.0000	0.0348	-24.01%	NA	-50.00%	NA	-0.0174	0.0000
Event + 5 Year	115	0.1565	0.0000	0.0340	5.89%	NA	-56.10%	NA	115	0.1652	0.0000	0.0348	0.00%	NA	-50.00%	NA	-0.0087	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
EPS Estimate Miss																		
Event - 5 Year	58	0.5345	1.0000	0.0661	NA	NA	1.76%	0.00%	115	0.2525	0.2502	0.0155	NA##	NA	5393.75%	7377.59%	0.095**	0.5663
Event - 4 Year	58	0.4310	0.0000	0.0656	-19.36%	-100.00%	26.19%	NA	115	0.2767	0.3060	0.0156	-3.41%	NA	5342.31%	11034.21%	0.0065	-0.4231
Event - 3 Year	57	0.5439	1.0000	0.0666	26.19%	NA	0.00%	0.00%	115	0.2824	0.3071	0.0160	2.05%	2.17%	6463.64%	NA	0.1107**	0.5677
Event - 2 Year	55	0.5273	1.0000	0.0679	-3.05%	0.00%	3.15%	0.00%	115	0.2765	0.2912	0.0152	1.06%	NA	7717.86%	NA	0.0895*	0.5720
Event - 1 Year	58	0.5690	1.0000	0.0656	7.91%	0.00%	-4.41%	0.00%	115	0.2894	0.2767	0.0152	-4.02%	NA	7980.77%	NA	0.1488***	0.5875
Event	57	0.5439	1.0000	0.0666	-4.41%	0.00%	NA	NA	115	0.2977	0.3126	0.0153	-2.48%	-3.13%	-6.76%	-7.86%	0.1341***	0.6004
Event + 1 Year	56	0.3750	0.0000	0.0653	-31.05%	-100.00%	-31.05%	-100.00%	115	0.2832	0.2908	0.0167	2.54%	3.23%	-1.01%	-2.51%	-0.0452	-0.4125
Event + 2 Year	53	0.5472	1.0000	0.0690	45.92%	NA	0.61%	0.00%	115	0.2638	0.2698	0.0176	4.19%	3.76%	1.06%	-0.99%	0.1094**	0.5720
Event + 3 Year	50	0.3200	0.0000	0.0666	-41.52%	-100.00%	-41.17%	-100.00%	115	0.2301	0.2221	0.0171	-1.05%	1.00%	-1.05%	1.00%	-0.1132**	-0.4323
Event + 4 Year	50	0.5400	1.0000	0.0712	68.75%	NA	-0.72%	0.00%	115	0.2137	0.2000	0.0169	-2.01%	-2.13%	1.02%	2.57%	0.1155**	0.5769
Event + 5 Year	45	0.4667	0.0000	0.0752	-13.57%	-100.00%	-14.19%	-100.00%	115	0.2041	0.1797	0.0163	3.53%	2.51%	7.25%	8.53%	0.0272	-0.4337
Analyst Sell Recommendation																		
Event - 5 Year	115	0.2348	0.0000	0.0397	NA	NA	51.83%	NA	115	0.1171	0.1073	0.0103	-42.55%	NA	-39.91%	-39.35%	-0.0177	-0.2502
Event - 4 Year	115	0.2783	0.0000	0.0420	18.53%	NA	28.10%	NA	115	0.1180	0.0938	0.0106	9.58%	NA	-36.80%	-28.50%	0.0016	-0.3060
Event - 3 Year	115	0.2783	0.0000	0.0420	0.00%	NA	28.10%	NA	115	0.1221	0.1013	0.0111	2.06%	0.36%	-34.81%	-28.96%	-0.0041	-0.3071
Event - 2 Year	115	0.2696	0.0000	0.0416	-3.13%	NA	32.23%	NA	115	0.1251	0.1007	0.0114	-2.09%	-5.18%	-34.86%	-31.17%	-0.0069	-0.2912
Event - 1 Year	115	0.3565	0.0000	0.0449	32.23%	NA	0.00%	NA	115	0.1275	0.0975	0.0120	4.67%	NA	-34.15%	-36.20%	0.0671	-0.2767
Event	115	0.3565	0.0000	0.0449	0.00%	NA	NA	NA	115	0.1267	0.0835	0.0124	2.87%	NA	17.90%	24.94%	0.0588	-0.3126
Event + 1 Year	115	0.2957	0.0000	0.0427	-17.05%	NA	-17.05%	NA	115	0.1193	0.0835	0.0119	-4.87%	NA	2.35%	-4.97%	0.0125	-0.2908
Event + 2 Year	115	0.2348	0.0000	0.0397	-20.60%	NA	-34.14%	NA	115	0.1096	0.0837	0.0108	-6.85%	NA	-6.59%	-12.15%	-0.029	-0.2698
Event + 3 Year	115	0.1652	0.0000	0.0348	-29.64%	NA	-53.66%	NA	115	0.0998	0.0800	0.0095	-12.77%	NA	-16.78%	-23.73%	-0.0649*	-0.2221
Event + 4 Year	115	0.1478	0.0000	0.0332	-10.53%	NA	-58.54%	NA	115	0.1049	0.0905	0.0104	-7.13%	NA	-26.16%	-27.72%	-0.0659*	-0.2000
Event + 5 Year	115	0.1565	0.0000	0.0340	5.89%	NA	-56.10%	NA	115	0.1018	0.0703	0.0102	-4.49%	NA	-31.44%	-42.51%	-0.0476	-0.1797

Table E.69: Long-term Operating Performance: Multiple Business Segments and Herfindahl-Hirschman Index Ex Ante and Ex Post Failed Attempts at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Multiple Segments is a dummy variable if the firm more than one business unit that accounted for over 10% of sales prior to the event and Herfindahl-Hirschman Index is a measure of the size of Target Firm in relation to the industry and an indicator of the amount of competition among them. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	115	0.1565	0.0000	0.0340	NA	NA	11.12%	NA	115	0.1043	0.0000	0.0286	NA	NA	33.37%	NA	0.0522	0.0000
Event - 4 Year	115	0.1478	0.0000	0.0332	-5.56%	NA	17.66%	NA	115	0.1043	0.0000	0.0286	0.00%	NA	33.37%	NA	0.0435	0.0000
Event - 3 Year	115	0.1565	0.0000	0.0340	5.89%	NA	11.12%	NA	115	0.1043	0.0000	0.0286	0.00%	NA	33.37%	NA	0.0522	0.0000
Event - 2 Year	115	0.1565	0.0000	0.0340	0.00%	NA	11.12%	NA	115	0.1130	0.0000	0.0297	8.34%	NA	23.10%	NA	0.0435	0.0000
Event - 1 Year	115	0.1739	0.0000	0.0355	11.12%	NA	0.00%	NA	115	0.1217	0.0000	0.0306	7.70%	NA	14.30%	NA	0.0522	0.0000
Event	115	0.1739	0.0000	0.0355	0.00%	NA	NA	NA	115	0.1391	0.0000	0.0324	14.30%	NA	NA	NA	0.0348	0.0000
Event + 1 Year	115	0.1565	0.0000	0.0340	-10.01%	NA	-10.01%	NA	115	0.1391	0.0000	0.0324	0.00%	NA	0.00%	NA	0.0174	0.0000
Event + 2 Year	115	0.1130	0.0000	0.0297	-27.80%	NA	-35.02%	NA	115	0.1130	0.0000	0.0297	-18.76%	NA	-18.76%	NA	0.0000	0.0000
Event + 3 Year	115	0.0870	0.0000	0.0264	-23.01%	NA	-49.97%	NA	115	0.0957	0.0000	0.0275	-15.31%	NA	-31.20%	NA	-0.0087	0.0000
Event + 4 Year	115	0.0870	0.0000	0.0264	0.00%	NA	-49.97%	NA	115	0.0696	0.0000	0.0238	-27.27%	NA	-49.96%	NA	0.0174	0.0000
Event + 5 Year	115	0.1130	0.0000	0.0297	29.89%	NA	-35.02%	NA	115	0.0783	0.0000	0.0252	12.50%	NA	-43.71%	NA	0.0348	0.0000
Herfindahl-Hirschman Index																		
Event - 5 Year	115	0.1285	0.0528	0.0210	NA	NA	50.58%	-4.36%	115	0.1705	0.0549	0.0272	NA	NA	13.49%	-8.01%	-0.0419	-0.0021
Event - 4 Year	115	0.1269	0.0560	0.0203	-1.25%	6.06%	52.48%	-9.82%	115	0.1397	0.0528	0.0232	-18.06%	NA	38.51%	-4.36%	-0.0129	0.0032
Event - 3 Year	115	0.1475	0.0526	0.0236	16.23%	-6.07%	31.19%	-3.99%	115	0.1563	0.0520	0.0248	11.88%	-1.52%	23.80%	-2.88%	-0.0088	0.0006
Event - 2 Year	115	0.1505	0.0503	0.0241	2.03%	-4.37%	28.57%	0.40%	115	0.1731	0.0526	0.0270	10.75%	1.15%	11.79%	-3.99%	-0.0226	-0.0023
Event - 1 Year	115	0.1657	0.0504	0.0268	10.10%	0.20%	16.78%	0.20%	115	0.1630	0.0499	0.0268	-5.83%	-5.13%	18.71%	1.20%	0.0027	0.0005
Event	115	0.1935	0.0505	0.0307	16.78%	0.20%	NA	NA	115	0.1935	0.0505	0.0307	18.71%	1.20%	NA	NA	0.0000	0.0000
Event + 1 Year	115	0.1937	0.0531	0.0303	0.10%	5.15%	0.10%	5.15%	115	0.1870	0.0520	0.0300	-3.36%	2.97%	-3.36%	2.97%	0.0067	0.0011
Event + 2 Year	115	0.1567	0.0531	0.0257	-19.10%	0.00%	-19.02%	5.15%	115	0.1904	0.0537	0.0295	1.82%	3.27%	-1.60%	6.34%	-0.0338	-0.0006
Event + 3 Year	115	0.1425	0.0545	0.0236	-9.06%	2.64%	-26.36%	7.92%	115	0.1732	0.0528	0.0283	-9.03%	-1.68%	-10.49%	4.55%	-0.0307	0.0017
Event + 4 Year	115	0.1595	0.0554	0.0261	11.93%	1.65%	-17.57%	9.70%	115	0.1909	0.0550	0.0286	10.22%	4.17%	-1.34%	8.91%	-0.0314	0.0004
Event + 5 Year	115	0.1440	0.0572	0.0226	-9.72%	3.25%	-25.58%	13.27%	115	0.1712	0.0549	0.0254	-10.32%	-0.18%	-11.52%	8.71%	-0.0271	0.0023

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Multiple Segments																		
Event - 5 Year	115	0.1565	0.0000	0.0340	NA	NA	11.12%	NA	115	0.1540	0.0578	0.0237	-42.63%	NA	-58.65%	-63.10%	0.0394	-0.1073
Event - 4 Year	115	0.1478	0.0000	0.0332	-5.56%	NA	17.66%	NA	115	0.1518	0.0567	0.0236	0.77%	NA	-55.27%	-65.23%	0.0298	-0.0938
Event - 3 Year	115	0.1565	0.0000	0.0340	5.89%	NA	11.12%	NA	115	0.1486	0.0578	0.0232	3.47%	8.00%	-46.94%	-54.39%	0.0344	-0.1013
Event - 2 Year	115	0.1565	0.0000	0.0340	0.00%	NA	11.12%	NA	115	0.1646	0.0577	0.0252	2.46%	NA	-41.46%	-49.65%	0.0314	-0.1007
Event - 1 Year	115	0.1739	0.0000	0.0355	11.12%	NA	0.00%	NA	115	0.1969	0.0548	0.0285	1.92%	-3.18%	-37.53%	-45.74%	0.0464	-0.0975
Event	115	0.1739	0.0000	0.0355	0.00%	NA	NA	NA	115	0.1796	0.0526	0.0277	-0.63%	NA	8.20%	-22.18%	0.0472	-0.0835
Event + 1 Year	115	0.1565	0.0000	0.0340	-10.01%	NA	-10.01%	NA	115	0.1969	0.0548	0.0285	-5.84%	0.00%	1.10%	-10.98%	0.0372	-0.0835
Event + 2 Year	115	0.1130	0.0000	0.0297	-27.80%	NA	-35.02%	NA	115	0.1646	0.0577	0.0252	-8.13%	0.24%	-10.24%	-17.37%	0.0034	-0.0837
Event + 3 Year	115	0.0870	0.0000	0.0264	-23.01%	NA	-49.97%	NA	115	0.1486	0.0578	0.0232	-8.94%	NA	-20.22%	-20.56%	-0.0128	-0.0800
Event + 4 Year	115	0.0870	0.0000	0.0264	0.00%	NA	-49.97%	NA	115	0.1518	0.0567	0.0236	5.11%	13.13%	-17.73%	-7.18%	-0.0179	-0.0905
Event + 5 Year	115	0.1130	0.0000	0.0297	29.89%	NA	-35.02%	NA	115	0.1540	0.0578	0.0237	-2.96%	NA	-19.65%	-15.81%	0.0112	-0.0703
Herfindahl-Hirschman Index																		
Event - 5 Year	115	0.1285	0.0528	0.0210	NA	NA	50.58%	-4.36%	115	0.0144	0.0103	0.0013	51.28%	NA	29.09%	-30.78%	-0.0255	-0.0050
Event - 4 Year	115	0.1269	0.0560	0.0203	-1.25%	6.06%	52.48%	-9.82%	115	0.0166	0.0124	0.0014	-1.43%	-1.90%	38.50%	-32.26%	-0.0249	-0.0007
Event - 3 Year	115	0.1475	0.0526	0.0236	16.23%	-6.07%	31.19%	-3.99%	115	0.0152	0.0109	0.0012	-2.11%	1.94%	48.90%	-27.75%	-0.0011	-0.0052
Event - 2 Year	115	0.1505	0.0503	0.0241	2.03%	-4.37%	28.57%	0.40%	115	0.0176	0.0154	0.0013	10.77%	-0.17%	56.91%	-36.24%	-0.0141	-0.0074
Event - 1 Year	115	0.1657	0.0504	0.0268	10.10%	0.20%	16.78%	0.20%	115	0.0161	0.0117	0.0013	19.62%	NA	93.42%	-22.05%	-0.0312	-0.0044
Event	115	0.1935	0.0505	0.0307	16.78%	0.20%	NA	NA	115	0.0193	0.0160	0.0014	-8.79%	-4.01%	16.62%	-9.00%	0.0139	-0.0021
Event + 1 Year	115	0.1937	0.0531	0.0303	0.10%	5.15%	0.10%	5.15%	115	0.0178	0.0154	0.0013	9.63%	4.18%	29.71%	-3.35%	-0.0032	-0.0017
Event + 2 Year	115	0.1567	0.0531	0.0257	-19.10%	0.00%	-19.02%	5.15%	115	0.0157	0.0111	0.0014	-16.40%	5.29%	10.77%	-0.17%	-0.0079	-0.0046
Event + 3 Year	115	0.1425	0.0545	0.0236	-9.06%	2.64%	-26.36%	7.92%	115	0.0156	0.0110	0.0014	-9.72%	0.17%	-9.72%	0.17%	-0.0061	-0.0033
Event + 4 Year	115	0.1595	0.0554	0.0261	11.93%	1.65%	-17.57%	9.70%	115	0.0123	0.0066	0.0013	2.15%	-1.90%	-22.91%	3.47%	0.0077	-0.0013
Event + 5 Year	115	0.1440	0.0572	0.0226	-9.72%	3.25%	-25.58%	13.27%	115	0.0135	0.0094	0.0013	1.45%	1.94%	-14.25%	9.89%	-0.01	-0.0006

Table E.70: Corporate Governance: 13D Filings Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Hedge Fund 13D Filer is a dummy variable if a hedge fund filed a 13D prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms							Matched Firms							Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	115	0.0000	0.0000	0.0000	NA	NA	NA	NA	115	0.0174	0.0000	0.0122	NA	NA	-50.00%	NA	-0.0174	0.0000
Event - 4 Year	115	0.0087	0.0000	0.0087	NA	NA	3098.85%	NA	115	0.0087	0.0000	0.0087	-50.00%	NA	0.00%	NA	0.0000	0.0000
Event - 3 Year	115	0.0174	0.0000	0.0122	100.00%	NA	1499.43%	NA	115	0.0261	0.0000	0.0149	200.00%	NA	-66.67%	NA	-0.0087	0.0000
Event - 2 Year	115	0.0000	0.0000	0.0000	-100.00%	NA	NA	NA	115	0.0174	0.0000	0.0122	-33.33%	NA	-50.00%	NA	-0.0174	0.0000
Event - 1 Year	115	0.0348	0.0000	0.0172	NA	NA	699.71%	NA	115	0.0087	0.0000	0.0087	-50.00%	NA	0.00%	NA	0.0261	0.0000
Event	115	0.2783	0.0000	0.0420	699.71%	NA	NA	NA	115	0.0087	0.0000	0.0087	0.00%	NA	NA	NA	0.2696***	0.0000
Event + 1 Year	115	0.0348	0.0000	0.0172	-87.50%	NA	-87.50%	NA	115	0.0261	0.0000	0.0149	200.00%	NA	200.00%	NA	0.0087	0.0000
Event + 2 Year	115	0.0087	0.0000	0.0087	-75.00%	NA	-96.87%	NA	115	0.0174	0.0000	0.0122	-33.33%	NA	100.00%	NA	-0.0087	0.0000
Event + 3 Year	115	0.0174	0.0000	0.0122	100.00%	NA	-93.75%	NA	115	0.0348	0.0000	0.0172	100.00%	NA	300.00%	NA	-0.0174	0.0000
Event + 4 Year	115	0.0348	0.0000	0.0172	100.00%	NA	-87.50%	NA	115	0.0087	0.0000	0.0087	-75.00%	NA	0.00%	NA	0.0261	0.0000
Event + 5 Year	115	0.0261	0.0000	0.0149	-25.00%	NA	-90.62%	NA	115	0.0174	0.0000	0.0122	100.00%	NA	100.00%	NA	0.0087	0.0000

	Target Firms							Industry Adjusted							Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
13D Filing																		
Event - 5 Year	115	0.0000	0.0000	0.0000	NA	NA	NA	NA	115	0.1011	0.0857	0.0086	-90.65%	NA	-92.69%	-81.20%	-0.0144***	-0.0103
Event - 4 Year	115	0.0087	0.0000	0.0087	NA	NA	3098.85%	NA	115	0.1023	0.0766	0.0089	15.28%	NA	-89.91%	-78.51%	-0.0079	-0.0124
Event - 3 Year	115	0.0174	0.0000	0.0122	100.00%	NA	1499.43%	NA	115	0.1066	0.0771	0.0093	-8.43%	NA	-89.77%	-81.14%	0.0022	-0.0109
Event - 2 Year	115	0.0000	0.0000	0.0000	-100.00%	NA	NA	NA	115	0.1085	0.0771	0.0092	15.79%	NA	-88.41%	-72.84%	-0.0176***	-0.0154
Event - 1 Year	115	0.0348	0.0000	0.0172	NA	NA	699.71%	NA	115	0.1064	0.0858	0.0090	-8.52%	NA	-89.55%	-79.76%	0.0187	-0.0117
Event	115	0.2783	0.0000	0.0420	699.71%	NA	NA	NA	115	0.1068	0.0896	0.0088	19.88%	NA	34.03%	55.34%	0.259***	-0.0160
Event + 1 Year	115	0.0348	0.0000	0.0172	-87.50%	NA	-87.50%	NA	115	0.0989	0.0766	0.0083	-7.77%	NA	7.23%	24.19%	0.017	-0.0154
Event + 2 Year	115	0.0087	0.0000	0.0087	-75.00%	NA	-96.87%	NA	115	0.0997	0.0853	0.0082	-11.80%	NA	3.29%	1.83%	-0.007	-0.0111
Event + 3 Year	115	0.0174	0.0000	0.0122	100.00%	NA	-93.75%	NA	115	0.0965	0.0855	0.0083	-0.64%	NA	-11.36%	-28.57%	0.0018	-0.0110
Event + 4 Year	115	0.0348	0.0000	0.0172	100.00%	NA	-87.50%	NA	115	0.0936	0.0814	0.0082	-21.15%	NA	-23.60%	-43.59%	0.0225	-0.0066
Event + 5 Year	115	0.0261	0.0000	0.0149	-25.00%	NA	-90.62%	NA	115	0.0824	0.0730	0.0078	9.76%	NA	-30.05%	-41.25%	0.0126	-0.0094

Table E.71: Corporate Governance: Classified Board and Poison Pill Ex Ante and Ex Post Failed Attempt at Hedge Fund Board Representation

This table reports the characteristics of Target Firms and a comparison to a set of Matched Firms, the target firms' same four-digit SIC industry and a comparison of Target Firms to it industry peers for five years ex-ante and ex-post the activist intervention. The table reports the mean, median, and standard error of the characteristics for the target firm relative to various comparative datasets. All potentially unbounded variables are winsorized at the 1% and 99% extremes. Matched Firms are in the same four-digit SIC industry and matched by market value and asset size using nearest neighbor propensity scoring methodology. Industry Adjusted are all companies in the same four-digit SIC industry. The significance level, which was determined by the t-statistic, is asymptotically normal for paired differences. Classified Board is a dummy variable if the firm had a staggered board prior to the even and Poison Pill is a dummy variable if the firm had shareholder rights plan in place prior to the event. Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

	Target Firms								Matched Firms								Differences between Target and Match	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	115	0.0957	0.0000	0.0275	NA	NA	445.14%	NA	115	0.0870	0.0000	0.0264	NA	NA	19.89%	NA	0.0087	0.0000
Event - 4 Year	115	0.1043	0.0000	0.0286	8.99%	NA	400.19%	NA	115	0.1043	0.0000	0.0286	19.89%	NA	0.00%	NA	0.0000	0.0000
Event - 3 Year	115	0.1130	0.0000	0.0297	8.34%	NA	361.68%	NA	115	0.0957	0.0000	0.0275	-8.25%	NA	8.99%	NA	0.0174	0.0000
Event - 2 Year	115	0.1217	0.0000	0.0306	7.70%	NA	328.68%	NA	115	0.0957	0.0000	0.0275	0.00%	NA	8.99%	NA	0.0261	0.0000
Event - 1 Year	115	0.1130	0.0000	0.0297	-7.15%	NA	361.68%	NA	115	0.1043	0.0000	0.0286	8.99%	NA	0.00%	NA	0.0087	0.0000
Event	115	0.5217	1.0000	0.0468	361.68%	NA	NA	NA	115	0.1043	0.0000	0.0286	0.00%	NA	NA	NA	0.4174***	1.0000
Event + 1 Year	115	0.1217	0.0000	0.0306	-76.67%	-100.00%	-76.67%	-100.00%	115	0.0783	0.0000	0.0252	-24.93%	NA	-24.93%	NA	0.0435	0.0000
Event + 2 Year	115	0.0696	0.0000	0.0238	-42.81%	NA	-86.66%	-100.00%	115	0.0696	0.0000	0.0238	-11.11%	NA	-33.27%	NA	0.0000	0.0000
Event + 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	-86.66%	-100.00%	115	0.0609	0.0000	0.0224	-12.50%	NA	-41.61%	NA	0.0087	0.0000
Event + 4 Year	115	0.0609	0.0000	0.0224	-12.50%	NA	-88.33%	-100.00%	115	0.0435	0.0000	0.0191	-28.57%	NA	-58.29%	NA	0.0174	0.0000
Event + 5 Year	115	0.0348	0.0000	0.0172	-42.86%	NA	-93.33%	-100.00%	115	0.0435	0.0000	0.0191	0.00%	NA	-58.29%	NA	-0.0087	0.0000
Poison Pill																		
Event - 5 Year	115	0.0609	0.0000	0.0224	NA	NA	114.12%	NA	115	0.0609	0.0000	0.0224	NA	NA	57.14%	NA	0.0000	0.0000
Event - 4 Year	115	0.0696	0.0000	0.0238	14.29%	NA	87.36%	NA	115	0.1130	0.0000	0.0297	85.55%	NA	-15.31%	NA	-0.0435	0.0000
Event - 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	87.36%	NA	115	0.1043	0.0000	0.0286	-7.70%	NA	-8.25%	NA	-0.0348	0.0000
Event - 2 Year	115	0.0783	0.0000	0.0252	12.50%	NA	66.54%	NA	115	0.0957	0.0000	0.0275	-8.25%	NA	0.00%	NA	-0.0174	0.0000
Event - 1 Year	115	0.1043	0.0000	0.0286	33.21%	NA	25.02%	NA	115	0.1043	0.0000	0.0286	8.99%	NA	-8.25%	NA	0.0000	0.0000
Event	115	0.1304	0.0000	0.0315	25.02%	NA	NA	NA	115	0.0957	0.0000	0.0275	-8.25%	NA	NA	NA	0.0348	0.0000
Event + 1 Year	115	0.1478	0.0000	0.0332	13.34%	NA	13.34%	NA	115	0.0957	0.0000	0.0275	0.00%	NA	0.00%	NA	0.0522	0.0000
Event + 2 Year	115	0.1217	0.0000	0.0306	-17.66%	NA	-6.67%	NA	115	0.0783	0.0000	0.0252	-18.18%	NA	-18.18%	NA	0.0435	0.0000
Event + 3 Year	115	0.0870	0.0000	0.0264	-28.51%	NA	-33.28%	NA	115	0.0609	0.0000	0.0224	-22.22%	NA	-36.36%	NA	0.0261	0.0000
Event + 4 Year	115	0.1043	0.0000	0.0286	19.89%	NA	-20.02%	NA	115	0.0174	0.0000	0.0122	-71.43%	NA	-81.82%	NA	0.0870***	0.0000
Event + 5 Year	115	0.0783	0.0000	0.0252	-24.93%	NA	-39.95%	NA	115	0.0348	0.0000	0.0172	100.00%	NA	-63.64%	NA	0.0435	0.0000

	Target Firms								Industry Adjusted								Differences between Target Firms and Industry	
	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	N	Mean	Median	Std. Err.	△ Mean YoY	△ Median YoY	△ Mean Event vs Year	△ Median Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																		
Event - 5 Year	115	0.0957	0.0000	0.0275	NA	NA	445.14%	NA	115	0.1011	0.0857	0.0086	648.89%	NA	467.98%	456.49%	-0.0054	-0.0857
Event - 4 Year	115	0.1043	0.0000	0.0286	8.99%	NA	400.19%	NA	115	0.1023	0.0766	0.0089	1.19%	NA	551.59%	590.09%	0.002	-0.0766
Event - 3 Year	115	0.1130	0.0000	0.0297	8.34%	NA	361.68%	NA	115	0.1066	0.0771	0.0093	4.20%	0.65%	583.33%	600.91%	0.0064	-0.0771
Event - 2 Year	115	0.1217	0.0000	0.0306	7.70%	NA	328.68%	NA	115	0.1085	0.0771	0.0092	1.78%	0.00%	782.11%	1068.18%	0.0132	-0.0771
Event - 1 Year	115	0.1130	0.0000	0.0297	-7.15%	NA	361.68%	NA	115	0.1064	0.0858	0.0090	-1.94%	11.28%	688.15%	812.77%	0.0066	-0.0858
Event	115	0.5217	1.0000	0.0468	361.68%	NA	NA	NA	115	0.1068	0.0896	0.0088	0.38%	4.43%	5.64%	4.55%	0.4149***	0.9104
Event + 1 Year	115	0.1217	0.0000	0.0306	-76.67%	-100.00%	-76.67%	-100.00%	115	0.0989	0.0766	0.0083	-7.40%	NA	-3.32%	0.00%	0.0228	-0.0766
Event + 2 Year	115	0.0696	0.0000	0.0238	-42.81%	NA	-86.66%	-100.00%	115	0.0997	0.0853	0.0082	0.81%	11.36%	-6.47%	10.64%	-0.0301	-0.0853
Event + 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	-86.66%	-100.00%	115	0.0965	0.0855	0.0083	-3.21%	0.23%	-11.06%	10.89%	-0.0269	-0.0855
Event + 4 Year	115	0.0609	0.0000	0.0224	-12.50%	NA	-88.33%	-100.00%	115	0.0936	0.0814	0.0082	-3.01%	NA	-12.03%	-5.13%	-0.0327	-0.0814
Event + 5 Year	115	0.0348	0.0000	0.0172	-42.86%	NA	-93.33%	-100.00%	115	0.0824	0.0730	0.0078	-11.97%	NA	-22.85%	-18.53%	-0.0476**	-0.0730
Poison Pill																		
Event - 5 Year	115	0.0609	0.0000	0.0224	NA	NA	114.12%	NA	115	0.0893	0.0795	0.0071	8.37%	8.90%	-9.71%	3.79%	-0.0284	-0.0795
Event - 4 Year	115	0.0696	0.0000	0.0238	14.29%	NA	87.36%	NA	115	0.0931	0.0851	0.0074	4.26%	7.04%	-6.62%	-0.23%	-0.0235	-0.0851
Event - 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	87.36%	NA	115	0.0947	0.0839	0.0074	1.72%	-1.41%	-1.87%	-1.87%	-0.0251	-0.0839
Event - 2 Year	115	0.0783	0.0000	0.0252	12.50%	NA	66.54%	NA	115	0.0974	0.0886	0.0075	2.85%	5.60%	4.06%	8.85%	-0.0191	-0.0886
Event - 1 Year	115	0.1043	0.0000	0.0286	33.21%	NA	25.02%	NA	115	0.0954	0.0839	0.0075	-2.05%	NA	15.78%	14.93%	0.0089	-0.0839
Event	115	0.1304	0.0000	0.0315	25.02%	NA	NA	NA	115	0.0943	0.0927	0.0074	-1.15%	NA	5.60%	16.60%	0.0361	-0.0927
Event + 1 Year	115	0.1478	0.0000	0.0332	13.34%	NA	13.34%	NA	115	0.0932	0.0892	0.0073	-1.17%	NA	0.11%	4.82%	0.0546	-0.0892
Event + 2 Year	115	0.1217	0.0000	0.0306	-17.66%	NA	-6.67%	NA	115	0.0851	0.0677	0.0072	-8.69%	NA	-10.14%	-19.31%	0.0366	-0.0677
Event + 3 Year	115	0.0870	0.0000	0.0264	-28.51%	NA	-33.28%	NA	115	0.0727	0.0517	0.0069	-14.57%	NA	-25.36%	-41.65%	0.0143	-0.0517
Event + 4 Year	115	0.1043	0.0000	0.0286	19.89%	NA	-20.02%	NA	115	0.0624	0.0442	0.0065	-14.17%	NA	-34.59%	-47.32%	0.0419	-0.0442
Event + 5 Year	115	0.0783	0.0000	0.0252	-24.93%	NA	-39.95%	NA	115	0.0568	0.0347	0.0066	-8.97%	NA	-39.77%	-62.57%	0.0215	-0.0347