

CORPORATE GOVERNANCE AND
HEDGE FUND ACTIVISM

By

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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 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. I find statistically meaningful empirical evidence to reject the anecdotal conventional wisdom that hedge fund activism is detrimental to the long term interests of companies and their long term shareholders. Moreover, my findings suggest that hedge funds generate *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*.

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CHAPTER I

INTRODUCTION

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.

My dissertation addresses two fundamental questions with respect to hedge fund activism: (a) What are the determinants of hedge fund activist interventions and the characteristics of the Target Firms? and (b) Does hedge fund activism create long-term value for Target Firms and their long-term shareholders? My research fills the important void in the literature with respect to the shareholder activism initiated by hedge funds. My novel approach to “corporate 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.

Because 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, all 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, my dissertation 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 that shareholder's 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 V.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 the 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. My findings 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 “sale of the company” agenda. It is very common for hedge fund activists to seek replacement of the management team to accomplish the activist’s agenda ex post the board seat grant date as opposed to forcing a sale of the company.

Accordingly, my manuscript is organized into several chapters. First, in Chapter II, 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 III, 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 IV addresses the most important and pervasive econometric issues confronting studies in empirical corporate finance, primarily endogeneity and selection bias. In Chapter V, 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 VI, 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 II

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.

II.A 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 primarily 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.

II.B History of Shareholder Activism

Shareholder activism has evolved over time. Gillan and Starks (2007) and Maren (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 resolutions¹. 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.

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

¹Since 1942, the Securities and Exchange Commission, under rule 14a-8, has required corporate management to include shareholder proposals in its solicitation materials.

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 activism². 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.

²The 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.

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 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 repeats (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.

II.C Determinants of Shareholder Activism

In this section, previous literature focusing on the determinants of shareholder activism is reviewed. Regarding the factors and causes of shareholder activism, researchers have found characteristics of shareholder activism in four areas of a firm: the firm, the CEO, the board of directors, and the ownership. Table A.1 provides an overview of the extant literature with respect to determinants of shareholder activism. First, firm characteristics such as prior firm performance, firm size, amount of diversification, growth prospects, and levels of free cash flow are the most commonly studied characteristics of shareholder activism. Researchers of only a few studies have looked at how shareholder activism could be driven by ownership structure.

II.C.1 Prior Firm Performance

Numerous U.S.-based studies have found that the prior performance of firms has led shareholder activists to Target Firms. Studies have measured firm performance with market-based measures and financial measures³.

Predominantly, most of the activist interventions targeted firms with poor operating performance or for being undervalued relative to their peers. However, Klein and Zur (2009) found evidence that U.S. hedge funds in their sample targeted profitable firms, although they only used 151 sample firms from 2003-2005.

A few studies used proxy resolutions as the mechanism of shareholder activism and found evidence that multiple types of investor groups target companies due to performance issues. Bizjak and Marquette (1998) studied multiple types of activists who were using shareholder resolutions in an effort to remove poison pills in Target Firms.

With a sample of 193 resolutions in the US involving poison pills from 1986 to 1993, they found that poor performance by target companies and making management resistance to restructuring or removing their poison pills was a predictor of shareholder activism. Johnson and Shackell-Dowell (1997) conducted a study of 169 executive compensation proposals made by 74 shareholder activists against 106 U.S. firms from 1992 to 1995. They found that poor performance led to firms being targeted by gadflies and institutional investors.

Choi's (2000) study of 361 proxy resolutions targeting 277 U.S. companies from 1991 to 1995 found that poor stock performance was driving the issuance of proxy resolutions. Mulherin and Poulsen (1998) studied proxy contests for board seats between 1979 and 1994. In their sample of 270 U.S. proxy contests, they found

³Many of these studies used measures of Tobin's Q as an indicator of a firm's market performance. Tobin's Q is defined as the market value of a firm's assets divided by the replacement costs of a firm's assets (Brainard & Tobin, 1968). If a firm has a Q value of greater than 1, it presumes the existence of intangible assets that bring the value of the firm above and beyond the value of its physical assets. Doukas (1995) suggested that well-managed firms have a Tobin's Q value of over 1, and poorly-managed firms have Tobin's Q values less than 1.

that firms with poor performance were more likely to be targeted for a proxy contest.

Thomas et al. (2005) examined 1,454 proxy resolutions in the U.S. from 2000 to 2004 and found that poor performance was also driving shareholder activism efforts. Renneboog and Szilagyi (2006) used a sample of 2,800 shareholder proposals in the United States from 1996 to 2005 and also found that shareholder activists targeted underperforming companies.

More recently, Buchanan and Yang (2009) studied U.S. and U.K. shareholder proposals from 2000 to 2006 with 3,812 proposals at 764 U.S. firms and 508 proposals at 85 U.K. firms and found that shareholder activists Target Firms with low book to market ratios.

Other studies looked at shareholder activism efforts of investor groups like the U.S. Shareholders Association and the Council of Institutional Investors. Strickland, Wiles, and Zenner (1996) examined shareholder activism efforts of the U.S. Shareholders Association. Their sample consisted of 216 proposals at 85 U.S. firms between 1990 and 1993. They found that poor stock performance was a key characteristic of shareholder activism. Opler and Sokobin (1998) and Caton, Goh, and Donaldson (2001) both used samples derived from shareholder activism targets of the Council of Institutional Investors.

Opler and Sokobin's (1998) sample was 96 U.S. firms from 1991 to 1993 and Caton et al.'s (2001) was 138 U.S. companies from 1991 to 1995. Both studies found that the Council of Institutional Investors targeted firms with poor stock performance. Bethel, Liebeskind, and Opler (1998) examined block share purchases in the 1980s and focused on investors like Carl Icahn, Bass Brothers, Mario Gabelli, and George Soros. Bethel et al. followed McConnell and Servaes (1990) in defining two primary groups of shareholders: blockholders and insider owners. McConnell and Servaes' classification of shareholder groups follows the SEC filing procedures, which define a "blockholder" as a direct owner of a beneficial interest of 5% or more

of a firm's outstanding shares and an "insider" as an officer or director of a firm or a member of an officer's or director's family. Like many other studies, they found that these U.S. activists almost always Target Firms that are not meeting financial performance targets. In their study, McConnell and Servaes measured performance by low profitability as measured by ROA and low market-to-book values. Their sample consisted of 151 activist block purchases of 5% or greater equity stake made during the 1980s.

A number of researchers have found a negative relationship between prior firm performance and shareholder activism among pension funds. There were four studies that have focused on shareholder activism of multiple U.S.-based pension funds. First, Wahal (1996) looked at shareholder activism efforts of nine large U.S. pension funds via proxy resolutions, letters, and meetings using a sample of 356 targets within 146 firms from 1987 to 1993 and found they often targeted poor performing firms. Second, Karpoff, Malatesta, and Walking (1996) examined 269 U.S. companies facing 522 shareholder resolutions from 1986 to 1990 and found that many shareholder resolutions by a mix of public and private investor groups and individual investors were targeted at companies with poor performance. Third, Del Guercio and Hawkins (1999) studied 266 proxy resolutions at 125 firms by the five largest U.S. pension funds from 1987 to 1993 and found that some, but not all, of the pension funds targeted firms with poor performance. Last, Del Guercio, Seery, and Woidtke (2008) focused on "just vote no" proxy resolutions issued by public pension funds. Their sample included 112 "just vote no" campaigns in the United States from 1990 to 2003 and found that public pension funds targeted firms with poor firm performance.

Shareholder activism by the U.S.-based CalPERS pension fund has also been widely studied. Nesbitt (1994) looked at 42 investments made by the CalPERS pension fund from 1987 to 1992 and found that CalPERS targeted underperforming companies using market-based performance measures. All of the following studies

found that CalPERS targeted firms with poor stock price performance. Smith (1996) studied shareholder activism efforts by CalPERS using a sample of 51 firms targeted by CalPERS from 1987 to 1993. Crutchley, Hudson, and Jensen (1998) studied public announcements made by CalPERS announcing the firms who were on their focus list. Their sample included 47 firms targeted by CalPERS from 1992 to 1997. English, Smythe, and McNeil (2004) also studied 63 targets in 43 firms from 1992 to 1997 that were placed on the CalPERS focus list. Moreover, Wu (2004) looked at 37 firms from 1988 to 1995 that were on the CalPERS focus list.

Finally, Becht et al. (2009) looked at shareholder activism in the U.K. by one pension fund, the Hermes U.K. Focus Fund (HUKFF), from 1998 to 2004. In 2005, HUKFF had 61 billion pounds under management. Their sample consisted of 41 companies of which the fund had discussions with 30. U.K. laws require companies to make a public disclosure when they have acquired just 3% of a firm's shares. Becht et al.'s main innovation is the study of one fund with full insider access to records of the fund's activities. According to internal documents, one of the three criteria for targeting firms was that the firm is underperforming.

Boyson and Mooradian (2007) [20] looked at U.S. hedge funds from 1994 to 2005 with a sample of 111 hedge funds and 89 hedge fund management companies and 397 Target Firms. They found that the hedge funds in their sample targeted firms with low measures of Tobin's Q and low stock performance. Greenwood and Schor (2007) found that U.S. hedge funds targeted firms with low market-to-book ratios and those who were underperforming in their industry. Using a sample of 784 hedge funds from 1993 to 2006, they also showed that hedge funds Target Firms with lower long-term industry abnormal returns funds. Brav, Jiang, Partnoy, and Thomas (2008) analyzed shareholder activism by U.S. hedge funds and used a sample of 888 events by 131 activist hedge funds from 2001 through 2005. They found that hedge funds target companies with low market value relative to book value.

Surprisingly, Klein and Zur's (2006) study was the only one that found that hedge funds were more likely to target cash-rich, profitable firms. They tracked 151 firms targeted by U.S. hedge funds from 2003 to 2005. They noted that hedge funds target profitable firms with the goal of short-term gains via increased dividend payouts and short-term increases in stock price. The shareholder activism literature clearly points to firms being targeted by numerous types of shareholder activists for poor firm performance.

II.C.2 Firm Size

Previous activism research also suggested that there may be a relationship between firm size and the likelihood of shareholder activism. However, empirical results found support for both positive and negative effects. The following four U.S.-based studies found support for shareholder activists targeting larger firms. Three of the four studies examined pension fund activism. Smith (1996) studied CalPERS activism, while Del Guercio et al. (2008) studied "just vote no" campaigns on proxy resolutions, and Carleton et al. (1998) looked at 65 targets in 45 firms targeted by the pension fund TIAA-CREF from 1992 to 1996. Renneboog and Szilagyi (2006) studied over 2,800 shareholder proposals by various types of activists from 1996 to 2005 and found that large firms were targeted by shareholder activists.

While many of the studies found support for various types of activists to target smaller firms, studies on shareholder activism by blockholder activists and hedge funds found that these activists tend to target smaller firms in order to be able to purchase a 5% or larger share of equity in the target company. Bethel et al. (1998) found that the activist blockholders of the 1980s targeted smaller firms. Woidtke (2002) found that pension fund activists were more likely to target smaller firms than larger firms in the United States. Faccio and Lasfer (2000) noted that U.K. pension funds tended to target smaller firms when engaging in activist efforts through block share purchases. Boyson and Mooradian (2007), Bratton (2007), and

Greenwood and Schor (2007) concluded that hedge fund activists prefer smaller firms as Target Firms in the United States. Two potential reasons for this relationship are that *economically-motivated* activists may prefer to limit the cost of activism and that smaller firms are expected to be less costly to catalyze an intervention. In addition, larger firms have the resources and political connections to resist shareholder activism.

II.C.3 Free Cash Flow

Free cash flow is excess cash beyond what a firm requires for normal ongoing operations and capital investment. It is a classic agency argument that high levels of free cash flow create agency problems in that managers can invest in low net present value projects (Cuthbertson & Gasparro, 1995; Griffin & Wiggins, 1992) Jensen (1986) argued that high levels of free cash flow create agency problems between shareholders and managers over whether excess cash should be used within the firm or redistributed to shareholders in the form of dividends or share buybacks.

Bratton (2007) examined a sample of 130 domestic firms between 2002 and 2006 that were targeted by hedge funds and found that many target companies have high levels of free cash flow. Bratton defined high levels of cash flow as cash to total assets ratio of 0.15 or greater plus a cash-to-debt ratio of 0.50 or greater. Bratton (2007) found that 38% of the Target Firms in the sample are cash rich. Brav et al. (2008) also found that hedge funds Target Firms with high levels of excess cash.

II.C.4 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.

II.C.5 Ownership Structure

Over the last several decades, there has been a dramatic change with respect to the ownership of U.S. publicly-traded corporations, primarily in the significant growth of institutional shareholdings. The SEC (1973) reported that institutional ownership increased from a mere 5% in 1945 to 24% in 1965. Today, institutional ownership exceeds 70%. The dramatic increase in the ownership of these large investors has raised interest in their role in monitoring managers, which will be addressed in Section II.D.

Prior studies have looked at whether shareholder activists have targeted firms because of their ownership structures. Specifically, some work has looked at levels of institutional ownership and/or insider ownership as a predictor of shareholder activism. Stickland et al. (1996) found that firms targeted by the U.S. Shareholders Association were more likely to be targeted if they had high levels of institutional ownership. Bizjak and Marquette (1998) found that poison-pill resolutions were more likely to be put forward when block ownership was low. Carleton et al. (1998) noted evidence of some bandwagon effects as the pension fund TIAA-CREFF was more likely to Target Firms that had a concentrated ownership of activist institutions.

Three studies looked at insider ownership as a determinant of shareholder activism. Bethel et al. (1998) found that firms with low insider ownership are more

likely to be targeted among blockholders. However, their study did not address hedge funds or activists specifically: It was predicated on any group that acquired a 5% position. Both Bizjak and Marquette (1998) and Akyol and Carroll (2006) studied proxy resolutions directed at poison pill removal and both found that insider shareholding was negatively associated with activists' efforts to remove poison pills via proxy resolutions and negotiations.

II.D Active Monitoring by Shareholders

In this section, I review the extant literature with respect to active monitoring by shareholders. As noted in Section II.C.5, 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 testers, the highest management

turnover is observed, reflecting the importance of intangible issues such as job security (Yen & Chen, 2005).

II.E 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.

II.E.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.

II.E.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.

II.E.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.

II.E.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.

II.F 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 III

HYPOTHESIS 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 manager 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 directors⁴. 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.

III.A Determinants of Hedge Fund Activism – Ex Ante Intervention

III.A.1 Prior Firm Performance (H1)

Numerous studies have used various market and accounting-based financial measures to investigate firm performance (i.e., underperforming and/or undervalued relative to peers) to determine the vulnerability of a Target Firm by an activist hedge fund. However, short interest ratio (i.e., shares sold short) as a measure of a Target Firm’s performance has not been used to determine a company’s vulnerability regarding hedge fund activism. If an investor believes that a firm is overvalued and expects the company’s share price will decline, then the investor can sell short the company’s security and buy it back (i.e., generate a long position) at a lower price to make a profit.

⁴Corporate 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.

According to Asquith, Pathak, and Ritter (2005), shares sold short, as a percentage of shares outstanding, have more than doubled in the last 20 years. In dollar terms, the increase is more than twentyfold. During this time, there has been a renewed interest among [whom?] in the role of the financial markets to discipline managers. Shareholders, particularly large blockholders, may induce good managerial behavior by exiting and pushing down stock prices when bad managerial actions are taken (e.g., Admati & Pfleiderer, 2009; Edmans, 2009; Edmans & Manso, 2011)⁵. In this regard, informed trading (“exit”) provides an alternative governance mechanism that shareholders can adopt in addition to the traditional “intervention” type of internal governance (e.g., Chen, Harford, & Li, 2007; McCahery, Starks, & Sautner, 2010; Parrino et al., 2003). Indeed, to some extent, exit and intervention offer substituting governance mechanisms that shareholders can select based on their trade-off between benefits and costs (e.g., Edmans & Manso, 2011; Edmans et al., 2013).

A more general question is whether informed trading, such as short selling, can be used as a proxy for managerial misbehavior. Short sellers are known to be informed (Asquith et al., 2005; Boehmer, Jones, & Zhang, 2008; Cohen, Diether, & Malloy, 2007; Senchack & Starks, 1993) and highly motivated to attack bad firms (e.g., Hirshleifer, Teoh, & Yu, 2011; Karpoff & Lou, 2010)⁶. Short selling appears to discipline managers and reduce their incentives to manipulate (Massa, Zhang, & Zhang, 2013). Further, Massa et al. (2013) claimed that shareholders can rely on the external disciplining mechanism of short selling instead of engaging in direct monitoring of managers. I posit that short selling is a signal of increased agency cost and is a proxy for expected future firm performance that can be used by activist hedge funds to identify potential targets to serve as a disciplinary

⁵For instance, Edmans and Manso (2011) concluded that “informed trading causes prices to more accurately reflect fundamental value, in turn inducing the manager to undertake actions that enhance value.”

⁶Other market participants may also influence the shareholders of firms in this way; however, the short-selling channel is particularly powerful because short sellers are known to be good at processing negative information (e.g., Hirshleifer et al., 2011; Karpoff & Lou, 2010).

mechanism to monitor management via *board representation*.

It is now widely accepted that if short selling is costly and there are heterogeneous investor beliefs, a stock can be overvalued and generate low subsequent returns. This hypothesis originates with Miller (1977), and its cross-sectional predictions have motivated many recent empirical studies.

There are now three distinct empirical literatures on short selling. The oldest contends that high short interest ratios (shares sold short/shares outstanding) forecast low future returns. The second literature investigates the actual cost of short selling by looking at the rebate rate on borrowed stock. The third and most recent empirical short-sale literature assumes that short sales depend on stock ownership by mutual funds and institutions. This literature assumes either that the number of institutions owning a stock is a proxy for heterogeneous expectations or that most lendable shares are from institutional owners.

Each of these literatures examines an instrument relevant to short-sale constraints. Constraints exist when investors wish to sell short but either are unable to borrow shares or can only do so by receiving a low rebate rate on the proceeds from their short sales. In this study, I combine the first and third literatures to identify short-sale constraints. As previously stated, I assert that short selling is a signal of increased agency cost and is a proxy for expected future firm performance that can be used by activist hedge funds to identify potential targets to serve as a disciplinary mechanism to monitor management via *board representation*.

To be sure, there is a void in the hedge fund activism literature regarding the use of short interest position as a proxy of firm performance ex ante to an intervention. Therefore, I hypothesize the following:

Hypothesis 1: There is a significant positive correlation between hedge fund activism and an increase in the short-interest position experienced by Target Firms ex ante an activist intervention.

III.A.2 Ownership Structure (H2)

Three studies concerned insider ownership as a determinant of shareholder activism. Bethel et al. (1998) found that firms with low insider ownership are more likely to be targeted among blockholders. Both Bizjak and Marquette (1998) and Akyol and Carroll (2006) studied proxy resolutions directed at poison pill removal and found that insider shareholding was negatively associated with activists' efforts to remove poison pills via proxy resolutions and negotiations.

Relatively little is known about how ownership characteristics of firms lead them to be targeted by shareholder activists. Bethel et al. (1998) defined "blockholder" as any group owning 5% or more. This included pension funds, banks, and other investors. They did not delineate between activist and nonactivist investors. Because hedge fund activists ultimately rely on the support of other shareholders, I assert that many activist hedge funds Target Firms with nominal "corporate inside" ownership. I define "corporate inside" ownership as equity securities that are beneficially owned by the company's officers and directors, and I exclude any institutions or noncompany officers and directors who are considered insiders by SEC because they are beneficial owners of more than 10% of a class of the company's equity securities.

Hedge fund activists target companies with nominal "corporate ownership" for two primary reasons. First, this targeting will ensure an increased likelihood of success if a management team cannot "block" a proxy voting contest, and second, it supports the narrative that a management team with nominal ownership is entrenched and not acting in the best interest of the owners. Given this significant gap in the literature, I hypothesize the following:

Hypothesis 2: There is a significant positive correlation between hedge fund activism and nominal "corporate inside" ownership.

III.B Activist Hedge Fund Intervention – Board Representation (H3)

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 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 3: 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.

III.C 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.

III.C.1 Short-term Effects of Active Hedge Fund Monitoring (H4)

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 4: 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.

III.C.2 Long-term Effects of Active Hedge Fund Monitoring (H5/H6)

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 III.C.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 5: 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 6: 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.

III.D 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 IV

ECONOMETRIC METHODOLOGY

In this chapter, I address the econometric methodology to test empirically the alternative hypotheses that were discussed in Section III. 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 6 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 IV.A, 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 III. 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.

IV.A 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.

IV.A.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.

IV.A.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).

IV.A.3 Treatment Effects

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

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

This assumption says that the potential outcomes ($y(0)$ and $y(1)$) are

statistically independent (\perp) of treatment assignment (d) conditional on the observable covariates, $X = (x_1, \dots, x_k)$ ⁷. 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 ,

$$y = \beta_0 + \beta_1 d + \beta_2 x_1 + \dots + \beta_{k+1} x_k + u \tag{IV.2}$$

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

The second identifying assumption is referred to as overlap:

$$0 < Pr(d = 1|X) < 1 \tag{IV.3}$$

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

⁷This 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 $Pr(d = 1|y(0), y(1), X) = Pr(d = 1|X)$.

holds when $Pr(d = 1|X = X') = 0$ so that there are no comparable treatment subjects to match with controls at $X = X'$.

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 .

IV.A.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,

$$ps(x) \equiv Pr(d = 1|X) = E(d|X) \tag{IV.4}$$

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

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

$$\sum_{j|d_j \neq d_i} l(\|X_j - X_i\| \leq \|X_l - X_i\|) = m \quad (\text{IV.5})$$

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 4th 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 4th 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 4th observation.

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

$$\hat{y}_i(0) = \left\{ \frac{1}{M} \sum_{j \in L_M(i)} y_j \right\}_{if d_i=0}^{if d_i=1} \quad (\text{IV.6})$$

$$\hat{y}_i(1) = \left\{ \frac{1}{M} \sum_{j \in L_M(i)} y_j \right\}_{if d_i=0}^{if d_i=1} \quad (\text{IV.7})$$

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 treatment effect (ATE) is:

$$\frac{1}{N} \sum_{i=1}^N [\hat{y}_i(1) - \hat{y}_i(0)] \quad (\text{IV.8})$$

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

$$\frac{1}{N_1} \sum_{i:d_i=1}^N [y_i - \hat{y}_i(0)] \quad (\text{IV.9})$$

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

$$\frac{1}{N_0} \sum_{i:d_i=0}^N [\hat{y}_i(1) - y_i] \quad (\text{IV.10})$$

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

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

$$\sum_{j|d_j \neq d_i} l(|\hat{p}s(X_j) - \hat{p}s(X_i)| \leq \hat{p}s(X_l) - \hat{p}s(X_i)) = m \quad (\text{IV.11})$$

IV.A.4.iv 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):

$$\|X_i - X_j\| = \sqrt{(X_i - X_j)' \sum_X^{-1} (X_i - X_j)} \quad (\text{IV.12})$$

where Σ_X is the covariance matrix of the covariates, and (Σ_X^{-1}) is a diagonal matrix equal to the diagonal elements of (Σ_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.

IV.B 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.

IV.B.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,

$$y_{it} = \beta_0 + \beta_1 x_{it} + u_{it}, (i = 1, \dots, N; t = 1, \dots, T) \quad (\text{IV.13})$$

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.⁸

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 (IV.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:

$$\left(y_{it} - \frac{1}{T} \sum_{t=1}^T y_{it} \right) = \beta_1 \left(x_{it} - \frac{1}{T} \sum_{t=1}^T x_{it} \right) + \left(e_{it} - \frac{1}{T} \sum_{t=1}^T e_{it} \right) \quad (\text{IV.14})$$

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

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

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

⁸Feasible 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.

IV.C 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.

IV.C.1 Empirical models for estimation period

IV.C.1.i 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:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}), \quad (\text{IV.15})$$

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:

$$AAR_t = \frac{\sum_{j=1}^N A_{jt}}{N}, \quad (\text{IV.16})$$

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

$$CAAR_{T_1, T_2} = \frac{1}{N} \sum_{j=1}^N \sum_{t=T_1}^{T_2} A_{jt} \quad (\text{IV.17})$$

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

$$\begin{aligned} BHAR_{j, T_1, T_2} = & \left[\prod_{t=T_1}^{T_2} (1 + R_{jt}) - 1 \right] - \left[(1 + \hat{\alpha}_j)^{(T_2 - T_1 + 1)} - 1 \right] \\ & - \hat{\beta}_j \left[\prod_{t=T_1}^{T_2} (1 + R_{mt}) - 1 \right] \end{aligned} \quad (\text{IV.18})$$

The *average compounded abnormal return* is is

$$ACAR_{T_1, T_2} = \frac{1}{N} \sum_{j=1}^N BHAR_{j, T_1, T_2} \quad (\text{IV.19})$$

IV.C.1.i Fama-French Three-Factor Model

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

$$R_{jt} = \alpha + \beta_j R_{mt} + s_j SMB_t + h_j HML_t + \epsilon_{jt}. \quad (\text{IV.20})$$

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:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t), \quad (\text{IV.21})$$

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.

IV.C.1.i 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:

$$R_{jt} = \alpha + \beta_j R_{mt} + s_j SMB_t + h_j HML_t + u_j UMD_t + \epsilon_{jt}. \quad (\text{IV.22})$$

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:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t) \quad (IV.23)$$

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.

IV.C.1.i 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 :

$$A_{jt} = R_{jt} - R_{mt}. \quad (IV.24)$$

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.

IV.C.1.i 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 $\alpha = 0$.

IV.C.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).

IV.C.2.ii Event Studies Centered on a Single Date

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

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

where

$$s_{A_j}^2 = \frac{\sum_{k=E_1}^{E_2} A_{jk}^2}{M_j - 2}, \quad (\text{IV.25})$$

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

$$SAR_{jt} = \frac{A_{jt}}{s_{A_{jt}}}. \quad (\text{IV.26})$$

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

$$TSAR_t = \sum_{j=1}^N SAR_{jt}. \quad (IV.27)$$

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

$$Q_t = \sum_{j=1}^N \frac{M_j - 2}{M_j - 4}. \quad (IV.28)$$

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

$$Z_{T_1, T_2} = \frac{1}{\sqrt{N}} \sum_{j=1}^N Z_{T_1, T_2}^j, \quad (IV.29)$$

where

$$Z_{T_1, T_2}^j = \frac{1}{\sqrt{Q_{T_1, T_2}^j}} \sum_{t=T_1}^{T_2} SAR_{jt}, \quad (IV.30)$$

and

$$Q_{T_1, T_2}^j = (T_2 - T_1 + 1) \frac{M_j - 2}{M_j - 4} \quad (IV.31)$$

Under cross-sectional independence of the Z_{T_1, T_2}^j 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:

$$s_{CAR_{T_1, T_2j}}^2 = s_{AR_j}^2 \left[L_j + \frac{L_j}{M_j} + \frac{\sum_{t=T_1j}^{T_2j} (R_{mt} - \overline{R_{mEst}})^2}{\sum_{k=1}^{M_j} (R_{mk} - \overline{R_{mEst}})^2} \right] \quad (IV.32)$$

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

$$PWCAAR_{T_1, T_2} = \sum_{j=1}^N \sum_{t=T_1}^{T_2} w_j A_{jt}, \quad (\text{IV.33})$$

where

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

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.

IV.C.2.ii Correction for Correlation of Abnormal Returns

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

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

where

$$s_{CAAR_{T_{1j}, T_{2j}}}^2 = s_{AR_j}^2 \left\{ L_j \left[1 + \frac{L_j}{M_j} + \frac{\left(\sum_{t=T_{1j}}^{T_{2j}} R_{mt} - L_j \overline{R_{mEst}} \right)^2}{\sum_{k=1}^{M_j} (R_{mk} - \overline{R_{mEst}})^2} \right] \right\} \quad (\text{IV.34})$$

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 Mikkelsen 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. Mikkelsen 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).

IV.C.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

$$z_t = \frac{TSAR_t}{N^{\frac{1}{2}}(s_{SAR_{\bullet t}})}, \quad (\text{IV.35})$$

where

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

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 IV.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

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

IV.C.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

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

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

$$\overline{AAR} = \frac{\sum_{t=E_1}^{E_2} AAR_t}{M} \tag{IV.36}$$

The portfolio test statistic for day t in event time is

$$t = \frac{AAR_t}{\hat{\sigma}_{AAR}} \quad (\text{IV.37})$$

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

$$t = \frac{CAAR_t}{(T_2 - T_1 + 1)^{\frac{1}{2}} \hat{\sigma}_{AAR}}. \quad (\text{IV.38})$$

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

IV.C.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

$$t = \frac{AAR_t}{\hat{\sigma}_{AAR_t} / \sqrt{N}}, \quad (\text{IV.39})$$

where

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

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

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

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

$$t_{CAAR} = \frac{CAAR_{T_1, T_2}}{\hat{\sigma}_{CAAR_{T_1, T_2}} / \sqrt{N}} \quad (\text{IV.40})$$

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.

IV.C.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

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

and the skewness by

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

Define

$$S = \frac{ACAR_{T_1,T_2}}{\hat{\sigma}_{BHAR}/\sqrt{N}}. \quad (IV.41)$$

The skewness-adjusted transformed normal test statistic is

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

IV.C.7 Long-Horizon Event Study Methodology

As discussed in Section IV.C, 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 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 (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:

$$CAR_i(t_1, t_2) = \sum_{t=t_1}^{t_2} AR_{it} \quad (IV.42)$$

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:

$$CAAR_i(t_1, t_2) = \frac{1}{N} \sum_{j=1}^N \sum_{t=t_1}^{t_2} AR_{it} \quad (IV.43)$$

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 V

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 V.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 IV, 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;
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.

V.A 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 V.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 V, which reports the results of my *Treatment Group* and *Control Groups*.

V.A.1 Objectives of Activist Campaigns

Hedge fund activism involves various objectives and tactics against Target Firms. Table V.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 through 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 anti-takeover provisions to facilitate a successful intervention. Non-Hedge Fund Activists are more likely to initiate a campaign centered on 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 V.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 the 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 V.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.

V.A.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 V.5 through V.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 V.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 IV.B.1 for a detailed discussion with respect to fixed and random effects.

Tables V.6 and V.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 V on page 78, Table V.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 $((\text{book value of debt} + \text{book value of equity} - \text{cash}) / \text{LTM EBITDA})$ three-months prior to the Event Date, are negative and significant regarding Hedge Fund Activism and with respect to my *Treatment Group*. These results suggest 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 V.7).

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 ($\text{Debt} / \text{EBITDA}$) 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.

V.B Short Selling: A Signal of Agency Cost (H1)

This section tests empirically Hypothesis 1 discussed in Chapter III. The hypothesis is as follows: *There is a significant positive correlation between hedge fund activism and an increase in the short-interest position experienced by Target Firms ex ante an activist intervention.*

V.B.1 Data

Short Interest Ratio is defined as:

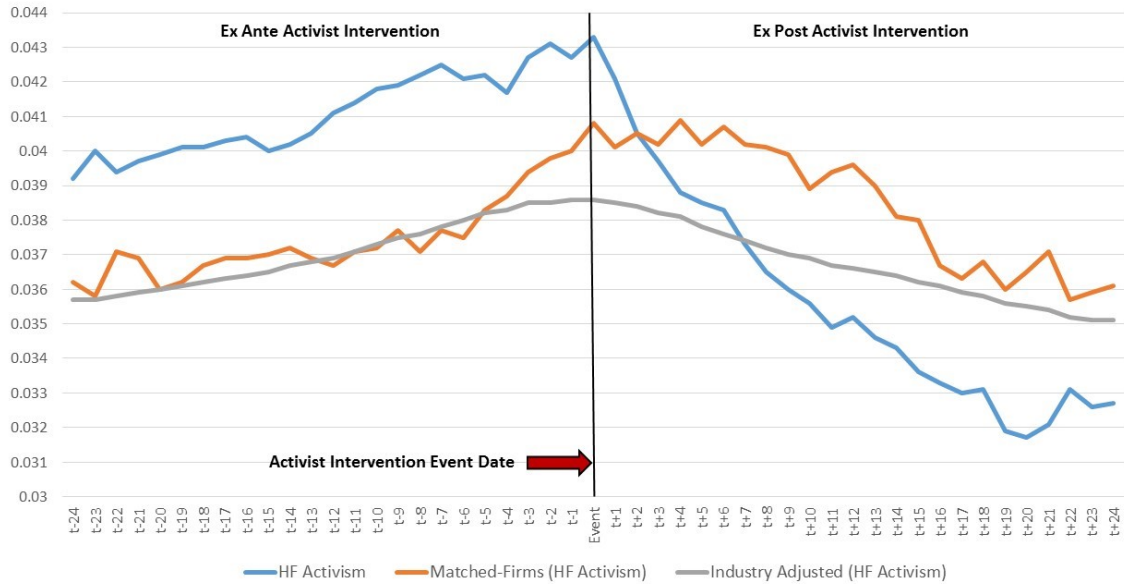
$$\text{Short Interest Ratio} = \frac{\text{Shares Sold Short}}{\text{Total Shares Outstanding}} \quad (\text{V.1})$$

Short interest reflects the Target Firms short position on the last business day of the each month. The short interest data was collected via FT Interactive and Compustat which includes all positions from the New York Stock Exchange, American Stock Exchange, and NASDAQ. The data was aggregated and merged into my shareholder activist dataset using GVKEY and CUSIP firm identifiers. All potentially unbounded variables are winsorized at the 1% and 99% extremes.

V.B.2 Empirical Results

Figure V.2 illustrates an increasing trend with respect to a Target Firms short interest position ex ante a Hedge Fund Activist intervention. I compare all Target Firms to Matched Firms as well as to its industry peers. Next, I determine the statistical significance with respect to the change of the Target Firms' short interest ratio as a predictor of hedge fund activism.

Figure V.2: Short Interest Position:
Target Firms vs. Matched Firms and Industry Composite Ex Ante and Ex Post Activism
Event



I conduct several empirical tests to determine statistical significance. First, I perform logistic and maximum likelihood probit regressions with respect to the change in the monthly short interest position of Target Firms of hedge fund and non-hedge fund activist interventions between t-6 and t-1 the event. 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.

Table V.12 reports the log(odds) of the change in monthly short interest ratio position of Target Firms of both Hedge Fund (Model I and II) and Non-hedge Fund (Model III and IV) activist interventions. Model I reports a statistically significant likelihood of being targeted by a Hedge Fund activist when a Target Firm experiences a growth in its short interest ratio six months prior to an activist

intervention. After controlling for both industry and year fixed effects (refer to Model II), the coefficient with respect to the short interest ratio is still positive, however, the is not statistically significant.

Both Model's III and IV report the change of a Target Firm's short interest ratio position six months ex ante an activist intervention by Non-hedge Fund activists. Although both coefficients of each model are negative, they are not statistically significant with or without fixed effects included in the models.

As a robustness check, I test empirically the change of the monthly short interest ratio using a multivariate probit regression that includes other variables that explain Hedge Fund activism (refer to V.11) to determine if statistical significance is maintained. Table V.13 reports the results of Hedge Fund Activist interventions and Non-Hedge Fund Activists with respect to the change in short interest ratio between t-6 through t-1. The Event Date (t_0) is either the the filing date of the 13D or the announcement of a campaign for activist interventions. Model I (no fixed effects) and Model II (with fixed effects) report a positive coefficient with respect to an increasing change in the short interest ratio prior to the Hedge Fund announcing its campaign. However, the coefficients are not statistically significant. Both Model's III and IV, report the change in monthly short interest ratio position of Target Firms of Non-hedge Fund activist interventions. Both coefficients of each model are negative and statistically insignificant.

Although my hypothesis was predicated on a change (an increase) in the short interest position of Target Firms, I investigated the absolute magnitude of Target Firms short interest position. Table V.15 reports the log(odds) of the monthly short interest ratio position (not the marginal change) of Target Firms six months ex ante and ex post a Non-Hedge Fund Activist intervention. This implies an increase in the probability of hedge fund activism as the Target Firms short interest position meaningfully increases relative to its peers. At the time of the announcement of the event (Model VII), the log(odds) short interest ratio increases

to 1.131 which suggests a 76% probability of hedge fund activism will occur or 3.1 times more likely. There is a sharp decline in a Target Firms short interest position following the announcement of a Hedge Fund Activist campaign. As a robustness check, I perform a probit regression (Table: B.1), which reports similar results as the logistic regression.

Table V.15 reports the log(odds) of the monthly short interest ratio position (not the marginal change) of Target Firms six months ex ante and ex post a Non-Hedge Fund Activist intervention. Although Models I through VII generate positive coefficients; they are not statistically significant. This suggests that the short position of Non-Hedge Fund activism is not statistically meaningful vis-à-vis Hedge Fund activism. Similar to the results of Hedge Fund activism, Non-hedge Fund related activism yields comparable negative results ex post the announcement. The probit regression model (Table: B.2) generated similar results as the logistic regression.

V.B.3 Conclusion

In summary, notwithstanding the statistically significant evidence to support an increase in the absolute magnitude of the Target Firms short interest position, there is no statistically significant support with respect to the marginal "change" of the Target Firm's short interest position ex ante a Hedge Fund intervention. Therefore, based on the empirical testing, I "fail" to reject the null hypothesis and I cannot conclude *There is a significant positive correlation between Hedge Fund activism and an increase in the short-interest position experienced by Target Firms ex ante an activist intervention.*

V.C Inside Ownership: The Cost of Agency (H2)

This section empirically tests Hypothesis 2 discussed in Chapter III. The hypothesis is as follows: *There is a significant positive correlation between Hedge Fund activism and nominal “corporate inside” ownership.*

V.C.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 directors⁷. I exclude 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. I combine FactSet/LionShares database with my hand-collected hedge fund activist database using GVKEY and CUSIP firm identifiers to merge the datasets.

V.C.2 Empirical Results

I conduct several empirical tests to determine statistical significance with respect to Hedge Fund activism and “corporate inside” ownership. First, I perform a logistic and probit regressions with respect to the quarterly inside ownership

⁷Corporate 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.

position of Target Firms three months (one fiscal quarter) ex ante a Hedge Fund activist intervention. 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. Table V.16 reports the log(odds) of the quarterly “corporate inside” ownership of Target Firms one fiscal quarter ex ante an activist intervention. Models I and II demonstrate a negative (lower “corporate inside” ownership position) and statistically significant with respect to Hedge Fund activist interventions.

Next, I examine the “corporate inside” ownership of Non-hedge Fund activist interventions. Models III and IV report a statistically significant and negative or a lower inside ownership position with respect to Non-hedge Fund activist interventions. As a robustness check, I further test the “corporate inside” ownership using a multivariate probit regression model that includes other variables that explain Hedge Fund activism (refer to V.11) to determine if statistical significance is maintained.

Table V.17 reports the results of Hedge Fund Activist interventions and Non-Hedge Fund Activists with respect to “corporate inside” ownership $_{(t-3 \text{ months})}$. The Event Date (t_0) is either the the filing date of the 13D or the announcement of a campaign for activist interventions. Model I (no fixed effects) and Model II (with fixed effects) report a negative and statistically significant coefficient with respect to the “corporate inside” ownership $_{(t-3 \text{ months})}$ prior to a Hedge Fund announcing its campaign. However, the coefficients are not statistically significant in both Model III and IV, which report the “corporate inside” ownership $_{(t-3 \text{ months})}$ of Target Firms of Non-hedge Fund activist interventions.

V.C.3 Conclusion

The results of the empirical testing show a statistically meaningful correlation between Hedge Fund activism and nominal “corporate inside” ownership.

After further stressing my hypothesis by using a multivariate probit regression model to include meaningful activist characteristics and contrast those results to Non-hedge Fund activist interventions, I report a statistically significant difference. Therefore, I reject the null hypothesis to conclude *There is a significant positive correlation between hedge fund activism and nominal “corporate inside” ownership.*

V.D Activist Hedge Fund Intervention: Board Representation (H3)

This section empirically tests Hypothesis 3 discussed in Chapter III. 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.*

V.D.1 Data

Similar to the previous section, 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 directors⁷. I exclude 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,

⁷Corporate 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.

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.

V.D.2 Empirical Results

Similar to Hypotheses 1 and 2, 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 V 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 V.18). 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 V.11) to determine if

statistical significance is maintained. Table V.19 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.

V.D.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 post 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 post the Board Seat Grant Date.*

V.E Short-term Active Hedge Fund Monitoring (H4)

This section concerns Hypothesis 4, 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.*

V.E.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 IV.C, 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 IV.C.1.i) 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:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \epsilon_{jt} \quad (\text{V.2})$$

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:

$$A_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \hat{u}_j UMD_t) \quad (\text{V.3})$$

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.

V.E.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 E.1, E.2 and E.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 V.20, V.21 and V.22, 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 IV.C.1.i), 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	Model II	Model III
	Treatment Group	Control Group I	Control Group II
CAR _(-2,+2)	1.25%***	-1.26%***	0.32%
Observations	538	114	107

As noted earlier, Tables V.20, V.21 and V.22 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. In 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.

V.E.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.

V.F Long-term Performance of Hedge Fund Monitoring (H5/H6)

This section empirically tests Hypotheses 5 and 6 discussed in Chapter III. For reference, the hypotheses with respect to long-term performance of Hedge Fund monitoring is as follows:

Hypothesis 5: *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 6: *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.*

V.F.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:

$$BHAR_i(t, T) = \prod_{t=1toT} (1 + R_{i,t}) - \prod_{t=1toT} (1 + R_{B,t}) \quad (V.4)$$

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:

$$t_{BHAR} = \frac{\overline{BHAR}_{it}}{(\sigma(BHAR_{it})/\sqrt{n})} \quad (V.5)$$

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 F for more details regarding *TSR*.

V.F.2 Empirical Results

Following my classification methodology outlined in Section V on page 78, I construct six BHAR portfolios of stocks from 1994-2014. Figure V.8 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 V.9 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 V.10 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.

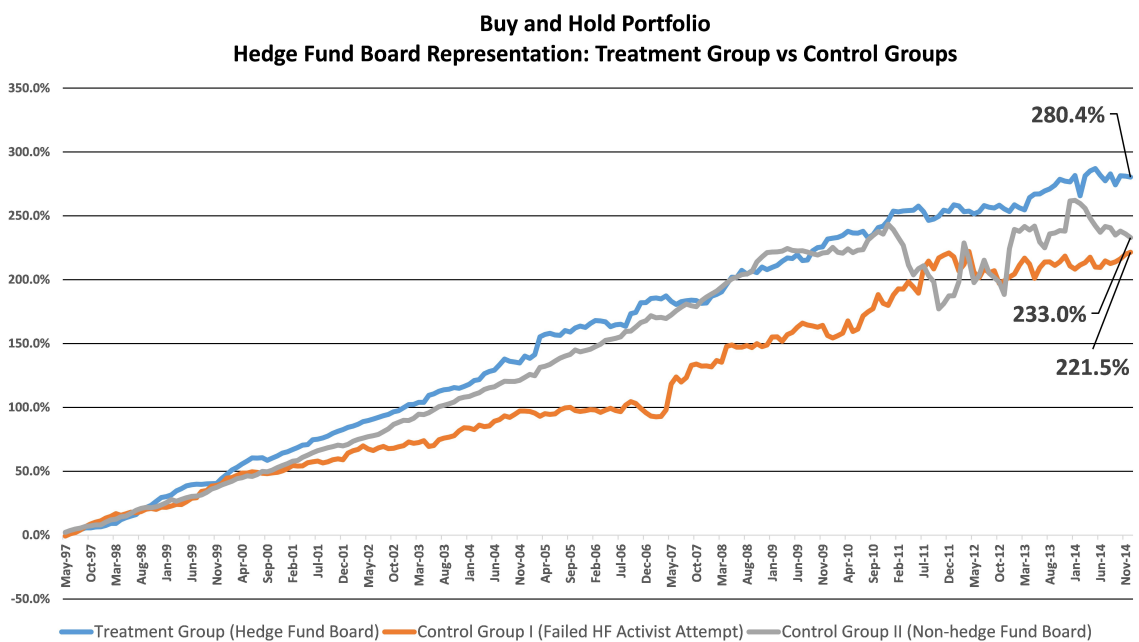
Next, I examine the *Treatment Group* and compare the results to both *Control Groups* as well as a portfolio of Matched Firms for each grouping. Figure V.11 presents buy-and-hold portfolio returns of Target Firms of the *Treatment Group* relative to a portfolio of Matched Firms during the same time 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 V.12 and Figure V.13 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 V.3 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 5.

Figure V.3: 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

V.F.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.

V.F.4 Empirical Results

Following my classification methodology outlined in Section V, 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 F.

Tables F.1, F.2 and F.3, summarize the cumulative abnormal returns (*CARs*), the precision-weighted cumulative average abnormal returns (*PWCAAR*) (Equation IV.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 V.6), the difference in performance between Target Firms and Matched Firms is always positive and statistically significant. Examining Table F.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 V.23, V.24 and V.25, 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]
<i>Abnormal Return (Jensen's α)</i>					
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**
<i>Differences (t-test)</i>					
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***

V.F.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 (H5) 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*.

V.F.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:

$$r_{it} - r_f = \alpha_i + \beta_{i1}RMRF_t + \beta_{i2}SMB_t + \beta_{i3}HML_t + E_{it} \quad (V.6)$$

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).

V.F.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 V.26. Panel A in Table V.26 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 (H5) 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*.

V.F.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 G), 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).

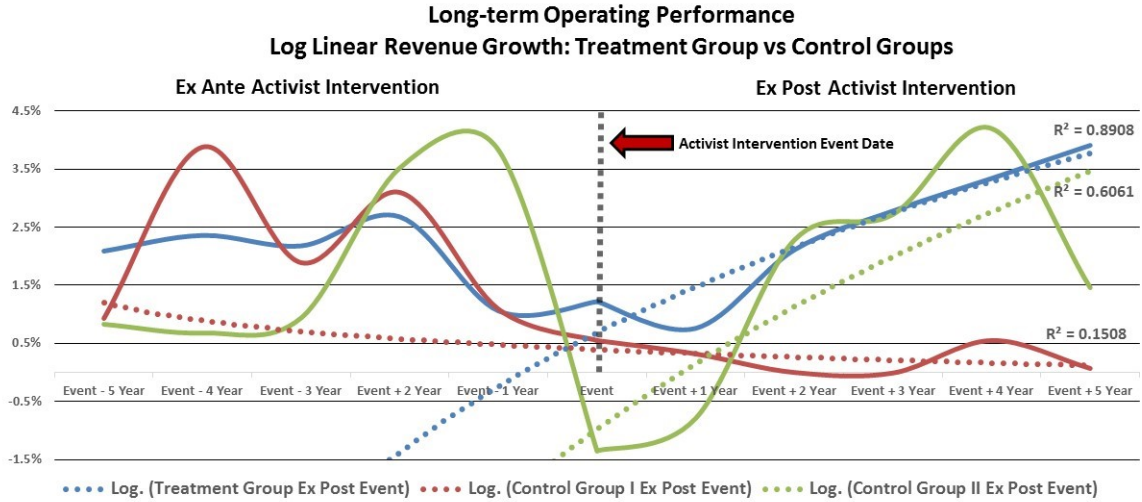
Following my classification methodology outlined in Section V, I examine the operating metrics five years ex ante and ex post the activist intervention. The Event Date (t_0) is either the the filing date of the 13D or the announcement of a campaign for All Activist, Hedge Fund and Non-Hedge Fund interventions. 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 G 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 V.27, V.28 and V.29.

Figure V.4 illustrates the log linear revenue growth of the *Treatment Group* and both *Control Groups*. Tables V.27, V.28 and V.29 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 G.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 V.4: 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:

$$Tobin's\ Q = \frac{Market\ value\ of\ assets}{Replacement\ cost\ of\ assets} \quad (V.7)$$

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 V.5 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 V.5: Long-term Operating Performance: Tobin's Q

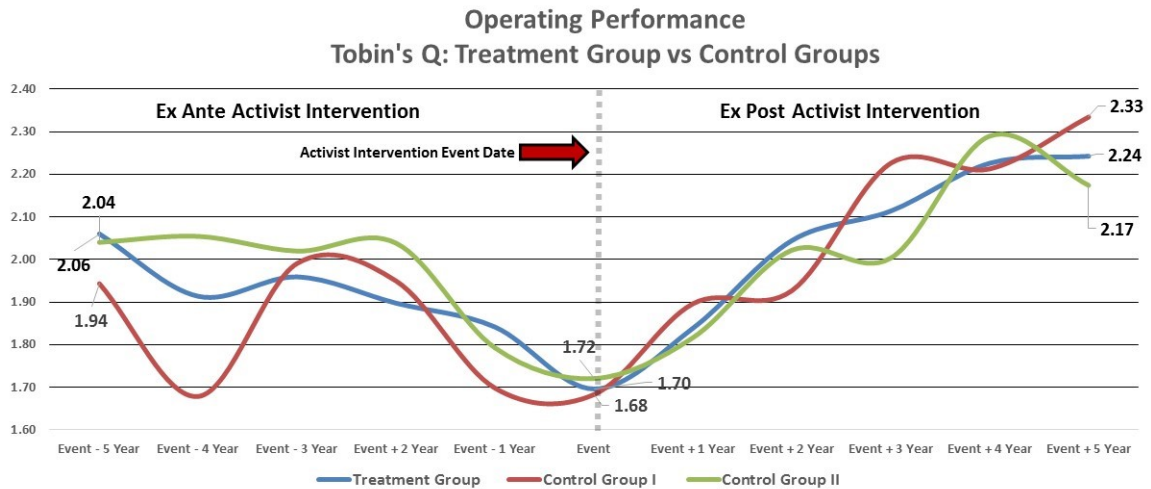


Table G.38 reports the results of the *Treatment Group* Target Firms' Q Ratio vis-à-vis to Match Firms and an industry composite. The Target Firms report a negative and statistically significant difference between means of Match Firms and industry peers prior to an activist intervention. The *Treatment 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:

$$\text{Return on Assets} = \frac{(EBIT * (1 - \text{tax rate}))}{((\text{Total Assets}(t) + \text{Total Assets}(t-1)) / 2)} \quad (\text{V.8})$$

Figure V.6 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 V.6: Long-term Operating Performance: ROA

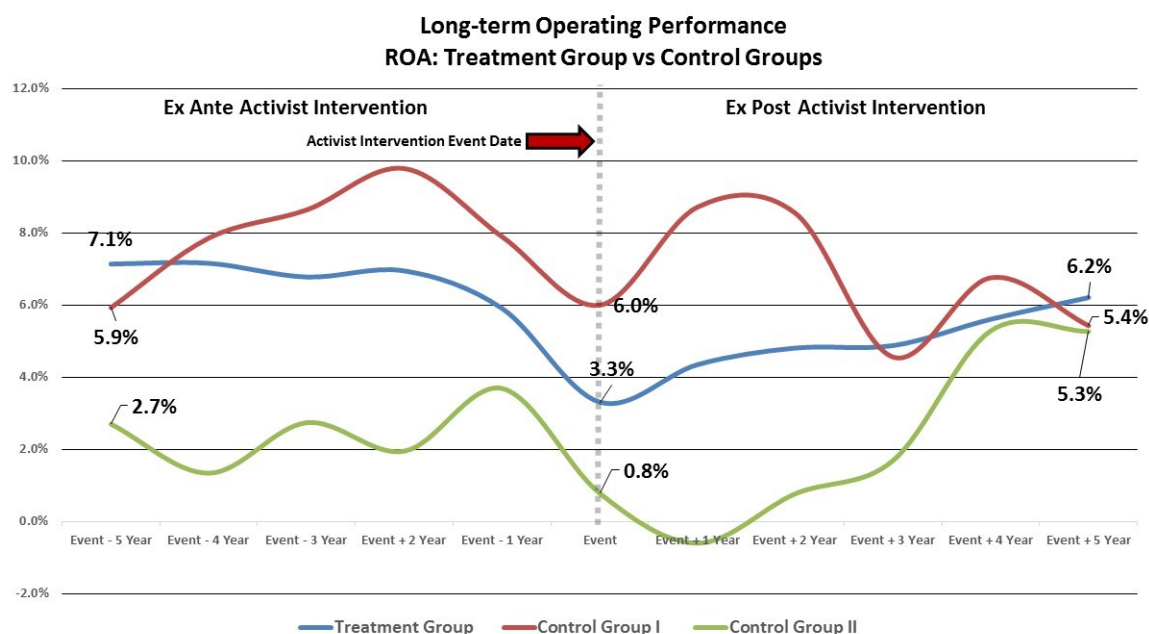


Table G.38 reports the results of ROA for the *Treatment Group* Target Firms vis-à-vis to Match Firms and an industry composite. The Target Firms report a negative and statistically significant difference between means of Match Firms and industry peers prior to an activist intervention. Year 5 ex post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

$$ROIC = \frac{(EBIT * (1 - tax\ rate))}{((Debt + Pref. + Common)(t)) + ((Debt + Pref. + Common)(t-1)) / 2} \quad (V.9)$$

Tables V.27, V.28 and V.29 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 G.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:

$$Operating\ Margin = \frac{EBITDA}{Sales} \quad (V.10)$$

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 V.7 illustrates the median operating margin of the *Treatment Group* and both *Control Groups*. Tables V.27, V.28 and V.29 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 V.7: Long-term Operating Performance: Median Operating Margin

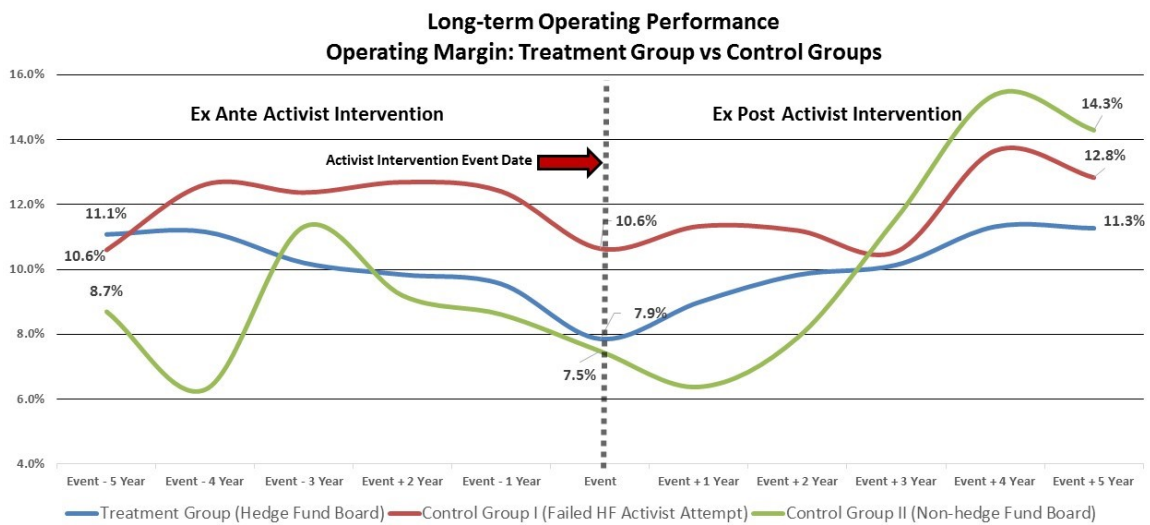


Table G.37 reports the results of operating margin for the *Treatment Group* Target Firms relative to Match Firms and industry peers. The Target Firms report a positive and statistically significant difference between the means of its industry peers five years ex post the board seat grant date, which support Hypothesis 6.

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:

$$CAPEX\text{-to-Assets} = \frac{\text{Total Capital Expenditures}}{\text{Total Assets}} \quad (\text{V.11})$$

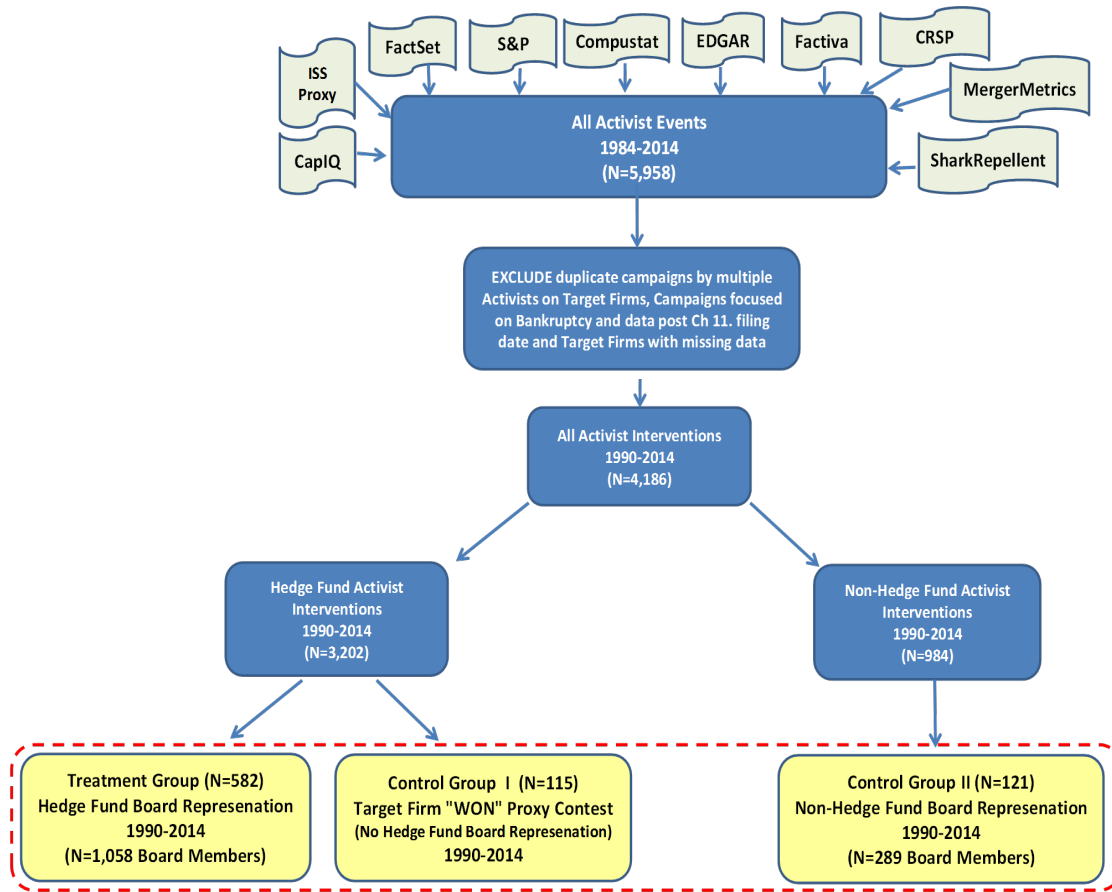
Tables V.27, V.28 and V.29 report the capital investment policy (CAPEX/Assets) of the Target Firms for the *Treatment Group* and for both the *Control Groups*. All groups experience a decline of fixed asset investment leading into the Event. During the treatment period, Target Firms that granted at least 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 G.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.

V.F.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* than *Control Group I*.

Figure V.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 IV, 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 V.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 V.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 Interventions	Activist Interventions	Hedge Fund Interventions	Non-Hedge Activist Interventions	Fund Representation	Hedge Fund Board Representation	Non-Hedge Board Representation	Fund Wins ^a 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	582	121	115		
Dissident Board Seats Won	1,347	43%	53%	18%	100%	0%		
Intervention Resulted in Board Seats for Activist	703	17%	18%	12%	100%	0%		
Target Firm Characteristics								
Classified Board	1,917	46%	48%	39%	44%	60		
Cumulative Voting	185	4%	4%	5%	7%	11		
Poison Pill In Force ($t-2$)	719	17%	18%	16%	21%	14		
Poison Pill In Force During Activist Campaign	1,229	29%	30%	28%	34%	34		
Shareholder Activist Tactics								
13D Filer	3,140	75%	85%	43%	89%	112		
13D Filing (Detailed Item 4)	2,332	56%	60%	43%	83%	112		
13D (No specific disclosure of campaign)	808	19%	25%	0%	6%	0		
Threaten Proxy Fight	243	6%	6%	5%	10%	0		
Proxy Fight	960	23%	20%	33%	48%	115		
Proxy Fight Went the Distance	362	9%	7%	15%	14%	115		
Publicly Disclosed Letter to Board/Management	1,692	40%	40%	42%	49%	130		
Letter to Stockholders	781	19%	12%	39%	22%	168		
Hostile Offer	133	3%	1%	10%	1%	13		
Unsolicited Offer	245	6%	3%	15%	3%	17		
Exempt Solicitation	257	6%	2%	18%	1%	0		
Call Special Meeting	64	2%	1%	3%	3%	0		
Lawsuit	214	5%	4%	8%	6%	21		
Nominate Slate of Directors	901	22%	19%	27%	51%	94		
Propose Binding Proposal	154	4%	2%	8%	6%	17		
Propose Precatory Proposal	475	11%	9%	18%	7%	28		
Remove Director(s)	21	1%	0%	1%	0%	0		
Remove Officer(s)	13	0%	0%	1%	0%	0		
Written Consent	54	1%	1%	3%	2%	2		
Take Action by Written Consent	57	1%	1%	3%	2%	4		
Tender Offer Launched	80	2%	1%	6%	1%	3		
Short Slate	270	6%	6%	8%	16%	43		
Board Control	271	6%	5%	11%	15%	21		
Vote For a Stockholder Proposal	373	9%	5%	21%	3%	5		
Vote Against a Management Proposal	372	9%	8%	11%	1%	16		

Table V.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

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 V.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

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 V.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 - 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; Hedge Fund 13D Filer 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 (Median)	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	5.9325	5.2711	0.0015	0.0467	-0.0905	-0.0297	-0.3346	-0.467***	0.3016			
Log Assets	6.4409	6.2056	0.0364	6.2934	6.1170	0.0365	6.2251	6.1898	0.0169	6.1805	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	1.5005	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	-0.3018	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	0.0068			
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***	0.3884	0.6880	-0.1947	-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	0.1367**	0.0671	0.1180	0.0047	-0.0207	-0.0050			
EV / EBITDA ($t-3$)	7.0118	7.1062	0.4360	7.3856	7.3879	0.4639	5.5863	7.1308	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	6.902***	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	1.2908	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	-0.0550***	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	0.0838***	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***	0.0000	0.0918	-0.0895***	0.0000	0.0000			
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 V.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)	Diff (Mean)	Diff (Median)	
Log Market Capitalization	5.701	5.509	0.0225	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	1.583217	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	0.06923	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	0.067	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	-0.1599	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	6.562	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	49.3087	52.6713	0.3014	43.149	40.665	0.0334	7.3650***	11.0865	8.4876	10.0052	-1.6487***	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**	0.0002	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	0.1147895	0.0000	0.0056	0.1158	0.1132	0.0014	0.086	0.000	0.0002	0.0701***	0.0000	0.0690	-0.1132	-0.0888***	0.0000			
Hedge Fund 13D Filer	0.387	0.000	0.0086	0.0253998	0.0000	0.0028	0.0239	0.0238	0.0004	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	0.0019***	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 V.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; 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 (Median)	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	5.9390	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				
Tobin's Q	1.9329	1.3488	0.0662	2.0985	1.3889	0.0762	2.5140	1.3381	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	0.0038	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	-0.0022	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	0.0025	1.5809	0.0500	0.0857	1.5968	0.9822	0.0532	1.7953	0.0000	0.0029	-0.1385	-0.0500	-0.0888	-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	0.0006	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	0.2609	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	0.8012	6.4757	7.2488	0.3897	6.5581	6.9895	0.0219	-0.2653	0.1107	0.3173	-0.1586	-0.2399	0.1007				
Institutional Ownership	57.3729	61.4550	1.0973	50.7984	51.9140	1.2218	50.7492	59.6027	0.4921	43.1722	40.7022	0.0334	5.7076***	9.5210	6.6237	8.7723	-14.2006***	20.7828				
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	0.0000	0.0032	-0.0232	-0.0102	0.0000				
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 Segments	0.1923	0.0000	0.0126	0.1855	0.0000	0.0124	0.1349	0.0034	0.0189	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	0.0750***	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	0.4315	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 V.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; Hedge Fund 13D Filer 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 (Median)	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	0.0892	5.8813	5.9328	0.0294	5.9395	5.2717	0.0015	-0.2324**	-0.2416	-0.4710	-0.2463***	-0.4710	-0.2463***	-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	-0.3426***	0.0211	-0.3426***	0.0211	-0.3426***	0.2653
Tobin's 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	-0.5901***	-0.3596	-0.8028	-0.8019	-0.5901***	-0.8019	-0.5901***	-0.8019	-0.1704
ROA	0.0264	0.0607	0.0084	0.0618	0.1038	0.0105	0.0506	0.0714	0.0046	0.0461	0.0917	0.0002	-0.0355***	-0.0431	-0.0242	-0.0242	-0.0355***	-0.0431	-0.0242	-0.0355***	-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	-0.2193***	-0.0679	-0.1623	-0.2193***	-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	-0.0457***	-0.0264	-0.0533	-0.0457***	-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	-0.0245	-0.0164	-0.1013	-0.0362	-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	-0.0013	0.0000	-0.0017	-0.0111	0.0000
Dividend Yield	0.9452	0.0000	0.0076	1.1066	0.0000	0.1885	1.2963	0.7655	0.0614	1.7955	0.0000	0.0029	-0.1615	0.0000	-0.3511	-0.7655	-0.1615	0.0000	-0.3511	-0.7655	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	0.0098	-0.1379	0.0098	-0.0883
FCF / Assets	0.0083	0.0471	0.0085	0.0469	0.0912	0.0105	0.0324	0.0513	0.0045	0.0333	0.0892	0.0002	-0.0386***	-0.0441	-0.0241	-0.0042	-0.0250**	-0.0441	-0.0241	-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	0.0002	-0.0039	0.0012	-0.0039	-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	0.0408	0.0356	-0.1391	0.0408	0.0356	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	0.5555	-0.1548	0.4973	0.5555	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	0.1714	0.0376	0.1511	0.0376	-0.0255
EV / EBITDA (t-3)	5.4046	6.9316	1.1542	8.2180	7.4098	1.1884	6.2492	7.0276	0.5619	6.5587	6.9897	0.0219	-2.8135*	-0.4782	-0.8446	-0.9660	-0.4782	-0.8446	-0.9660	-0.4782	-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	7.2960***	7.9224	10.3698	14.5874	7.9224	10.3698	14.5874	7.9224	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	-0.7988	-3.9879	-7.1761	-0.7988	0.3451
Operating Margin	-0.1632	0.0784	0.0822	-0.4502	0.1126	0.1389	-1.3156	0.0481	0.1433	-0.2525	0.1286	0.0020	0.2870*	-0.0342	1.1524	0.0303	-0.0342	1.1524	0.0303	-0.0342	-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	0.0074	0.0146	-0.0084	0.0074	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	0.3076	-0.1245	0.3076	-0.1245	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	0.1064	-0.1253	0.1064	-0.1253	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	0.3779	-0.0281	0.3779	-0.0281	0.0000
Multiple Segments	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	0.0263	-0.1371	0.0263	-0.1371	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	0.0915	-0.3261	0.0915	-0.3261	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***	0.0000	0.1531	0.5747	0.1531	0.5747	0.1531	0.5747	0.0000
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	0.0089	-0.0001	0.0089	-0.0001	0.0004

Table V.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; Hedge Fund 13D Filer is a dummy variable if the firm had a staggered board prior to the event; Multiple Segments 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 (Median)	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	-0.9854	-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**	-0.4831			
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	-0.0222	0.0535	-0.0330	0.0590	0.0837	-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	-0.3013	0.0952	0.0026	1.1835**	-0.0422	1.9643	-0.0152	-0.2025	-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	0.0385	-0.0177	-0.0216	-0.0227	0.0358	-0.0655			
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	0.8052	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	0.3098	0.2483	0.0941	0.4700	0.1418	0.0016	0.0386	0.0169	-0.0635	-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	33.4659	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	0.0044	-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	0.0452	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 ($t-1$)	0.5696	1.0000	0.0616	0.4474	0.0000	0.0574	0.4408	0.4501	0.0103	0.4247	0.0000	0.0005	0.1132	0.0000	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	0.0073	-0.0005	0.0409**	-0.0034				

Table V.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 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 in 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 (Median)	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)	Diff (Mean)	Diff (Median)
Log Market Capitalization	5.7078	5.4968	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**	0.0309	-0.0943	-0.3143**	0.1650
Log Assets	6.5427	6.4246	0.1608	6.5224	6.4719	0.1643	6.1821	6.2107	0.0849	5.8119	5.7354	0.0018	0.0203	-0.0473	0.3006	0.2139	-0.7308***	0.3006	0.2139	-0.7308***	0.6802
Tobin's Q	1.7653	1.3106	0.1231	2.0715	1.3216	0.2024	2.4607	1.6636	0.1357	2.3959	1.4500	0.0021	-0.3062	-0.0110	-0.6954	-0.3530	0.5406***	-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	0.0194	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	-0.0174	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	-0.0012	-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**	-0.1194	-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***	-0.0012	-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***	0.1827	-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	-0.3013	0.0952	0.0026	0.2095	-0.0302	1.1602	0.0155	-0.3477	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	-0.0138	0.0196	0.0312	0.0008	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	0.0006	0.0001	-0.0015	-0.0004	0.0019	-0.0047	0.0054	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	-0.2991	-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	0.4820	1.1875	0.2420	-1.2868**	1.1875	0.2420	-1.2868**	0.7061
Leverage (net)	0.9034	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***	0.3423	-0.0366	-0.5235***	0.2601
EV / EBITDA (t-1)	7.5737	7.6284	1.6331	7.0819	7.1697	1.4064	4.1344	6.7783	1.0243	6.5581	6.9895	0.0219	0.4918	0.4857	3.4393	0.8501	-1.0206	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*	13.4809	11.7314	8.0250	-10.8682***	13.4809	11.7314	-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*	-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	0.9871	0.0267	-0.2310	-0.0696
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	-0.0049	-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***	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***	0.0610	-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***	0.2004	-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	0.0329	-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***	0.0551	-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	0.0002	0.0702	0.0000	0.0611	-0.4205	-0.0577	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	0.0063	0.1095	0.0524	0.0005	0.0000	0.0000	0.0595	-0.0005	-0.0577***	0.0595	-0.0005	-0.0577***	-0.0011

Table V.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 if 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 V.12: H1: Change in Short Interest Position of Target Firms Ex Ante Activist Intervention (Hedge Fund Activism versus Non-Hedge Fund Activism)

This table reports the change in Short Interest Position of Target Firms of hedge fund and non-hedge fund activist interventions between t-6 and t-1 the event. The Short Interest Ratio is defined as (Shares Sold Short / Total Shares Outstanding). 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	Model II	Model III	Model IV
	Hedge Fund	Hedge Fund	Non-Hedge Fund	Non-Hedge Fund
Δ Short Interest Ratio <small>(t-6 through t-1)</small>	1.168***	0.4074	-0.4719	-0.5704
Constant	5.981***	5.820***	7.125***	5.797***
Industry Fixed Effects	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes
Observations	1,129,351	1,043,596	1,129,351	832,217
Pseudo R^2	0.0%	5.7%	0.0%	5.1%

Table V.13: H1: Change in Short Interest Ratio Relative to Other Vulnerability Variables: Probit Regression

This table reports the change in Short Interest Position of Target Firms of hedge fund and non-hedge fund activist interventions between t-6 and t-1 the event. The Short Interest Ratio is defined as (Shares Sold Short / Total Shares Outstanding). 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. Revenue Growth is defined as the LTM rolling sales; 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); ROIC is (EBIT * (1-tax rate) / Book Value of Invested Capital (Net Fixed Assets + Current Assets - Current Liabilities - Cash)); 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; Operating Margin is (EBITDA/sales); 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; 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.

	Model I	Model II	Model III	Model IV
	Hedge Fund	Hedge Fund	Non-Hedge Fund	Non-Hedge Fund
Δ Short Interest Ratio _(t-6 through t-1)	0.876	0.659	-0.980	-1.613
Revenue Growth	0.016	0.001	-0.236*	-0.238*
Log Market Capitalization	-0.221***	-0.270***	-0.249***	-0.298***
Log Assets	0.181***	0.224***	0.305***	0.354***
Tobin's Q	-0.035**	-0.035**	0.023	0.025
ROA	0.600	0.924	-0.284	-0.023
ROIC	-2.643***	-2.926***	-1.249	-1.232
Total Shareholder Return _(t-12)	0.021	0.0128	-0.141	-0.195**
Cash / Market Cap	-0.261***	-0.337***	-0.448***	-0.550***
Debt / EBITDA	0.009*	0.010*	-0.005	-0.006
Institutional Ownership	0.006***	0.006***	-0.0004	-0.0005
Herfindahl-Hirschman Index	1.370*	2.717	0.341	10.240**
Multiple Segments	0.149**	0.175***	-0.173*	-0.183*
Classified Board	0.604***	0.639***	0.440***	0.504***
Poison Pill	0.148**	0.213***	0.0485	0.0735
Constant	-0.361***	-0.412*	-0.460***	-1.039***
Industry Fixed Effects	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes
Observations	2,690	2,684	961	959
Pseudo R^2	8.5%	10.1%	6.0%	8.3%

Table V.14: H1: Hedge Fund Activism: Short Interest Position of Target Firms Ex Ante Activist Intervention (Logistic Regression Model)

This table reports the monthly Short Interest Position of Target Firms six months ex ante and ex post a hedge fund activist intervention. The Short Interest Ratio is defined as (Shares Sold Short / Total Shares Outstanding). 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	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII	Model IX	Model X	Model XI	Model XII	Model XIII
Short Interest Ratio ($t-6$)	0.906*** (2.93)												
Short Interest Ratio ($t-5$)		0.859*** (2.77)											
Short Interest Ratio ($t-4$)			0.834*** (2.68)										
Short Interest Ratio ($t-3$)				0.981*** (3.21)									
Short Interest Ratio ($t-2$)					1.045*** (3.44)								
Short Interest Ratio ($t-1$)						1.003*** (3.28)							
Short Interest Ratio (t)							1.131*** (3.72)						
Short Interest Ratio ($t+1$)								0.765** (2.43)					
Short Interest Ratio ($t+2$)									0.395 (1.22)				
Short Interest Ratio ($t+3$)										0.120 (0.36)			
Short Interest Ratio ($t+4$)											-0.153 (-0.45)		
Short Interest Ratio ($t+5$)												-0.0770 (-0.23)	
Short Interest Ratio ($t+6$)													-0.362 (-1.05)
Constant	-5.855*** (-10.09)	-5.856*** (-10.09)	-5.861*** (-10.10)	-5.867*** (-10.11)	-5.865*** (-10.10)	-5.872*** (-10.12)	-5.868*** (-10.11)	-5.852*** (-10.08)	-5.853*** (-10.08)	-5.834*** (-10.05)	-5.835*** (-10.05)	-5.843*** (-10.06)	-5.840*** (-10.06)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,068,101	1,068,935	1,069,684	1,070,535	1,071,376	1,072,286	1,072,926	1,071,848	1,070,914	1,070,030	1,069,202	1,068,392	1,067,567
Pseudo R^2	0.049	0.050	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049

Table V.15: H1: Non-Hedge Fund Activism: Short Interest Position of Target Firms Ex Ante Activist Intervention (Logistic Regression Model)

This table reports the Monthly Short Interest Position of Target Firms ex ante a hedge fund activist intervention. The Short Interest Ratio is defined as (Shares Sold Short / Total Shares Outstanding). 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	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII	Model IX	Model X	Model XI	Model XII	Model XIII
Short Interest Ratio ($t+6$)	0.316 (0.56)												
Short Interest Ratio ($t+5$)		0.331 (0.58)											
Short Interest Ratio ($t+4$)			0.0429 (0.07)										
Short Interest Ratio ($t+3$)				-0.0635 (-0.11)									
Short Interest Ratio ($t+2$)					0.0989 (0.17)								
Short Interest Ratio ($t+1$)						0.137 (0.24)							
Short Interest Ratio (t)							0.0168 (0.03)						
Short Interest Ratio ($t+1$)								-0.0974 (-0.16)					
Short Interest Ratio ($t+2$)									-0.626 (-1.01)				
Short Interest Ratio ($t+3$)										-0.647 (-1.04)			
Short Interest Ratio ($t+4$)											-1.053 (-1.63)		
Short Interest Ratio ($t+5$)												-0.550 (-0.89)	
Short Interest Ratio ($t+6$)													-0.782 (-1.24)
Constant	-5.821*** (-9.94)	-5.823*** (-9.94)	-5.813*** (-9.93)	-5.810*** (-9.92)	-5.816*** (-9.93)	-5.817*** (-9.93)	-5.813*** (-9.93)	-5.802*** (-9.91)	-5.790*** (-9.89)	-5.797*** (-9.90)	-5.791*** (-9.89)	-5.806*** (-9.91)	-5.800*** (-9.90)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	896323	896986	897571	898205	898865	899582	899748	898772	897909	897098	896344	895621	890187
Pseudo R^2	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.038	0.038	0.038	0.037	0.038	0.038

Table V.16: H2: Hedge Fund Activism: Corporate "Inside" Ownership (Logistic Regression Model)

This table reports the Quarterly Corporate Ownership of Target Firms one month ex ante for both Hedge Fund and Non-hedge Fund activist interventions. 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	Model II	Model III	Model IV
	Hedge Fund	Hedge Fund	Non-Hedge Fund	Non-Hedge Fund
Corporate "Insider" Ownership $(t-1)$	-0.0095***	-0.0103***	-0.0078***	-0.0075**
Constant	-0.0601***	0.0476	0.0541	0.1768
Industry Fixed Effects	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes
Observations	3,043	2,763	1,059	1,041
Pseudo R^2	1.0%	1.4%	1.0%	2.6%

Table V.17: H2: Quarterly Corporate Ownership of Hedge Fund Activist Interventions: Robustness Check

This table reports the Quarterly Corporate Ownership of Target Firms one month ex ante for both Hedge Fund and Non-hedge Fund activist interventions. The ownership data is from the FactSet/LionShares database, which provides portfolio holdings of both institutional and individual investors. 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. Management/Board Ownership is defined as management team and board ownership (excludes Section 16 institutional filers); 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); 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; 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; Operating Margin is (EBITDA/sales); Classified Board is a dummy variable if the firm had a staggered board prior to the event; is a dummy variable if the firm had a 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; 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.

	Model I	Model II	Model III	Model IV
	Hedge Fund	Hedge Fund	Non-Hedge Fund	Non-Hedge Fund
Corporate "Insider" Ownership (t-1)	-0.006**	-0.006**	-0.005	-0.006
Revenue Growth	-0.0152	-0.0221	-0.456***	-0.472***
Log Market Capitalization	-0.256***	-0.287***	-0.321***	-0.333***
Log Assets	0.239***	0.271***	0.406***	0.424***
Tobin's Q	-0.0182	-0.0209	0.0507	0.0367
ROA	0 -0.207	-0.002	-0.865	-0.408
ROIC	-2.092**	-2.292**	-0.113	-0.056
Total Shareholder Return _(t-12)	-0.024	-0.031	-0.100	-0.095
Cash / Market Cap	-0.133	-0.184*	-0.170	-0.217
Debt / EBITDA	0.012*	0.011*	-0.008	-0.008
Institutional Ownership	0.005***	0.004***	-0.005**	-0.006**
Herfindahl-Hirschman Index	1.812**	6.182*	0.145	9.151*
Multiple Segments	0.154**	0.162**	-0.209*	-0.141
Classified Board	0.595***	0.654***	0.452***	0.541***
Poison Pill	0.178**	0.254***	-0.135	-0.156
Constant	-0.538***	-0.661**	-0.348	-0.878**
Industry Fixed Effects	No	Yes	No	Yes
Year Fixed Effects	No	Yes	No	Yes
Observations	1,927	1,927	733	733
Pseudo R ²	9.3%	11.0%	7.7%	10.7%

Table V.18: H3: 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 (<i>t-1</i>)	-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 V.19: H3: 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	Model II	Model III	Model IV	Model V	Model VI
	Treatment Group	Treatment Group	Control Group I	Control Group I	Control Group II	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 V.20: H4: 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 IV.C.1.i) 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:

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

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
(- 1, 1)	538	1.04%	5.15	(- 1, 1)	538	0.38%	2.11
(- 2, 2)	538	1.25%	5.02	(- 2, 2)	538	0.54%	1.85
(- 3, 3)	538	1.18%	4.34	(- 3, 3)	538	0.68%	1.52
(- 5, 5)	538	1.23%	3.30	(- 5, 5)	538	0.43%	1.13
(- 10, 10)	539	1.38%	3.21	(- 10, 10)	539	1.01%	1.42
				Window	N	CAR	t-stat
				(- 1, 1)	538	0.38%	2.11
				(- 2, 2)	538	0.54%	1.85
				(- 3, 3)	538	0.68%	1.52
				(- 5, 5)	538	0.43%	1.13
				(- 10, 10)	539	1.01%	1.42
				Window	N	CAR	t-stat
				(- 1, 1)	538	0.38%	2.11
				(- 2, 2)	538	0.54%	1.85
				(- 3, 3)	538	0.63%	1.40
				(- 5, 5)	538	0.27%	0.48
				(- 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
(- 1, 1)	538	1.06%	5.13	(- 1, 1)	538	0.42%	2.15
(- 2, 2)	538	1.29%	5.00	(- 2, 2)	538	0.59%	1.87
(- 3, 3)	538	1.27%	4.42	(- 3, 3)	538	0.80%	1.65
(- 5, 5)	538	1.40%	3.47	(- 5, 5)	538	0.61%	1.24
(- 10, 10)	539	1.66%	3.45	(- 10, 10)	539	1.27%	1.52
				Window	N <td>CAR</td> <td>t-stat</td>	CAR	t-stat
				(- 1, 1)	538	0.42%	2.15
				(- 2, 2)	538	0.52%	1.36
				(- 3, 3)	538	0.71%	1.59
				(- 5, 5)	538	0.39%	0.69
				(- 10, 10)	539	0.94%	1.20

Table V.21: H4: 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 IV.C.1.i) 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 $\alpha_j, \beta_j, s_j, h_j$ 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			Value Weighted Index					
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			Value Weighted Index					
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 V.22: H4: 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 IV.C.1.i) 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 $\alpha_j, \beta_j, s_j, h_j$ 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															
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															
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 V.23: H5: 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)							
N	Equally-Weighted			Value-Weighted			
	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)							
N	Equally-Weighted			Value-Weighted			
	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)							
N	Equally-Weighted			Value-Weighted			
	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 V.24: H5: 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)							
	N	Equally-Weighted			Value-Weighted		
		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)							
	N	Equally-Weighted			Value-Weighted		
		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)							
	N	Equally-Weighted			Value-Weighted		
		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 V.25: H5: 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)							
N	Equally-Weighted			Value-Weighted			
	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)							
N	Equally-Weighted			Value-Weighted			
	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 Representations)							
N	Equally-Weighted			Value-Weighted			
	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 V.26: H5: 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. $\beta p, R_M - R_f$ is the loading on the market excess return. $\beta p, SMB$ and $\beta p, HML$ 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
$\beta p, R_M - R_f$	1.0233***	0.9866***	0.9889***	0.9506***	0.9039***	0.9863***	0.9665***	0.9665***	0.9986***	1.0023***
$\beta p, SMB$	0.6494***	0.6668***	0.5981***	0.6142***	0.7282***	0.5354***	0.5465***	0.5465***	0.4928***	0.4875***
$\beta p, HML$	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
$\beta p, R_M - R_f$	0.9773***	0.923***	1.0092***	0.9638***	0.7258***	1.2693***	1.2671***	1.1957***	1.2172***	1.1947***
$\beta p, SMB$	0.6837***	0.6648***	0.4459***	0.264***	0.382***	0.4754***	0.4465***	0.3843***	0.4019***	0.3893***
$\beta p, HML$	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
$\beta p, R_M - R_f$	0.9255***	0.9174***	0.9139***	0.9053***	1.1254***	0.6955***	0.6484***	0.7163***	0.7397***	0.7436***
$\beta p, SMB$	0.4955***	0.5664***	0.5169***	0.4659***	0.0999	0.3198*	0.434***	0.4003***	0.3959***	0.403***
$\beta p, HML$	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 V.27: H6: 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					Δ from Event -5 to Event +5			
	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 V.28: H6: 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					Δ from Event -5 to Event		Δ from Event +5 to 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	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 V.29: H6: 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					Δ from Event -5 to Event +5		
		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 V.8: Buy and Hold Portfolio Returns: All Activist Intervention

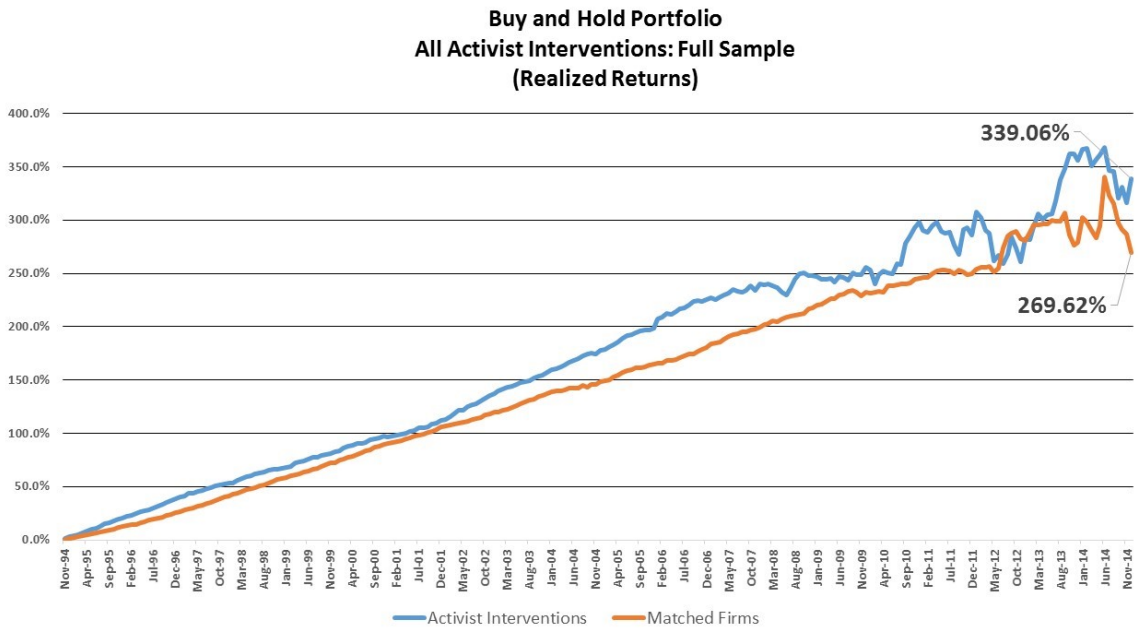


Figure V.9: Buy and Hold Portfolio Returns: Hedge Fund Activism

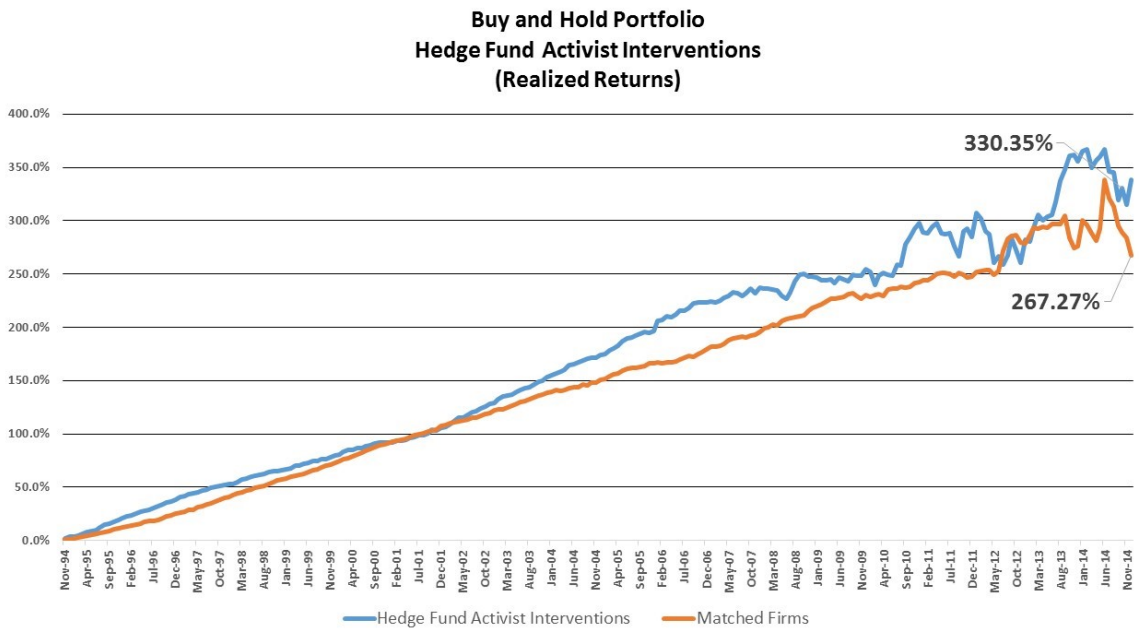


Figure V.10: Buy and Hold Portfolio Returns: Non-Hedge Fund Activism

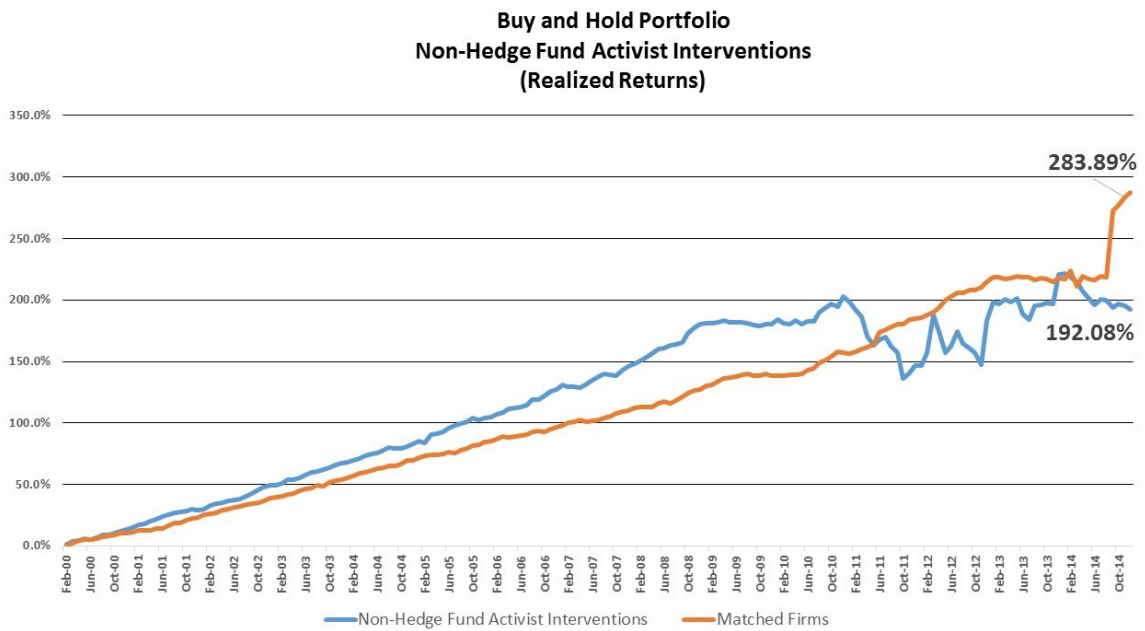


Figure V.11: Buy and Hold Portfolio Returns: Hedge Fund Board Representation (*Treatment Group*)

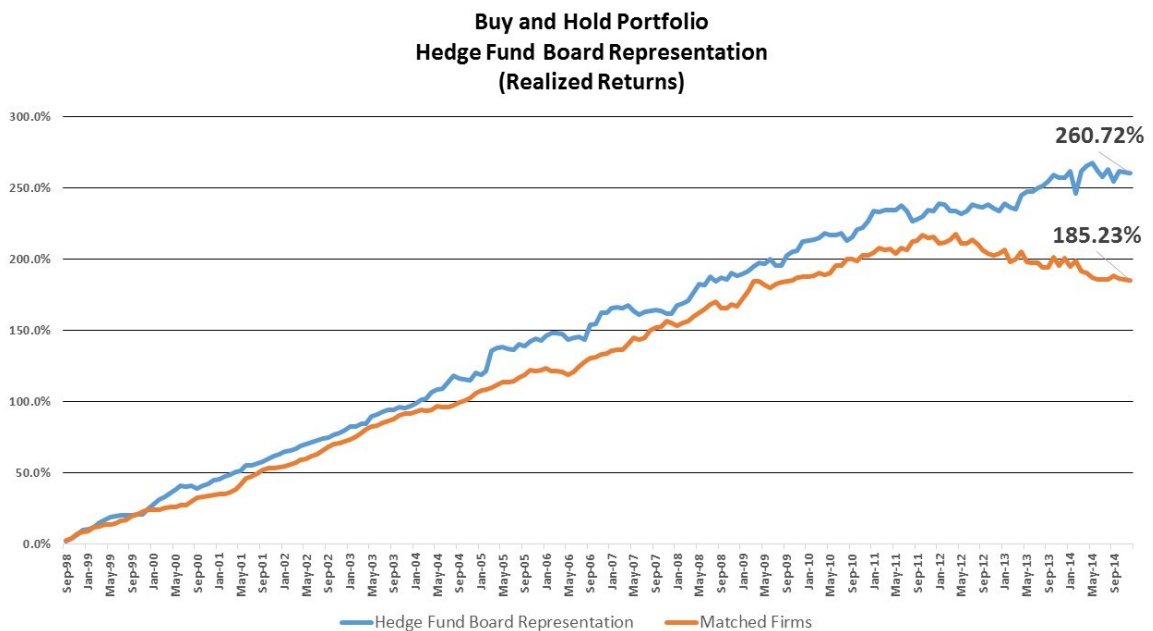


Figure V.12: Buy and Hold Portfolio Returns: Non-Hedge Fund Board Representation (*Control Group II*)

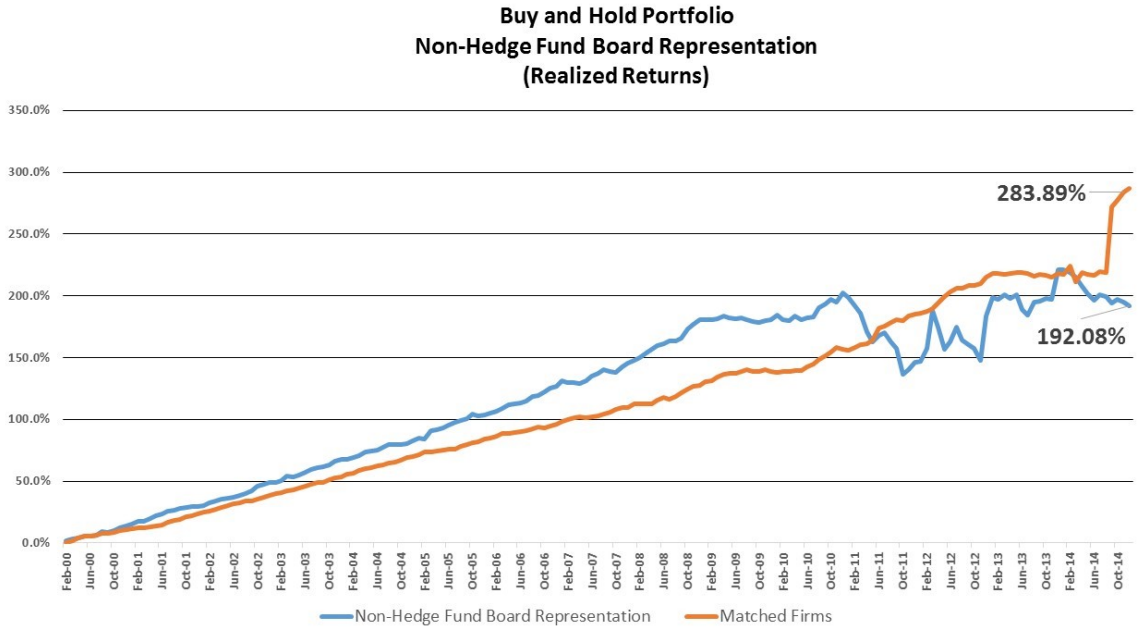
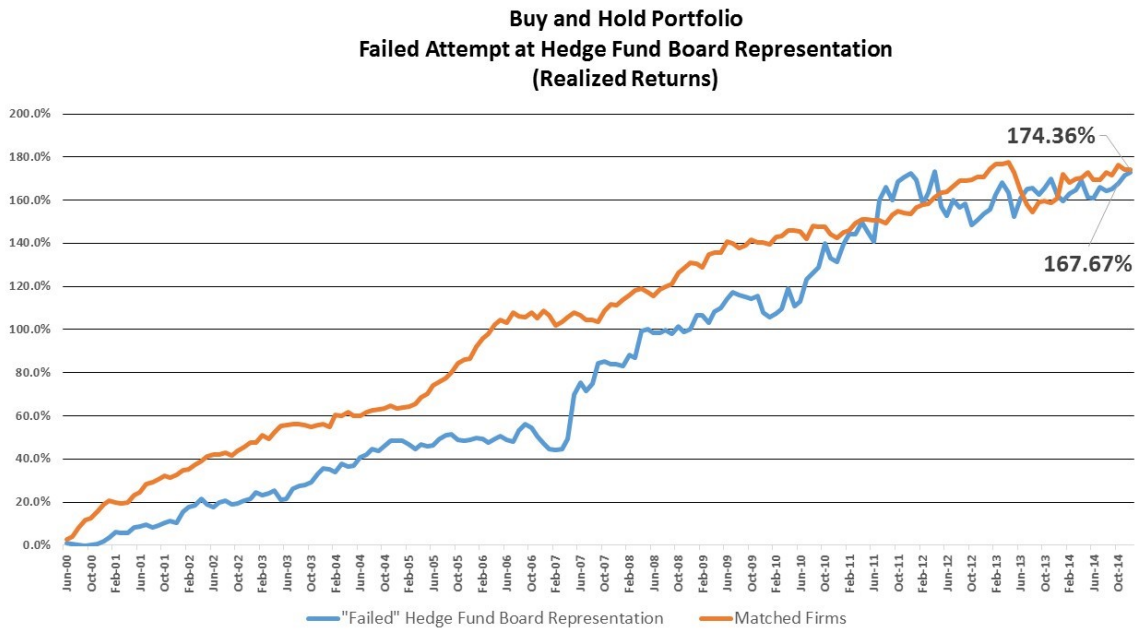


Figure V.13: Buy and Hold Portfolio Returns: Target Firm “Wins” Proxy Fight: No Hedge Fund Board Representation (*Control Group I*)



CHAPTER VI

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 VII

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CHAPTER VIII

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.
Brau, 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 & Walking (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, & Mushk (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 proposals	1987-1993	X		X			Positive market reactions to adoption and for firms that settle with CalPERS; negative for firms that do not.
Strickland, Wiles, & Ziemer (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 proposals	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
Brau, 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, Soery, & 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 & Walking (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 & Mosh (2011)	RFS	"Vote No" campaigns, proposals	1997-2007			X	X				Vote no campaigns are related to reduction of excessive CEO pay, entrenchment, and institutional proposals 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, increases 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.
Burles & 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: SHORT SELLING

Table B.1: H1: Hedge Fund Activism: Short Interest Position of Target Firms Ex Ante Activist Intervention (Probit Regression Model)

This table reports the Monthly Short Interest Position of Target Firms ex ante a hedge fund activist intervention. The Short Interest Ratio is defined as (Shares Sold Short / Total Shares Outstanding). 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	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII	Model IX	Model X	Model XI	Model XII	Model XIII
Short Interest Ratio (t-6)	0.312*** (2.92)												
Short Interest Ratio (t-5)		0.298*** (2.78)											
Short Interest Ratio (t-4)			0.287*** (2.67)										
Short Interest Ratio (t-3)				0.341*** (3.22)									
Short Interest Ratio (t-2)					0.363*** (3.44)								
Short Interest Ratio (t-1)						0.351*** (3.32)							
Short Interest Ratio (t)							0.394*** (3.74)						
Short Interest Ratio (t+1)								0.262** (2.42)					
Short Interest Ratio (t+2)									0.135 (1.23)				
Short Interest Ratio (t+3)										0.0372 (0.33)			
Short Interest Ratio (t+4)											-0.0541 (-0.47)		
Short Interest Ratio (t+5)												-0.0212 (-0.19)	
Short Interest Ratio (t+6)													-0.119 (-1.03)
Constant	-2.766*** (-14.93)	-2.767*** (-14.94)	-2.768*** (-14.95)	-2.771*** (-14.96)	-2.770*** (-14.96)	-2.772*** (-14.98)	-2.771*** (-14.97)	-2.765*** (-14.94)	-2.765*** (-14.94)	-2.759*** (-14.90)	-2.759*** (-14.90)	-2.762*** (-14.92)	-2.761*** (-14.91)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1068101	1068935	1069684	1070535	1071376	1072286	1072926	1071848	1070914	1070030	1069202	1068392	1067567
Pseudo R^2	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049	0.049

Table B.2: H1: Non-Hedge Fund Activism: Short Interest Position of Target Firms Ex Ante Activist Intervention (Probit Regression Model)

This table reports the Monthly Short Interest Position of Target Firms ex ante a non-hedge fund activist intervention. The Short Interest Ratio is defined as (Shares Sold Short / Total Shares Outstanding). 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	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII	Model IX	Model X	Model XI	Model XII	Model XIII
Short Interest Ratio (t-6)	0.0897 (0.51)												
Short Interest Ratio (t-5)		0.110 (0.63)											
Short Interest Ratio (t-4)			0.0542 (0.30)										
Short Interest Ratio (t-3)				0.0504 (0.28)									
Short Interest Ratio (t-2)					0.0793 (0.45)								
Short Interest Ratio (t-1)						0.0425 (0.24)							
Short Interest Ratio (t)							0.0164 (0.09)						
Short Interest Ratio (t+1)								-0.0623 (-0.34)					
Short Interest Ratio (t+2)									-0.101 (-0.55)				
Short Interest Ratio (t+3)										-0.185 (-0.98)			
Short Interest Ratio (t+4)											-0.237 (-1.24)		
Short Interest Ratio (t+5)												-0.269 (-1.40)	
Short Interest Ratio (t+6)													-0.286 (-1.48)
Constant	-2.759*** (-14.82)	-2.760*** (-14.82)	-2.758*** (-14.81)	-2.758*** (-14.81)	-2.759*** (-14.82)	-2.758*** (-14.81)	-2.757*** (-14.81)	-2.753*** (-14.79)	-2.752*** (-14.79)	-2.753*** (-14.78)	-2.753*** (-14.79)	-2.751*** (-14.79)	-2.751*** (-14.78)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	896321	896984	897567	898198	898861	899574	899744	898790	897927	897113	896357	895633	890207
Pseudo R^2	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.037	0.038	0.038

Appendix C

HYPOTHESIS 2: INSIDE OWNERSHIP

Table C.1: H2: Hedge Fund Activism: Corporate "Inside" Ownership (Probit Regression Model)

This table reports the Quarterly Corporate Ownership of Target Firms 18 months ex ante a hedge fund activist intervention. 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
Corporate "Insider" Ownership $(t-6)$	-0.0110*** (-4.70)					
Corporate "Insider" Ownership $(t-5)$		-0.0117*** (-5.02)				
Corporate "Insider" Ownership $(t-4)$			-0.0119*** (-5.10)			
Corporate "Insider" Ownership $(t-3)$				-0.0120*** (-5.16)		
Corporate "Insider" Ownership $(t-2)$					-0.0117*** (-5.05)	
Corporate "Insider" Ownership $(t-1)$						-0.0119*** (-5.14)
Constant	0.0138 (0.06)	0.00771 (0.03)	0.0443 (0.20)	0.0437 (0.19)	0.0399 (0.18)	0.0515 (0.24)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,737	2,739	2,743	2,747	2,754	2,763
Pseudo R^2	0.011	0.012	0.012	0.012	0.012	0.012

Table C.2: H2: Non-Hedge Fund Activism: Corporate "Inside" Ownership (Probit Regression Model)

This table reports the Quarterly Corporate Ownership of Target Firms 18 months ex ante a non-hedge fund activist intervention. 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 Activism	Model I	Model II	Model III	Model IV	Model V	Model VI
Corporate "Insider" Ownership $_{(t-6)}$	-0.00932** (-2.50)					
Corporate "Insider" Ownership $_{(t-5)}$		-0.00855** (-2.31)				
Corporate "Insider" Ownership $_{(t-4)}$			-0.00879** (-2.35)			
Corporate "Insider" Ownership $_{(t-3)}$				-0.00813** (-2.19)		
Corporate "Insider" Ownership $_{(t-2)}$					-0.00789** (-2.12)	
Corporate "Insider" Ownership $_{(t-1)}$						-0.00813** (-2.20)
Constant	0.159 (0.61)	0.157 (0.60)	0.158 (0.61)	0.155 (0.60)	0.159 (0.61)	0.156 (0.60)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,033	1,035	1,034	1,038	1,040	1,043
Pseudo R^2	0.023	0.022	0.022	0.022	0.022	0.022

Appendix D

HYPOTHESIS 3: HEDGE FUND BOARD REPRESENTATION

Table D.1: H3: Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms (Probit Regression Model)

This table reports the Quarterly Corporate Ownership of Target 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 (-0.48)	-0.373 (-0.49)	-0.369 (-0.48)	-0.363 (-0.47)	-0.366 (-0.48)	-0.354 (-0.46)	-0.363 (-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 D.2: H3: Non-Hedge Fund Board Representation: Corporate "Inside" Ownership of Target Firms (Probit 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.

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 (0.58)	0.267 (0.57)	0.274 (0.59)	0.286 (0.61)	0.317 (0.68)	0.313 (0.67)	0.298 (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 D.3: H3: 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 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.

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 (-1.13)	-1.062 (-1.09)	-1.036 (-1.06)	-1.000 (-1.03)	-1.028 (-1.05)	-1.014 (-1.04)	-1.007 (-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 D.4: H3: 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 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 (-0.47)	-0.592 (-0.48)	-0.584 (-0.47)	-0.576 (-0.46)	-0.580 (-0.47)	-0.564 (-0.46)	-0.577 (-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 D.5: H3: 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 (0.58)	0.427 (0.57)	0.437 (0.59)	0.459 (0.62)	0.512 (0.68)	0.505 (0.68)	0.478 (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 D.6: H3: 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 (-1.10)	-1.705 (-1.07)	-1.668 (-1.04)	-1.611 (-1.01)	-1.653 (-1.03)	-1.630 (-1.02)	-1.619 (-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 D.7: H3: 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 Target 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														
Quarter	Target Firms			Matched Firms			Differences between Target and Match		Industry Adjusted			Differences between Target and Industry		
	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 D.8: H3: 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 Target 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													
Quarter	Target Firms			Matched Firms			Differences between Target and Match		Industry Adjusted			Differences between Target and Industry	
	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 D.9: H3: 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 Target 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														
Quarter	Target Firms			Matched Firms			Differences between Target and Match		Industry Adjusted			Differences between Target and Industry		
	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 E

HYPOTHESIS 4: SHORT TERM EFFICACY OF SHAREHOLDER ACTIVISM

Table E.1: H4: 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 IV.C.1.i) 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 $\alpha_j, \beta_j, s_j, h_j$ 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	t-stat	Window	t-stat	Window	t-stat	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

		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	t-stat	Window	t-stat	Window	t-stat	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 E.2: H4: 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 IV.C.1.i) 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 $\alpha_j, \beta_j, s_j, h_j$ 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	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	(-1, 1)	3074	0.03%	0.17
(-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	(-2, 2)	3074	-0.09%	-0.58
(-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	(-3, 3)	3074	0.01%	0.04
(-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	(-5, 5)	3075	-0.19%	-0.83
(-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	(-10, 10)	3075	-0.19%	-0.60

Table E.3: H4: 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 IV.C.1.i) 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
(-1, 1)	951	4.32%	29.75	(-1, 1)	951	0.19%	1.92
(-2, 2)	951	4.84%	25.82	(-2, 2)	951	0.09%	0.63
(-3, 3)	951	5.39%	24.91	(-3, 3)	951	0.07%	0.44
(-5, 5)	951	6.27%	22.25	(-5, 5)	951	-0.03%	0.28
(-10, 10)	951	6.55%	16.12	(-10, 10)	951	-0.90%	-1.38
				Window	N	CAR	t-stat
				(-1, 1)	951	0.11%	0.52
				(-2, 2)	951	-0.01%	-0.03
				(-3, 3)	951	-0.07%	-0.22
				(-5, 5)	951	-0.16%	-0.40
				(-10, 10)	951	-0.92%	-1.70

Value Weighted Index

Market Model				Market Model				Four Factor Model			
Value Weighted Index				Value Weighted Index				Value Weighted Index			
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
(-2, 2)	951	4.84%	25.29	(-2, 2)	951	4.93%	21.34	(-2, 2)	951	0.11%	0.45
(-3, 3)	951	5.37%	24.25	(-3, 3)	951	5.47%	19.99	(-3, 3)	951	0.10%	0.20
(-5, 5)	951	6.24%	21.42	(-5, 5)	951	6.34%	18.51	(-5, 5)	951	-0.02%	-0.21
(-10, 10)	951	6.62%	15.55	(-10, 10)	951	6.96%	14.69	(-10, 10)	951	-0.68%	-1.56
				Window	N	CAR	t-stat	(-1, 1)	951	0.08%	0.39
				(-1, 1)	951	4.27%	23.88	(-2, 2)	951	-0.03%	-0.12
				(-2, 2)	951	4.93%	21.34	(-3, 3)	951	-0.11%	-0.34
				(-3, 3)	951	5.47%	19.99	(-5, 5)	951	-0.18%	-0.47
				(-5, 5)	951	6.34%	18.51	(-10, 10)	951	-0.89%	-1.63
				(-10, 10)	951	6.96%	14.69				

Appendix F

HYPOTHESIS 5: 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:

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

The formula for the TSR (Equation F.1) is the appreciation in the stock price plus any dividends paid, divided by the original price of the stock. In equation (F.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 F.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 F.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.

Next, I examine the *Treatment Group* (Hedge Fund Board Representation)

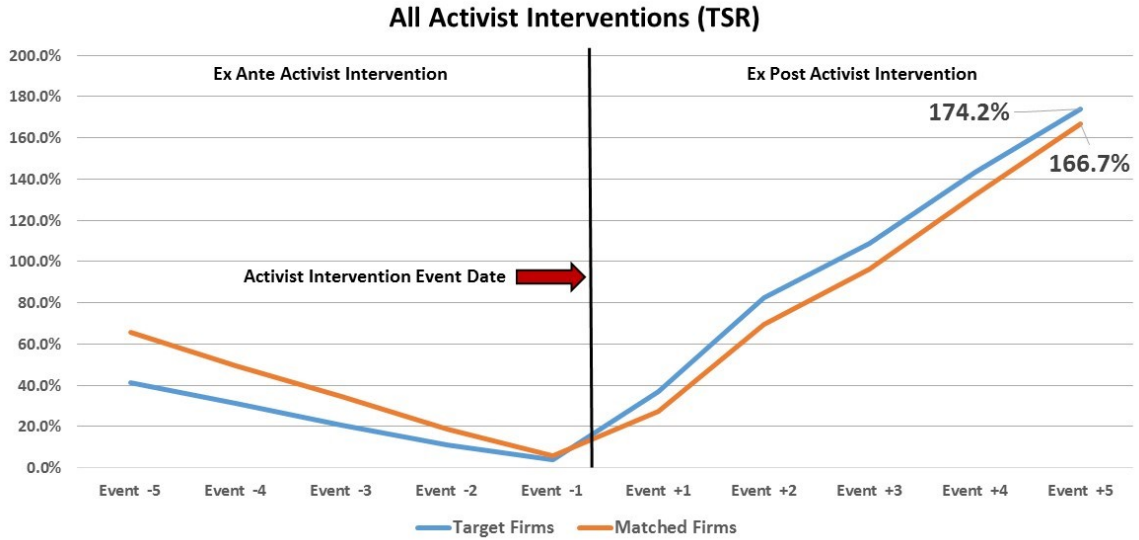


Figure F.1: Total Shareholder Return: All Activist Interventions

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 F.4 illustrates a significant under-performance of Target Firms of the *Treatment Group* ex ante the intervention compared to Matched Firms. However, there is an 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 F.5 illustrates an under-performance of Target Firms of *Control Group I* ex ante the intervention compared to Matched Firms. However, it takes over three years for the Target Firms’ *TSR* to exceed Matched Firms.

Figure F.6 illustrates a similar under-performance of Target Firms of

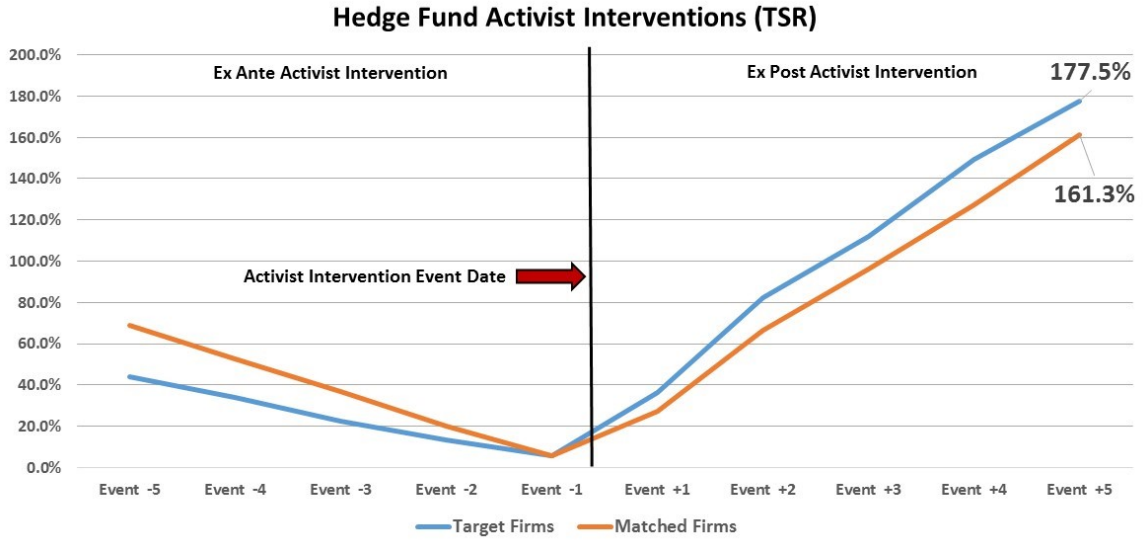


Figure F.2: Total Shareholder Return: Hedge Fund Activism

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 F.4), whereas, non-hedge funds yielded lower *TSR* as a disciplinary mechanism to monitor management via *board representation*.

Table F.1: H5: 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)							
N	Equally-Weighted			Value-Weighted			
	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)							
N	Equally-Weighted			Value-Weighted			
	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)							
N	Equally-Weighted			Value-Weighted			
	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 F.2: H5: 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)							
	N	Equally-Weighted			Value-Weighted		
		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)							
	N	Equally-Weighted			Value-Weighted		
		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)							
	N	Equally-Weighted			Value-Weighted		
		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

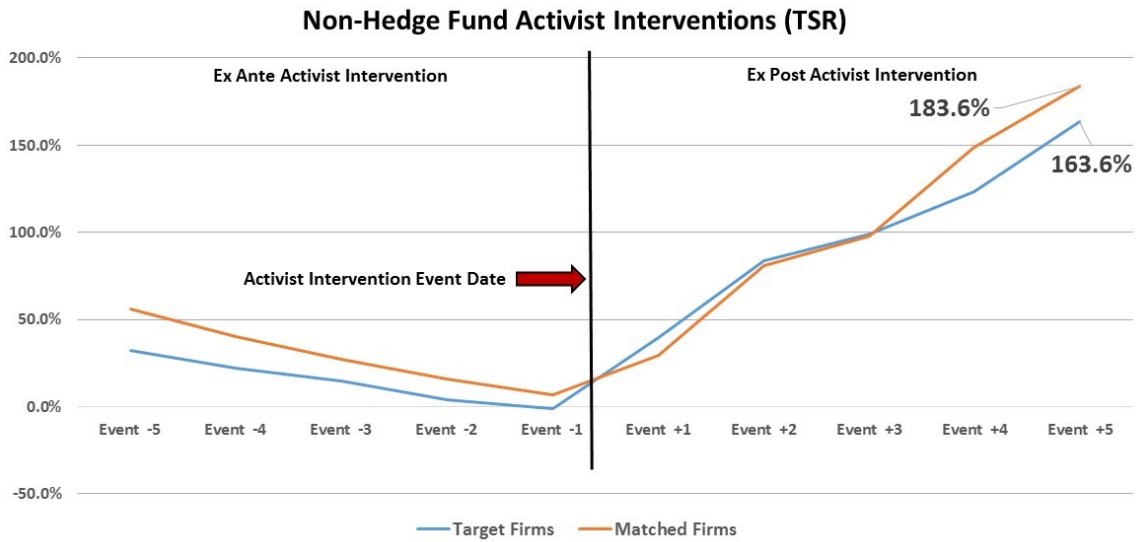


Figure F.3: Total Shareholder Return: Non-Hedge Fund Activism

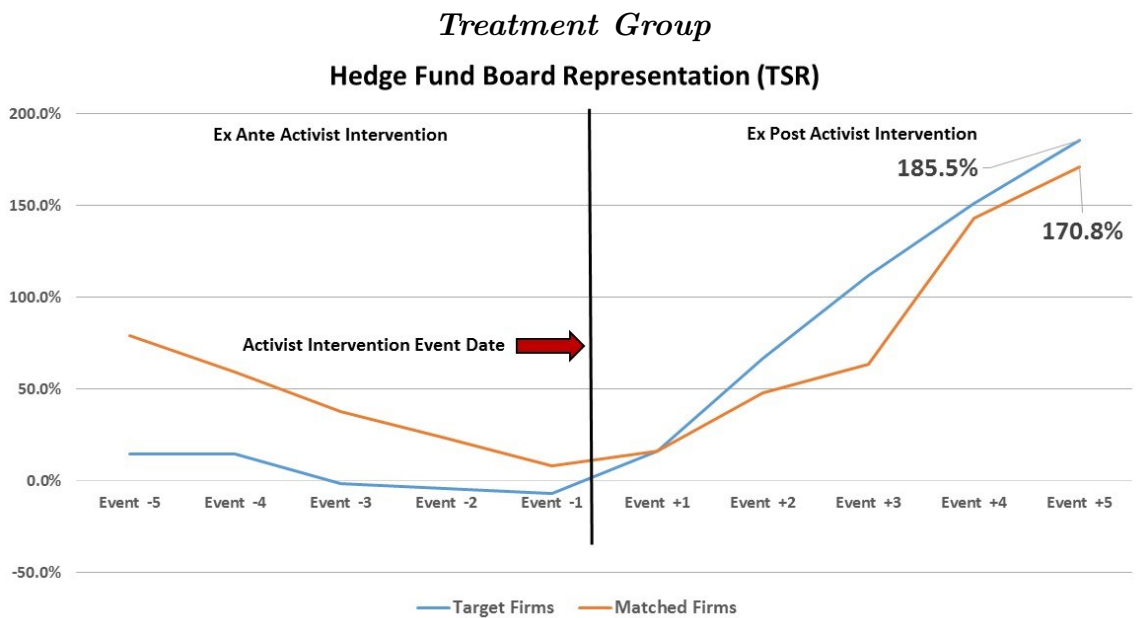


Figure F.4: Total Shareholder Return: Hedge Fund Board Representation (*Treatment Group*)

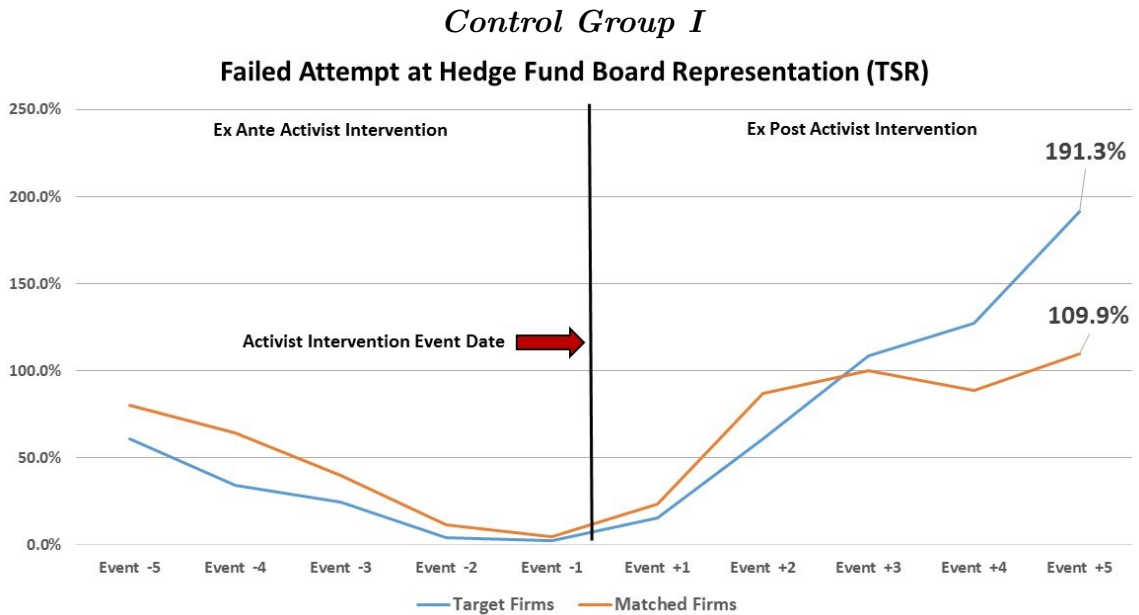


Figure F.5: Total Shareholder Return: Target Firm “Wins” Proxy Fight: No Hedge Fund Board Representation (*Control Group I*)

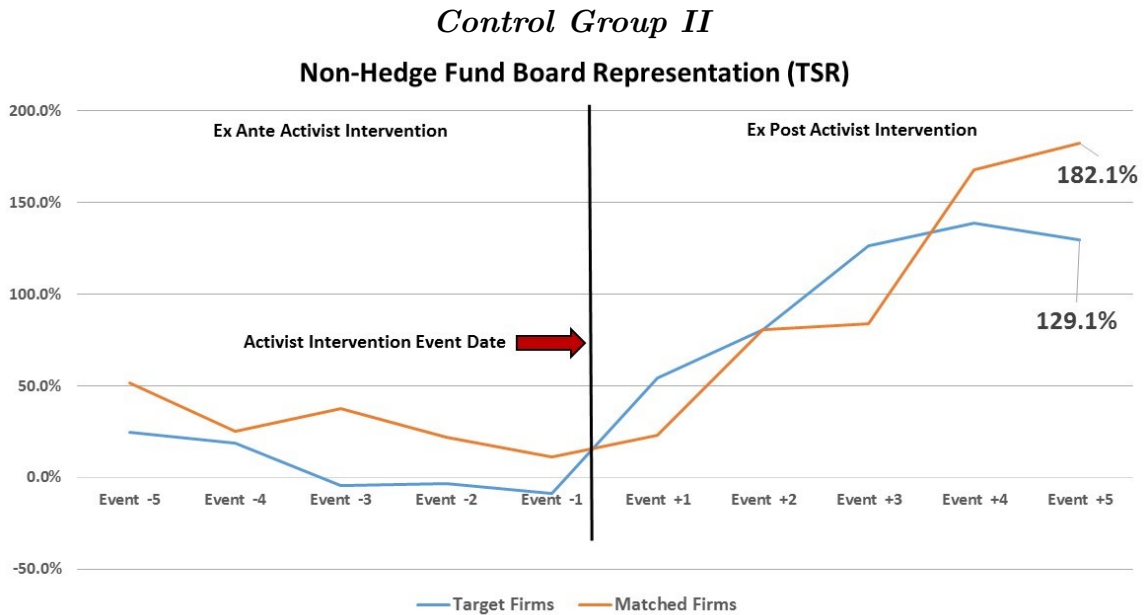


Figure F.6: Total Shareholder Return: Non-Hedge Fund Board Representation (*Control Group I*)

Table F.3: H5: 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)							
	N	Equally-Weighted			Value-Weighted		
		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)							
	N	Equally-Weighted			Value-Weighted		
		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)							
	N	Equally-Weighted			Value-Weighted		
		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 G

HYPOTHESIS 6: LONG TERM OPERATING PERFORMANCE AND
GOVERNANCE STRUCTURE OF TARGET FIRMS

Table G.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		
Revenue Growth					Operating Margin					Revenue Growth					Operating Margin																	
Event	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)												
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	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	0.0286	0.0034	1.40%	-5.34%	-8.97%	-15.04%	-0.0017	0.0009	-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	4.89%	7.52%	-13.16%	-20.98%	-0.0080*	-0.0063	-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	-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	-7.59%	-10.32%	-5.26%	-10.32%	-0.0136**	-0.0069	-0.0136**	-0.0069												
Event	3422	0.0147	0.0073	0.0031	-48.06%	-52.29%	NA	NA	3422	0.0386	0.0226	0.0033	-5.26%	-10.32%	NA	NA	-0.0249**	-0.0153	-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	-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%	3.98%	5.05%	3.98%	-0.0044	-0.0030	-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	-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	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	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	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	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	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	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	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	-43.33%	0.40%	NA	NA	0.0141	-0.0212	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	0.0049	0.0049	0.0049												
Event + 2 Year	3378	-0.0183	0.1149	0.0114	47.58%	2.86%	-176.89%	-176.89%	3378	-0.0296	0.1245	0.0127	71.10%	0.81%	-405.15%	-1.43%	0.0114	-0.0096	0.0114	-0.0096												
Event + 3 Year	3335	-0.0230	0.1174	0.0120	25.68%	2.18%	-196.64%	-196.64%	3335	-0.0294	0.1218	0.0127	-0.68%	-2.17%	-403.09%	-3.56%	0.0065	0.0065	0.0065	0.0065												
Event + 4 Year	3294	-0.0062	0.1246	0.0117	-73.04%	6.13%	-126.05%	-126.05%	3294	-0.0428	0.1171	0.0130	62.93%	-3.86%	-593.81%	-7.28%	0.0417**	0.0075	0.0417**	0.0075												
Event + 5 Year	3269	0.0006	0.1208	0.0114	-109.68%	-3.05%	-97.48%	-97.48%	3269	-0.0428	0.1225	0.0131	-10.65%	4.61%	-541.24%	-3.01%	0.0434**	-0.0017	0.0434**	-0.0017												
Industry Adjusted																																
Event - 5 Year	3624	0.0437	0.0276	0.0033	NA	NA	-66.36%	-73.55%	3624	0.1710	0.0571	0.0077	NA	NA	20.18%	-15.50%	-0.1273***	-0.0279	-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	0.0557	0.0079	5.20%	2.88%	14.23%	-17.86%	-0.1381***	-0.0296	-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	-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	-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	-8.38%	2.54%	2.54%	-8.75%	-0.1721***	-0.0361	-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	-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	-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	-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	0.0090	8.35%	12.36%	7.93%	24.09%	-0.1746***	-0.0326	-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	-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	-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	0.0092	NA	NA	6.83%	38.24%	2.1398***	0.0790	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	0.0572	0.0090	-6.59%	18.10%	14.36%	17.05%	2.0034***	0.0628	2.0034***	0.0628												
Event - 3 Year	3508	0.0481	0.1200	0.0091	27.93%	-1.15%	-50.52%	-12.42%	3508	-1.9994	0.0522	0.0088	1.71%	9.58%	12.44%	16.82%	2.0475***	0.0628	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	0.0102	8.62%	1.75%	3.51%	4.98%	2.2214***	0.0596	2.2214***	0.0596												
Event - 1 Year	3557	0.0343	0.1127	0.0093	-30.85%	-4.33%	-30.61%	-6.74%	3557	-2.3988	0.0596	0.0104	6.31%	2.41%	-2.63%	2.52%	2.3431***	0.0531	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	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	0.0613	0.1000	-1.95%	1.31%	-11.95%	1.31%	1.9677***	0.0498	1.9677***	0.0498												
Event + 2 Year	3378	-0.0183	0.1149	0.0114	47.58%	2.86%	-176.89%	-176.89%	3378	-2.0201	0.0619	0.0990	2.06%	0.97%	-10.14%	0.33%	2.0018***	0.0536	2.0018***	0.0536												
Event + 3 Year	3335	-0.0230	0.1174	0.0120	25.68%	2.18%	-196.64%	-196.64%	3335	-1.9362	0.0600	0.0963	-1.93%	-2.12%	-13.87%	-1.80%	1.9132***	0.0574	1.9132***	0.0574												
Event + 4 Year	3294	-0.0062	0.1246	0.0117	-73.04%	6.13%	-126.05%	-126.05%	3294	-1.9401	0.0554	0.0947	0.20%	-7.67%	-13.70%	-9.33%	1.9339***	0.0602	1.9339***	0.0602												
Event + 5 Year	3269	0.0006	0.1208	0.0114	-109.68%	-3.05%	-97.48%	-97.48%	3269	-1.9165	0.0554	0.0956	-1.22%	0.00%	-14.75%	-9.33%	1.9171***	0.0654	1.9171***	0.0654												

Table G.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 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.	Δ Mean YoY	Δ Median YoY	? Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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%	-0.1546***	-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 + 1 Year	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 + 2 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 + 3 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 + 4 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%	12.409%	-0.1746***	-0.0326							
Event + 5 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							
Tobin's Q	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							
Event - 5 Year	3680	2.1293	1.4677	0.0298	NA	NA	-14.76%	-8.54%	3680	-2.1044	0.0442	0.0092	NA	NA	6.83%	38.24%	2.1398***	0.0790							
Event - 4 Year	3729	2.0691	1.4500	0.0287	-2.83%	-1.21%	-12.28%	-7.43%	3729	-1.9658	0.0422	0.0090	-6.59%	18.10%	14.36%	17.05%	2.0034***	0.0690							
Event - 3 Year	3702	2.0355	1.4369	0.0281	-1.62%	-0.90%	-10.83%	-6.58%	3702	-1.9658	0.0422	0.0090	-6.59%	18.10%	14.36%	17.05%	2.0034***	0.0690							
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	0.0596	0.1042	8.62%	1.75%	4.98%	6.92%	2.2214***	0.0596							
Event + 1 Year	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 + 2 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 + 3 Year	3583	2.1600	1.4214	0.0329	3.57%	0.31%	16.57%	8.99%	3583	-1.9794	0.0619	0.1000	-11.95%	1.31%	-11.95%	1.31%	1.9678***	0.0408							
Event + 4 Year	3587	2.2401	1.4512	0.0345	3.71%	2.10%	19.01%	5.89%	3583	-2.0201	0.0613	0.0990	2.06%	-0.97%	-10.14%	0.33%	2.0018***	0.0536							
Event + 5 Year	3584	2.2422	1.4651	0.0337	0.09%	0.96%	23.42%	8.11%	3587	-1.9362	0.0600	0.0963	-4.15%	-2.12%	-13.87%	-1.80%	1.9132***	0.0574							
									3584	-1.9401	0.0554	0.0947	0.20%	-7.67%	-13.70%	-9.33%	1.9339***	0.0692							
Industry Adjusted																									
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	0.0021	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	0.0022	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%	-2.42%	2.94%	-4.24%	0.0239***	0.0167							
Event + 1 Year	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	0.0095***	0.0101							
Event + 2 Year	3152	0.0490	0.0770	0.0033	-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 + 3 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*	0.0078							
Event + 4 Year	3178	0.0549	0.0873	0.0034	14.38%	5.95%	7.65%	15.48%	3178	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	0.006*	0.0070								
Event + 5 Year	3143	0.0559	0.0901	0.0034	1.82%	3.21%	9.61%	19.18%	3172	0.0418	0.0767	0.0021	-0.48%	1.72%	-0.48%	17.10%	0.0131***	0.0106							
Tobin's Q	3680	2.1293	1.4677	0.0298	NA	NA	-14.76%	-8.54%	3680	3.2678	1.9922	0.0724	-6.22%	-3.52%	12.98%	12.98%	0.0167***	0.0161							
Event - 5 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%	4.79%	3.56%	-1.1385***	-0.5245							
Event - 4 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%	7.48%	4.62%	-1.1169***	-0.5219							
Event - 3 Year	3745	2.0233	1.4342	0.0278	-0.60%	-0.19%	-10.30%	-6.41%	3702	3.4799	2.0334	0.0790	9.22%	3.12%	-1.60%	1.46%	-1.4444***	-0.5965							
Event - 2 Year	3752	1.9274	1.4109	0.0254	-4.74%	-1.62%	-5.83%	-4.86%	3745	3.5334	2.0549	0.0797	1.54%	0.66%	-3.09%	0.40%	-1.5101***	-0.6207							
Event - 1 Year	3431	1.8150	1.3423	0.0252	-5.83%	-4.86%	NA	NA	3752	3.5107	2.0684	0.0790	-4.67%	-2.40%	-2.40%	-0.26%	-1.5833***	-0.6575							
Event + 1 Year	3554	2.0427	1.4039	0.0311	12.55%	4.59%	12.55%	4.59%	3431	3.4243	2.0631	0.0783	-2.46%	-0.26%	NA	NA	-1.6093***	-0.7208							
Event + 2 Year	3583	2.1600	1.4214	0.0329	3.57%	0.31%	16.57%	8.99%	3554	3.2856	1.9551	0.0739	-4.05%	-5.23%	-4.05%	-5.23%	-1.2429***	-0.5512							
Event + 3 Year	3587	2.2401	1.4512	0.0345	3.71%	2.10%	16.57%	8.99%	3586	3.1534	1.9450	0.0690	-4.02%	-5.23%	-7.91%	-5.72%	-1.0377***	-0.5367							
Event + 4 Year	3584	2.2422	1.4651	0.0337	0.09%	0.96%	23.42%	8.11%	3583	3.1944	1.9602	0.0708	1.98%	0.78%	-6.71%	-4.99%	-1.0344***	-0.5388							
Event + 5 Year	3584	2.2422	1.4651	0.0337	0.09%	0.96%	23.42%	8.11%	3587	3.2575	1.9780	0.0714	1.98%	0.91%	-4.87%	-4.12%	-1.0174***	-0.5268							
									3584	3.3098	2.0193	0.0716	1.61%	2.09%	-3.34%	-2.12%	-1.0676***	-0.5542							

Table G.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.	Δ Mean	Δ Median	YoY	Δ Mean	Δ Median	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	Event vs Year	Δ Mean	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)	
ROE																								
Event - 5 Year	3728	-0.0116	0.0705	0.0068	NA	NA	NA	449.14%	-49.93%	3728	-0.0354	0.0710	0.0075	NA	NA	NA	-67.80%	0.0238**	-0.0005					
Event - 4 Year	3776	-0.0174	0.0709	0.0070	50.00%	0.57%	266.09%	-50.21%	-50.21%	3776	-0.0289	0.0742	0.0076	-15.54%	4.51%	4.18%	-61.87%	0.0125	-0.0033					
Event - 3 Year	3782	-0.0074	0.0668	0.0067	-57.47%	-5.78%	760.81%	-47.16%	-47.16%	3782	-0.0136	0.0771	0.0072	-54.22%	3.91%	0.26%	-16.18%	0.0062	-0.0103					
Event - 2 Year	3777	-0.0223	0.0618	0.0067	201.35%	-7.49%	185.65%	-42.88%	-42.88%	3777	-0.0105	0.0782	0.0073	-22.73%	1.43%	-1.15%	8.57%	-0.0118	-0.0164					
Event - 1 Year	3803	-0.0375	0.0534	0.0068	68.16%	-13.59%	69.87%	-33.90%	-33.90%	3803	-0.0159	0.0791	0.0074	51.43%	1.15%	NA	-28.30%	-0.0215*	-0.0257					
Event + 1 Year	3483	-0.0637	0.0353	0.0076	69.87%	-33.90%	NA	NA	NA	3483	-0.0114	0.0773	0.0075	-28.30%	NA	NA	NA	-0.0523***	-0.0420					
Event + 2 Year	3424	-0.0710	0.0454	0.0082	11.46%	28.61%	11.46%	28.61%	28.61%	3424	-0.0255	0.0752	0.0076	123.68%	-2.72%	123.68%	-2.72%	-0.0455***	-0.0298					
Event + 3 Year	3531	-0.0626	0.0555	0.0081	-11.83%	22.25%	-1.73%	57.22%	57.22%	3531	-0.0403	0.0685	0.0078	58.04%	-8.91%	253.51%	-11.38%	-0.0223**	-0.0130					
Event + 4 Year	3499	-0.0511	0.0631	0.0080	-18.37%	13.69%	-19.78%	-19.78%	-19.78%	3499	-0.0394	0.0702	0.0078	-2.23%	2.48%	245.61%	-9.18%	-0.0116	-0.0071					
Event + 5 Year	3525	-0.0453	0.0675	0.0078	-11.35%	6.97%	-28.89%	91.22%	91.22%	3525	-0.0584	0.0662	0.0083	48.22%	-5.70%	412.28%	-14.36%	0.0131	0.0013					
ROIC																								
Event - 5 Year	3622	0.0326	0.0516	0.0025	NA	NA	-69.94%	-27.71%	-27.71%	3622	0.0222	0.0539	0.0029	NA	NA	NA	42.79%	0.0104***	-0.0023					
Event - 4 Year	3656	0.0292	0.0504	0.0025	-10.43%	-2.33%	-66.44%	-25.99%	-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%	-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	0.0290	0.0490	0.0024	0.67%	-1.21%	-67.22%	-23.88%	-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%	-16.74%	3679	0.0293	0.0565	0.0028	1.62%	1.62%	8.19%	0.71%	0.0061	-0.0117					
Event	3360	0.0098	0.0373	0.0027	-57.94%	-16.74%	NA	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%	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	0.0534	0.0030	22.64%	11.48%	32.65%	24.93%	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%	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%	42.36%	3406	0.0126	0.0504	0.0031	-33.68%	-5.62%	-58.25%	-11.42%	0.0059	-0.0027					
Event + 5 Year	3412	0.0196	0.0532	0.0030	5.95%	0.19%	100.00%	42.63%	42.63%	3412	0.0132	0.0527	0.0031	4.76%	4.56%	-58.36%	-7.38%	0.0064	0.0005					
ROE																								
Event - 5 Year	3728	-0.0116	0.0705	0.0068	NA	NA	449.14%	-49.93%	-49.93%	3728	-0.0002	0.0047	0.0089	NA	NA	NA	-8000.00%	-0.0114	0.0658					
Event - 4 Year	3776	-0.0174	0.0709	0.0070	50.00%	0.57%	266.09%	-50.21%	-50.21%	3776	0.0029	0.0065	0.0089	-1550.00%	38.30%	38.30%	444.83%	-0.0203*	0.0644					
Event - 3 Year	3782	-0.0074	0.0668	0.0067	-57.47%	-5.78%	760.81%	-47.16%	-47.16%	3782	0.0272	0.0150	0.0089	924.14%	130.77%	130.77%	-46.80%	-0.0371***	0.0518					
Event - 2 Year	3777	-0.0223	0.0618	0.0067	201.35%	-7.49%	185.65%	-42.88%	-42.88%	3777	0.0297	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%	-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	NA	3483	0.0158	0.0196	0.0085	-24.40%	18.07%	NA	NA	-0.0705***	0.0157					
Event + 1 Year	3424	-0.0710	0.0454	0.0082	11.46%	28.61%	11.46%	28.61%	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%	57.22%	3531	0.0081	0.0202	0.0083	-9.24%	-3.06%	-94.94%	-3.06%	-0.0634***	0.0353					
Event + 3 Year	3499	-0.0511	0.0631	0.0080	-18.37%	13.69%	-19.78%	-19.78%	-19.78%	3499	0.0148	0.0232	0.0085	1750.00%	14.85%	1750.00%	14.85%	-0.0659***	0.0399					
Event + 4 Year	3525	-0.0453	0.0675	0.0078	-11.35%	6.97%	-28.89%	91.22%	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%	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%	-27.71%	3622	0.0314	0.0434	0.0030	NA	NA	NA	21.70%	0.0008	0.0082					
Event - 4 Year	3656	0.0292	0.0504	0.0025	-10.43%	-2.33%	-66.44%	-25.99%	-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%	-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	0.0290	0.0490	0.0024	0.67%	-1.21%	-67.22%	-23.88%	-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%	-16.74%	3679	0.0387	0.0475	0.0027	-3.49%	1.28%	-1.26%	1.26%	-0.0154***	-0.0027					
Event	3360	0.0098	0.0373	0.0027	-57.94%	-16.74%	NA	NA	NA	3360	0.0387	0.0469	0.0026	0.00%	0.00%	NA	NA	-0.0289***	-0.0096					
Event + 1 Year	3309	0.0106	0.0418	0.0029	8.16%	12.06%	8.16%	12.06%	12.06%	3309	0.0398	0.0480	0.0027	2.35%	2.84%	2.84%	2.35%	-0.0292***	-0.0062					
Event + 2 Year	3410	0.0130	0.0534	0.0030	22.64%	11.48%	32.65%	24.93%	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%	31.37%	3397	0.0373	0.0500	0.0026	3.32%	3.22%	-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%	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%	42.63%	3412	0.0352	0.0486	0.0027	-7.85%	-2.41%	-9.04%	3.62%	-0.0156***	0.0046					

Table G.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 its 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.

EV / LTM EBITDA	Target Firms										Matched Firms										Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)			
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%	-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%	0.93%	0.60%	3.24%	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%	-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%	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%	NA	NA	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	NA	NA	0.0314	-0.0354			
Event + 1 Year	3128	6.4050	6.6249	0.2684	-8.35%	-0.05%	-8.35%	-0.05%	3128	6.6881	7.0990	0.2626	-3.87%	-3.01%	-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	6.8009	0.2595	-2.00%	-2.93%	-5.79%	-5.85%	-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%	-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%	-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%	-17.22%	-8.76%	0.6334	0.1428			

EV / LTM EBITDA	Target Firms										Industry Adjusted										Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)			
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%	-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%	-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%	-0.04%	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%	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%	1.49%	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	NA	NA	0.5913***	0.2441			
Event + 1 Year	3128	6.4050	6.6249	0.2684	-8.35%	-0.05%	-8.35%	-0.05%	3128	6.1662	6.7689	0.0917	-3.61%	-3.85%	-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%	-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%	-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%	-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%	-8.11%	-7.08%	0.5143***	0.2794			

Table G.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.

Cash / Market Cap	Target Firms												Matched Firms												Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean		Δ Median		Event vs Year	Δ Mean	Event vs Year	Δ Median	Event vs Year	Δ Mean	Event vs Year	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)								
					YoY	YoY	YoY	YoY																			
Event - 5 Year	3726	0.2556	0.1322	0.0060	NA	NA	24.74%	25.63%	6.56%	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%	3.42%	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%	15.97%	1.26%	3759	0.3148	0.1426	0.0077	0.64%	1.78%	2.76%	3.07%	-0.0370***	0.0025								
Event - 2 Year	3796	0.2793	0.1481	0.0063	0.54%	2.07%	11.34%	14.97%	3.85%	3796	0.3115	0.1432	0.0077	-1.05%	0.42%	3.85%	3.85%	-0.0322***	0.0049								
Event - 1 Year	3807	0.2871	0.1560	0.0063	2.79%	5.33%	11.84%	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	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%	0.14%	3604	0.3337	0.1446	0.0082	3.15%	3.15%	3.15%	3.15%	-0.0097	0.0158								
Event + 2 Year	3632	0.3171	0.1468	0.0075	-2.13%	-8.48%	-10.98%	-10.98%	-1.24%	3632	0.3341	0.1511	0.0083	4.50%	4.50%	3.28%	4.64%	-0.0170	-0.0043								
Event + 3 Year	3624	0.3037	0.1402	0.0073	-4.23%	-4.30%	-5.42%	-4.90%	-4.90%	3624	0.3216	0.1437	0.0080	-3.74%	-3.74%	-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%	-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%	-3.36%	-12.55%	-22.86%	-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	3.71%	-3.25%	3.71%	3812	0.2041	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%	-3.71%	-1.71%	3850	0.2010	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%	-4.58%	-4.58%	-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%	-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%	-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%	-3.88%	NA	NA	NA	3543	0.1950	0.1075	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%	9.14%	3682	0.2024	0.1076	0.0037	3.79%	3.79%	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%	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%	0.05%	8.20%	-1.12%	-1.12%	3708	0.2012	0.1062	0.0037	-0.94%	-2.30%	3.18%	-2.12%	-0.0047	-0.0034								
Event + 4 Year	3710	0.1957	0.0983	0.0037	-0.46%	1.55%	7.71%	7.71%	7.71%	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%	-4.19%	3694	0.1981	0.1003	0.0037	-1.74%	-1.38%	1.59%	-7.56%	-0.0053	-0.0065								
Cash / Market Cap																											
Event - 5 Year	3726	0.2556	0.1322	0.0060	NA	NA	24.74%	25.63%	6.56%	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%	3.42%	3771	0.6285	0.3267	0.0137	2.06%	-2.12%	-4.12%	-1.81%	-0.3559***	-0.1864								
Event - 3 Year	3759	0.2778	0.1451	0.0064	1.91%	3.42%	15.59%	15.97%	1.26%	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%	11.34%	14.97%	3.85%	3796	0.6199	0.3308	0.0136	-2.44%	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%	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	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%	0.14%	3604	0.6397	0.3155	0.0144	1.66%	-1.65%	6.16%	-1.65%	-0.3157***	-0.1551								
Event + 2 Year	3632	0.3171	0.1468	0.0075	-2.13%	-8.48%	-10.98%	-10.98%	-1.25%	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%	-4.30%	-5.42%	-4.90%	-4.90%	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%	-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%	-3.36%	-12.55%	-22.86%	-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	3.71%	-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%	-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%	-4.58%	-4.58%	-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%	-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%	-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%	-3.88%	NA	NA	NA	3543	0.2086	0.1467	0.0023	4.04%	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%	9.14%	3682	0.1997	0.1389	0.0023	-4.27%	-4.64%	-4.64%	-4.64%	-0.0014	-0.0385								
Event + 2 Year	3716	0.1965	0.1007	0.0036	-0.91%	-0.69%	8.15%	2.86%	2.86%	3716	0.1940	0.1388	0.0022	-2.85%	-7.79%	-7.00%	-5.39%	0.0025	-0.0381								
Event + 3 Year	3708	0.1966	0.0968	0.0037	0.05%	0.05%	8.20%	-1.12%	-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%	7.71%	7.71%	3710	0.1909	0.1345	0.0022	1.06%	-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%	-4.19%	3694	0.1889	0.1324	0.0022	-1.05%	-1.56%	-9.44%	-9.75%	0.0039	-0.0386								
Industry Adjusted																											
Event - 5 Year	3726	0.2556	0.1322	0.0060	NA	NA	24.74%	25.63%	6.56%	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%	3.42%	3771	0.6285	0.3267	0.0137	2.06%	-2.12%	-4.12%	-1.81%	-0.3559***	-0.1864								
Event - 3 Year	3759	0.2778	0.1451	0.0064	1.91%	3.42%	15.59%	15.97%	1.26%	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%	11.34%	14.97%	3.85%	3796	0.6199	0.3308	0.0136	-2.44%	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%	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	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%	0.14%	3604	0.6397	0.															

Table G.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.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)		
Debt / EBITDA		3372	2.4538	1.1809	0.0721	NA	NA	7.60%	12.34%	7.60%	9.28%	15.80%	12.34%	0.9313	0.0716	NA	NA	-3.28%	4.45%	-3.28%	4.45%	0.2402**	0.2496		
Event - 5 Year		3423	2.3501	1.1144	0.0710	-4.23%	-5.63%	12.34%	15.80%	15.80%	15.80%	15.80%	0.8361	0.0706	-1.07%	0.92%	NA	-2.23%	3.91%	-2.23%	3.91%	0.1602	0.1783		
Event - 4 Year		3444	2.5671	1.1835	0.0754	9.23%	6.20%	2.85%	9.04%	9.04%	9.04%	9.04%	0.9885	0.0712	1.81%	5.60%	NA	-3.97%	-1.60%	-3.97%	-1.60%	0.3377***	0.1950		
Event - 3 Year		3460	2.5445	1.1799	0.0747	-0.88%	-0.30%	3.76%	3.76%	3.76%	3.76%	3.76%	0.9479	0.0699	-0.94%	-4.11%	NA	-3.06%	2.62%	-3.06%	2.62%	0.3360***	0.2320		
Event - 2 Year		3483	2.5749	1.2251	0.0746	1.19%	3.83%	2.54%	5.34%	5.34%	5.34%	5.34%	0.9881	0.0720	3.48%	2.2380	NA	-4.33%	-1.56%	-4.33%	-1.56%	0.3370***	0.2370		
Event - 1 Year		3183	2.6402	1.2905	0.0818	2.54%	5.34%	NA	NA	NA	NA	NA	0.9727	0.0719	-4.33%	-1.56%	NA	NA	NA	NA	NA	0.4992***	0.3178		
Event + 1 Year		3185	2.5180	1.2153	0.0800	-4.63%	-5.83%	-4.63%	-5.83%	-5.83%	-5.83%	-5.83%	0.9043	0.0731	1.63%	-7.03%	NA	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%	-11.62%	-11.62%	-11.62%	0.9551	0.0714	0.11%	5.62%	NA	1.75%	-1.81%	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%	-6.17%	-6.17%	-6.17%	0.9098	0.0726	4.74%	-4.74%	NA	-4.74%	-6.47%	-4.74%	-6.47%	0.2569***	0.3011		
Event + 4 Year		3179	2.3015	1.0829	0.0735	-5.51%	-10.57%	-12.83%	-16.09%	-16.09%	-16.09%	-16.09%	0.8442	0.0722	-3.83%	-7.21%	NA	-2.23%	-13.21%	-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%	-16.47%	-16.47%	-16.47%	0.9766	0.0739	1.29%	15.68%	NA	-0.97%	0.40%	-0.97%	0.40%	0.1360	0.1013		
Leverage (net)		3732	0.4355	0.1336	0.0227	NA	NA	2.50%	12.34%	2.50%	1.72%	15.80%	0.0875	0.0218	NA	NA	NA	-10.09%	-20.80%	-10.09%	-20.80%	0.0756***	0.0461		
Event - 5 Year		3779	0.4338	0.1088	0.0229	-0.39%	-18.56%	2.90%	24.91%	24.91%	24.91%	24.91%	0.0688	0.0219	-5.39%	-21.37%	NA	-4.96%	0.73%	-4.96%	0.73%	0.0933***	0.0400		
Event - 4 Year		3754	0.4034	0.0925	0.0227	-7.01%	-14.98%	10.66%	46.92%	46.92%	46.92%	46.92%	0.0740	0.0218	1.94%	7.56%	NA	-6.77%	-6.35%	-6.77%	-6.35%	0.0562*	0.0185		
Event - 3 Year		3777	0.3933	0.0957	0.0225	-2.50%	3.46%	13.50%	42.01%	42.01%	42.01%	42.01%	0.0736	0.0210	-8.70%	-0.54%	NA	2.11%	-5.84%	2.11%	-5.84%	0.0763***	0.0221		
Event - 2 Year		3799	0.4177	0.1090	0.0226	6.20%	13.90%	6.87%	24.68%	24.68%	24.68%	24.68%	0.0685	0.0213	3.72%	-6.93%	NA	-1.55%	1.17%	-1.55%	1.17%	0.0889***	0.0405		
Event - 1 Year		3482	0.4464	0.1359	0.0239	6.87%	24.68%	-15.52%	-18.76%	-18.76%	-18.76%	-18.76%	0.0693	0.0217	-1.55%	1.17%	NA	NA	NA	NA	NA	0.1228***	0.0656		
Event + 1 Year		3549	0.3771	0.1104	0.0230	-15.52%	-18.76%	-15.52%	-18.76%	-18.76%	-18.76%	-18.76%	0.0488	0.0222	1.64%	-35.35%	NA	1.64%	-35.35%	1.64%	-35.35%	0.0482	0.0666		
Event + 2 Year		3598	0.3494	0.0751	0.0228	-7.35%	-31.97%	-21.73%	-44.74%	-44.74%	-44.74%	-44.74%	0.0438	0.0220	-2.71%	-2.23%	NA	-1.11%	-36.80%	-1.11%	-36.80%	0.0295	0.0313		
Event + 3 Year		3584	0.3782	0.0920	0.0236	8.24%	22.30%	-15.28%	-32.30%	-32.30%	-32.30%	-32.30%	0.0514	0.0225	9.45%	17.35%	NA	8.62%	-25.83%	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%	-35.54%	-35.54%	-35.54%	0.0510	0.0221	-7.97%	-7.97%	NA	-0.08%	-26.41%	-0.08%	-26.41%	0.0293	0.0366		
Event + 5 Year		3586	0.3557	0.0981	0.0224	0.82%	11.99%	-20.32%	-27.81%	-27.81%	-27.81%	-27.81%	0.0600	0.0227	6.77%	17.65%	NA	6.74%	-13.42%	6.74%	-13.42%	0.0102	0.0381		
Debt / EBITDA		3372	2.4538	1.1809	0.0721	NA	NA	7.60%	12.34%	7.60%	9.28%	15.80%	1.4325	0.0554	NA	NA	NA	-4.18%	1.19%	-4.18%	1.19%	0.3099***	-0.2516		
Event - 5 Year		3423	2.3501	1.1144	0.0710	-4.23%	-5.63%	12.34%	15.80%	15.80%	15.80%	15.80%	0.9313	0.0554	-1.07%	0.92%	NA	-6.83%	-2.71%	-6.83%	-2.71%	0.1452*	-0.3756		
Event - 4 Year		3444	2.5671	1.1835	0.0754	9.23%	6.20%	2.85%	9.04%	9.04%	9.04%	9.04%	1.4900	0.0554	2.85%	4.01%	NA	-0.83%	1.10%	-0.83%	1.10%	0.506***	-0.1884		
Event - 3 Year		3460	2.5445	1.1799	0.0747	-0.88%	-0.30%	3.76%	3.76%	3.76%	3.76%	3.76%	1.3719	0.0557	-0.94%	-4.11%	NA	-3.97%	5.66%	-3.97%	5.66%	0.506***	-0.1884		
Event - 2 Year		3483	2.5749	1.2251	0.0746	1.19%	3.83%	2.54%	5.34%	5.34%	5.34%	5.34%	1.4410	0.0562	3.48%	2.2380	NA	1.61%	0.60%	1.61%	0.60%	0.5228***	-0.1920		
Event - 1 Year		3183	2.6402	1.2905	0.0818	2.54%	5.34%	NA	NA	NA	NA	NA	1.4410	0.0562	2.90%	5.04%	NA	-0.57%	0.66%	-0.57%	0.66%	0.5088***	-0.2159		
Event + 1 Year		3185	2.5180	1.2153	0.0800	-4.63%	-5.83%	-4.63%	-5.83%	-5.83%	-5.83%	-5.83%	1.4496	0.0553	-0.57%	0.60%	NA	NA	NA	NA	NA	0.5859***	-0.1591		
Event + 2 Year		3185	2.5180	1.2153	0.0800	-4.63%	-5.83%	-4.63%	-5.83%	-5.83%	-5.83%	-5.83%	1.5676	0.0570	8.14%	8.14%	NA	8.63%	8.14%	8.63%	8.14%	0.2865***	-0.3523		
Event + 3 Year		3230	2.3692	1.1406	0.0779	-5.91%	-6.15%	-10.26%	-11.62%	-11.62%	-11.62%	-11.62%	1.5601	0.0570	-2.01%	-2.01%	NA	6.45%	7.62%	6.45%	7.62%	0.1825**	-0.4195		
Event + 4 Year		3202	2.4358	1.2109	0.0759	2.81%	6.16%	-7.74%	-6.17%	-6.17%	-6.17%	-6.17%	1.5187	0.0571	-3.64%	-2.65%	NA	2.57%	4.77%	2.57%	4.77%	0.3287***	-0.3078		
Event + 5 Year		3179	2.3015	1.0829	0.0735	-5.51%	-10.57%	-12.83%	-16.09%	-16.09%	-16.09%	-16.09%	1.4874	0.0551	-2.74%	-2.74%	NA	-0.24%	2.61%	-0.24%	2.61%	0.2529***	-0.4045		
Leverage (net)		3156	2.2563	1.0779	0.0729	-1.96%	-0.46%	-14.54%	-16.47%	-16.47%	-16.47%	-16.47%	0.0555	0.0555	-0.24%	-0.67%	NA	-0.49%	1.92%	-0.49%	1.92%	0.212**	-0.3995		
Event - 5 Year		3732	0.4355	0.1336	0.0227	NA	NA	2.50%	12.34%	2.50%	1.72%	15.80%	0.1651	0.0296	NA	NA	NA	4.53%	-20.05%	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%	24.91%	24.91%	24.91%	0.1711	0.0210	9.86%	3.63%	NA	-4.85%	-22.85%	-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%	46.92%	46.92%	46.92%	0.1161	0.0211	-1.64%	-32.14%	NA	-3.26%	13.70%	-3.26%	13.70%	-0.164	-0.0236		
Event - 2 Year		3777	0.3933	0.0957	0.0225	-2.50%	3.46%	13.50%	42.01%	42.01%	42.01%	42.01%	0.1178	0.0211	-11.36%	-1.46%	NA	9.14%	12.05%	9.14%	12.05%	0.012	-0.0221		
Event - 1 Year		3799	0.4177	0.1090	0.0226	6.20%	13.90%	6.87%	24.68%	24.68%	24.68%	24.68%	0.1320	0.0214	6.29%	12.05%	NA	2.68%	0.00%	2.68%	0.00%	0.000	0.0039		
Event + 1 Year		3482	0.4464	0.1359	0.0239	6.87%	24.68%	-15.52%	-18.76%	-18.76%	-18.76%	-18.76%	0.1320	0.0223	2.68%	0.00%	NA	NA	NA	NA	NA	0.0403	0.0039		
Event + 2 Year		3549	0.3771	0.1104	0.0230	-15.52%	-18.76%	-15.52%	-18.76%	-18.76%	-18.76%	-18.76%	0.2193	0.0222	7.93%	66.14%	NA	7.93%	66.14%	7.93%	66.14%	-0.0612**	-0.1089		
Event + 3 Year		3598	0.3494	0.0751	0.0228	-7.35%	-31.97%	-21.73%	-44.74%	-44.74%	-44.74%	-44.74%	0.2447	0.0214	6.07%	11.58%	NA	14.48%	85.38%	14.48%	85.38%	-0.1155***	-0.1696		
Event + 4 Year		3584	0.3782	0.0920	0.0236	8.24%	22.30%	-15.28%	-32.30%	-32.30%	-32.30%	-32.30%	0.2204	0.0213	-3.44%	-4.90%	NA	10.54%	66.97%	10.54%	66.97%	-0.0707**	-0.1284		
Event + 5 Year		3603	0.3528	0.0876	0.0223	-6.72%	-4.78%	-20.97%	-35.54%	-35.54%	-35.54%	-35.54%	0.2312	0.0202	-2.21%	4.90%	NA	8.10%	75.15%	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%	-27.81%	-27.81%	-27.81%	0.2312	0.0203	-4.10%	0.00%	NA	3.67%	75.15%	3.67%	75.15%	-0.0653**	-0.1331		

Table G.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 Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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%	0.00%	-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%	0.00%	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					
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	-0.0059					
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%	19.01%	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					
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	-0.0059					
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%	19.01%	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 G.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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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	0.68%	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	0.0063	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					
Dividend Yield																							
Event - 5 Year	2939	1.4109	0.0000	0.0452	NA	NA	-5.96%	NA	2939	1.5687	0.0000	0.0452	NA	NA	5.76%	NA	-0.1578***	-0.7389					
Event - 4 Year	2946	1.3806	0.0000	0.0441	-2.15%	NA	-3.48%	NA	2946	1.5430	0.0000	0.0365	-1.19%	NA	7.52%	NA	-0.1624***	-0.7311					
Event - 3 Year	2925	1.3747	0.0000	0.0439	-0.43%	NA	-3.48%	NA	2925	1.5661	0.0000	0.0307	1.50%	NA	5.94%	NA	-0.1914***	-0.7659					
Event - 2 Year	2917	1.4057	0.0000	0.0448	2.26%	NA	-5.61%	NA	2917	1.5818	0.0000	0.0307	1.00%	NA	8.82%	NA	-0.1761***	-0.8220					
Event - 1 Year	2911	1.3678	0.0000	0.0435	-2.70%	NA	-3.00%	NA	2911	1.6152	0.0000	0.0303	2.11%	NA	7.32%	NA	-0.2474***	-0.8608					
Event	2918	1.3268	0.0000	0.0423	-3.00%	NA	NA	NA	2918	1.6501	0.0000	0.0301	2.72%	NA	6.90%	NA	-0.3323***	-0.9202					
Event + 1 Year	2766	1.3434	0.0000	0.0454	1.25%	NA	1.25%	NA	2766	1.5292	0.0000	0.0297	-7.83%	NA	-7.83%	NA	-0.1858***	-0.7978					
Event + 2 Year	2688	1.4227	0.0000	0.0483	5.90%	NA	7.23%	NA	2688	1.4195	0.0000	0.0288	-7.17%	NA	-14.44%	NA	-0.0032	-0.7295					
Event + 3 Year	2609	1.4063	0.0000	0.0490	-1.15%	NA	5.99%	NA	2609	1.3990	0.0000	0.0287	-2.09%	NA	-16.23%	NA	0.0164	-0.6794					
Event + 4 Year	2541	1.4530	0.0000	0.0514	3.32%	NA	9.51%	NA	2541	1.3923	0.0000	0.0289	0.17%	NA	-16.08%	NA	0.0607	-0.6856					
Event + 5 Year	2470	1.4840	0.0000	0.0520	2.13%	NA	11.85%	NA	2470	1.4168	0.0000	0.0291	1.76%	NA	-14.60%	NA	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%	NA	-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%	NA	80.000%	NA	-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%	NA	36.11%	NA	-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	12.56%	NA	20.99%	NA	-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%	NA	7.69%	NA	-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%	NA	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%	NA	-22.45%	NA	-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%	NA	-35.71%	NA	-0.009***	-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%	NA	-42.86%	NA	-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%	NA	-100.00%	NA	-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%	NA	-0.0014***	0.0000					

Table G.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 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.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year		N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year		N	Mean	Median	Std. Err.	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)				
							Δ Mean	Δ Median							Δ Mean	Δ Median												
EPS Estimate Miss																												
Event - 5 Year	2528	0.4371	0.0000	0.0069	NA	NA	18.62%	NA	2528	0.4322	0.0000	0.0102	NA	NA	-2.61%	NA	2528	0.4322	0.0000	0.0102	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	2613	0.4353	0.0000	0.0101	0.72%	-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	2636	0.4301	0.0000	0.0101	-1.19%	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	2717	0.4108	0.0000	0.0099	-4.49%	0.0415***	0.0000					
Event - 1 Year	2775	0.4750	0.0000	0.0095	5.02%	NA	9.16%	NA	2775	0.3905	0.0000	0.0097	-2.75%	NA	5.46%	NA	2775	0.3905	0.0000	0.0097	-2.75%	0.0751***	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	2723	0.4209	0.0000	0.0097	5.36%	0.0977***	1.0000					
Event + 1 Year	2270	0.4342	0.0000	0.0102	-16.26%	NA	-16.26%	NA	2270	0.4230	0.0000	0.0099	0.97%	NA	2.87%	NA	2270	0.4230	0.0000	0.0099	0.97%	0.0062	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	2.97%	NA	2286	0.4330	0.0000	0.0100	1.88%	-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	2240	0.4391	0.0000	0.0102	1.41%	-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	2252	0.4127	0.0000	0.0102	-6.01%	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	2239	0.4313	0.0000	0.0104	4.51%	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	4190	0.2774	0.0000	0.0069	18.53%	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	4190	0.2762	0.0000	0.0069	-0.43%	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	4190	0.3047	0.0000	0.0071	10.32%	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	4190	0.3171	0.0000	0.0072	4.07%	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	4190	0.3204	0.0000	0.0072	1.04%	0.0328***	0.0000					
Event	4190	0.4193	0.0000	0.0076	18.71%	NA	-31.36%	NA	4190	0.3288	0.0000	0.0073	2.62%	NA	NA	NA	4190	0.3288	0.0000	0.0073	2.62%	0.0905***	0.0000					
Event + 1 Year	4190	0.2878	0.0000	0.0070	-31.36%	NA	-42.12%	NA	4190	0.2801	0.0000	0.0070	-12.07%	NA	-12.07%	NA	4190	0.2801	0.0000	0.0070	-12.07%	-0.0013	0.0000					
Event + 2 Year	4190	0.2427	0.0000	0.0066	-15.67%	NA	-47.01%	NA	4190	0.2576	0.0000	0.0068	-4.59%	NA	-17.88%	NA	4190	0.2576	0.0000	0.0068	-4.59%	-0.0273***	0.0000					
Event + 3 Year	4190	0.2222	0.0000	0.0064	-8.45%	NA	-47.01%	NA	4190	0.2409	0.0000	0.0066	-6.48%	NA	-26.73%	NA	4190	0.2409	0.0000	0.0066	-6.48%	-0.0354***	0.0000					
Event + 4 Year	4190	0.2158	0.0000	0.0064	-2.88%	NA	-44.96%	NA	4190	0.2303	0.0000	0.0065	-4.40%	NA	-29.96%	NA	4190	0.2303	0.0000	0.0065	-4.40%	-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	4190	0.2303	0.0000	0.0065	-4.40%	0.0004	0.0000					
Industry Adjusted																												
Event - 5 Year	2528	0.4371	0.0000	0.0069	NA	NA	18.62%	NA	2528	0.4276	0.4254	0.0018	NA	NA	-1.22%	-1.15%	2528	0.4276	0.4254	0.0018	NA	0.0095	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%	NA	-0.78%	-0.87%	2613	0.4257	0.4242	0.0018	-0.44%	0.0025	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%	NA	-0.80%	-0.73%	2636	0.4258	0.4236	0.0018	0.02%	0.0196**	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%	NA	-1.10%	-1.50%	2717	0.4271	0.4269	0.0018	0.31%	0.0252***	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%	NA	-0.09%	-1.41%	2775	0.4280	0.4265	0.0018	0.21%	0.0477***	0.0477***	-0.4265				
Event	2723	0.5185	1.0000	0.0096	9.16%	NA	NA	NA	2723	0.4224	0.4205	0.0017	-1.31%	NA	NA	NA	2723	0.4224	0.4205	0.0017	-1.31%	0.0691***	0.0691***	0.5795				
Event + 1 Year	2270	0.4342	0.0000	0.0102	-16.26%	NA	-16.26%	NA	2270	0.4280	0.4265	0.0018	1.33%	NA	1.33%	1.43%	2270	0.4280	0.4265	0.0018	1.33%	0.0062	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%	NA	1.11%	1.52%	2286	0.4271	0.4269	0.0018	-0.21%	-0.0076	-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%	NA	0.80%	0.74%	2240	0.4258	0.4236	0.0018	-0.30%	-0.0017	-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%	NA	0.78%	0.88%	2252	0.4257	0.4242	0.0018	-0.02%	0.0192**	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%	NA	1.23%	1.17%	2239	0.4276	0.4254	0.0018	0.45%	0.0074	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%	4190	0.2973	0.3018	0.0024	NA	-0.0026	-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%	NA	9.36%	5.14%	4190	0.3098	0.3149	0.0023	4.20%	0.0074	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%	NA	6.81%	3.98%	4190	0.3172	0.3184	0.0022	2.39%	0.0051	0.0051	-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%	NA	3.96%	2.67%	4190	0.3259	0.3225	0.0022	2.74%	0.0052	0.0052	-0.3225				
Event - 1 Year	4190	0.3532	0.0000	0.0074	6.71%	NA	18.71%	NA	4190	0.3359	0.3289	0.0022	2.45%	NA	1.47%	0.67%	4190	0.3359	0.3289	0.0022	2.45%	0.0193**	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%	NA	NA	NA	4190	0.3388	0.3311	0.0022	1.47%	0.0805***	0.0805***	-0.3311				
Event + 1 Year	4190	0.2878	0.0000	0.0070	-31.36%	NA	-42.12%	NA	4190	0.2870	0.2981	0.0027	-15.29%	NA	-15.29%	-9.97%	4190	0.2870	0.2981	0.0027	-15.29%	0.0008	0.0008	-0.2981				
Event + 2 Year	4190	0.2427	0.0000	0.0066	-15.67%	NA	-47.01%	NA	4190	0.2616	0.2702	0.0027	-8.85%	NA	-9.36%	-18.39%	4190	0.2616	0.2702	0.0027	-8.85%	-0.0189***	-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%	NA	-27.01%	-23.71%	4190	0.2473	0.2526	0.0027	-5.47%	-0.0251***	-0.0251***	-0.2526				

Table G-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.	YoY		Event vs Year		N	Mean	Median	Std. Err.	YoY		Event vs Year		Diff (Mean)	Diff (Median)					
					Δ Mean	Δ Median	Δ Mean	Δ Median					Δ Mean	Δ Median	Δ Mean	Δ 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	0.0206***	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	0.0252***	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	-38.31%	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	0.00%	0.00%	4.88%	-0.19%	4190	0.1027	0.0528	0.0031	3.63%	0.76%	2.73%	-0.18%	-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%	-0.0023	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	2.25%	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	4.35%	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																							
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	0.1479	0.1307	0.0017	0.34%	3.41%	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	0.1464	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	0.1254	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	-38.31%	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%	-0.005*	-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	0.00%	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	2.25%	0.76%	2.28%	0.76%	4190	0.1077	0.0543	0.0030	3.06%	3.04%	3.06%	3.04%	0.0001	0.0001					
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	0.1059	0.0543	0.0029	-0.47%	0.00%	1.05%	3.04%	0.0003	0.0003					
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 G.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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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				
Industry Adjusted																						
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%	0.0088***	-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 G.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 event 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.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ 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	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	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	NA	4190	0.1326	0.0000	0.0052	-1.92%	NA	-4.15%	NA	0.0075	0.0000						
Event - 2 Year	4190	0.1369	0.0000	0.0053	-0.86%	NA	229.73%	NA	NA	4190	0.1336	0.0000	0.0053	0.75%	NA	-4.87%	NA	0.0053	0.0000						
Event - 1 Year	4190	0.1383	0.0000	0.0053	-1.87%	NA	236.02%	NA	NA	4190	0.1369	0.0000	0.0053	2.47%	NA	-7.16%	NA	-0.0006	0.0000						
Event + 1 Year	4190	0.4580	0.0000	0.0077	236.02%	NA	NA	NA	NA	4190	0.1271	0.0000	0.0051	-7.17%	NA	-7.71%	NA	-0.0178***	0.0000						
Event + 2 Year	4190	0.0995	0.0000	0.0046	-78.28%	NA	-78.28%	NA	NA	4190	0.1173	0.0000	0.0050	-7.71%	NA	-7.71%	NA	-0.0261***	0.0000						
Event + 3 Year	4190	0.0862	0.0000	0.0043	-15.37%	NA	-81.18%	NA	NA	4190	0.1123	0.0000	0.0049	-4.26%	NA	-11.04%	NA	-0.0321***	0.0000						
Event + 4 Year	4190	0.0728	0.0000	0.0040	-15.55%	NA	-84.11%	NA	NA	4190	0.1049	0.0000	0.0047	-6.59%	NA	-17.47%	NA	-0.0257***	0.0000						
Event + 5 Year	4190	0.0706	0.0000	0.0040	-3.02%	NA	-84.59%	NA	NA	4190	0.0963	0.0000	0.0046	-8.20%	NA	-24.23%	NA	-0.0321***	0.0000						
Event + 5 Year	4190	0.0687	0.0000	0.0039	-2.69%	NA	-85.00%	NA	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	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	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	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	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	NA	4190	0.1228	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	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	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	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	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	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	NA	4190	0.0695	0.0000	0.0039	-6.84%	NA	-42.99%	NA	0.0130**	0.0000						
Industry Adjusted																									
Event - 5 Year	4190	0.1363	0.0000	0.0053	NA	NA	236.02%	NA	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	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	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	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	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	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	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	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	-84.11%	NA	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	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	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	NA	4190	0.1220	0.1170	0.0013	NA	NA	-2.21%	NA	0.0391***	-0.1170						
Event - 4 Year	4190	0.1652	0.0000	0.0057	2.55%	NA	10.96%	NA	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	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	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	NA	4190	0.1232	0.1188	0.0013	-2.53%	-4.96%	-3.17%	-4.71%	0.0684***	-0.1188						
Event	4190	0.1833	0.0000	0.0060	13.43%	NA	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	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	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	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	NA	4190	0.0812	0.0569	0.0012	-5.14%	-12.06%	-49.73%	-51.94%	0.0042	-0.0569						
Event + 5 Year	4190	0.0826	0.0000	0.0043	-3.28%	NA	-54.94%	NA	NA	4190	0.0775	0.0526	0.0012	-4.56%	-7.56%	-53.53%	-53.53%	0.0051	-0.0526						

Table G.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.

Matched Firms															Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)			
Revenue Growth																	
Event - 5 Year	2730	0.0439	0.0273	0.0038	NA	-63.74%	-57.86%	-63.74%	0.0461	0.0322	0.0039	NA	NA	-0.0022	-0.0049		
Event - 4 Year	2776	0.0391	0.0267	0.0037	-10.93%	-52.69%	-48.03%	-62.92%	0.0454	0.0276	0.0039	-1.52%	-14.29%	-0.0063	-0.0069		
Event - 3 Year	2768	0.0356	0.0219	0.0036	-8.95%	-48.03%	-48.03%	-54.79%	0.0465	0.0300	0.0038	2.42%	8.70%	-0.0109**	-0.0081		
Event - 2 Year	2766	0.0358	0.0251	0.0035	0.56%	-46.32%	-46.32%	-60.56%	0.0458	0.0263	0.0038	-1.51%	-12.33%	-0.0100*	-0.0012		
Event - 1 Year	2788	0.0290	0.0149	0.0034	-18.99%	-36.21%	-36.21%	-33.56%	0.0444	0.0274	0.0037	-0.06%	4.18%	-0.0154***	-0.0125		
Event	2523	0.0185	0.0099	0.0037	-36.21%	NA	NA	NA	0.0416	0.0239	0.0038	-6.31%	-12.77%	-0.0230***	-0.0140		
Event + 1 Year	2348	0.0329	0.0150	0.0043	77.84%	77.84%	77.84%	51.92%	0.0421	0.0253	0.0040	1.20%	5.86%	-0.0092	-0.0103		
Event + 2 Year	2473	0.0411	0.0207	0.0041	24.92%	122.16%	109.09%	109.09%	0.0463	0.0272	0.0042	9.98%	7.51%	-0.0052	-0.0065		
Event + 3 Year	2489	0.0512	0.0263	0.0043	24.57%	176.76%	165.66%	165.66%	0.0462	0.0284	0.0041	1.20%	9.56%	0.0044	0.0044		
Event + 4 Year	2505	0.0511	0.0273	0.0043	-0.20%	176.22%	175.76%	175.76%	0.0462	0.0284	0.0042	-1.28%	9.56%	0.0049	0.0051		
Event + 5 Year	2507	0.0492	0.0311	0.0041	-3.72%	165.95%	214.14%	214.14%	0.0457	0.0293	0.0042	-1.08%	3.17%	0.0036	0.0018		
Operating Margin																	
Event - 5 Year	2636	0.0355	0.1183	0.0107	NA	-33.52%	-40.40%	-14.37%	-0.0320	0.1207	0.0142	NA	NA	0.0675***	-0.0024		
Event - 4 Year	2670	0.0396	0.1172	0.0106	-11.55%	-40.40%	-40.40%	-13.57%	-0.0195	0.1247	0.0137	-39.06%	3.31%	0.0675***	-0.0075		
Event - 3 Year	2655	0.0477	0.1163	0.0103	20.45%	-50.52%	-12.90%	-12.90%	0.0136	0.1222	0.0136	-25.13%	1.22%	0.0623***	-0.0059		
Event - 2 Year	2672	0.0480	0.1163	0.0101	0.63%	-50.83%	-12.90%	-12.90%	0.0058	0.1256	0.0129	-139.73%	2.78%	0.0422***	-0.0093		
Event - 1 Year	2670	0.0395	0.1102	0.0107	-36.46%	-22.62%	-5.08%	-5.08%	0.0125	0.1250	0.0125	-132.76%	-0.48%	0.0170	-0.0148		
Event	2419	0.0236	0.1013	0.0113	-22.62%	NA	NA	NA	0.0067	0.1265	0.0132	-50.37%	1.20%	0.0169	-0.0252		
Event + 1 Year	2529	-0.0189	0.1087	0.0130	-180.08%	-180.08%	-180.08%	7.31%	-0.0210	0.1234	0.0138	-2.45%	-2.45%	0.0021	-0.0147		
Event + 2 Year	2542	-0.0256	0.1115	0.0132	35.45%	-208.47%	-208.47%	10.07%	-0.0223	0.1233	0.0140	6.19%	-0.89%	-0.0033	-0.0108		
Event + 3 Year	2527	-0.0358	0.1132	0.0142	39.84%	-251.69%	-251.69%	11.75%	-0.0272	0.1217	0.0143	21.97%	-0.49%	-0.0086	-0.0085		
Event + 4 Year	2487	-0.0166	0.1214	0.0137	-53.63%	-170.34%	-170.34%	19.84%	0.0146	0.1147	0.0146	63.97%	-5.75%	0.0280	0.0067		
Event + 5 Year	2473	-0.0075	0.1185	0.0132	-54.82%	-131.78%	-131.78%	16.98%	-0.0420	0.1120	0.0147	-5.83%	5.49%	0.0345*	-0.0025		
Industry Adjusted																	
Revenue Growth																	
Event - 5 Year	2730	0.0439	0.0273	0.0038	NA	-63.74%	-57.86%	-63.74%	0.1706	0.0554	0.0089	NA	NA	-0.1267***	-0.0281		
Event - 4 Year	2776	0.0391	0.0267	0.0037	-10.93%	-52.69%	-48.03%	-62.92%	0.1919	0.0560	0.0096	12.49%	1.08%	-0.1528***	-0.0293		
Event - 3 Year	2768	0.0356	0.0219	0.0036	-8.95%	-48.03%	-48.03%	-54.79%	0.2063	0.0595	0.0100	6.25%	6.25%	-0.1707***	-0.0376		
Event - 2 Year	2766	0.0358	0.0251	0.0035	0.56%	-46.32%	-46.32%	-60.56%	0.1898	0.0580	0.0093	-8.00%	-2.52%	-0.154***	-0.0329		
Event - 1 Year	2788	0.0290	0.0149	0.0034	-18.99%	-36.21%	-36.21%	-33.56%	0.2044	0.0516	0.0102	-11.03%	1.22%	-0.1754***	-0.0367		
Event	2523	0.0185	0.0099	0.0037	-36.21%	NA	NA	NA	0.2069	0.0469	0.0107	1.22%	9.11%	-0.1884***	-0.0370		
Event + 1 Year	2348	0.0329	0.0150	0.0043	77.84%	77.84%	77.84%	51.92%	0.2083	0.0501	0.0105	0.68%	6.82%	-0.1754***	-0.0351		
Event + 2 Year	2473	0.0411	0.0207	0.0041	24.92%	122.16%	109.09%	109.09%	0.2027	0.0529	0.0102	-2.69%	5.59%	-0.1616***	-0.0322		
Event + 3 Year	2489	0.0512	0.0263	0.0043	24.57%	176.76%	165.66%	165.66%	0.2225	0.0509	0.0107	9.77%	11.53%	-0.1713***	-0.0327		
Event + 4 Year	2505	0.0511	0.0273	0.0043	-0.20%	176.22%	175.76%	175.76%	0.2221	0.0606	0.0106	-0.18%	2.71%	-0.1713***	-0.0333		
Event + 5 Year	2507	0.0492	0.0311	0.0041	-3.72%	165.95%	214.14%	214.14%	0.2136	0.0632	0.0101	-3.83%	4.29%	-0.1644***	-0.0321		
Operating Margin																	
Event - 5 Year	2636	0.0355	0.1183	0.0107	NA	-33.52%	-40.40%	-14.37%	-2.0914	0.0348	0.1113	NA	NA	2.1269***	0.0835		
Event - 4 Year	2670	0.0396	0.1172	0.0106	-11.55%	-40.40%	-40.40%	-13.57%	-1.9476	0.0407	0.1094	-6.88%	16.95%	1.9872***	0.0765		
Event - 3 Year	2655	0.0477	0.1163	0.0103	20.45%	-50.52%	-12.90%	-12.90%	-1.9737	0.0517	0.1134	1.34%	27.03%	12.38%	0.0646		
Event - 2 Year	2672	0.0480	0.1163	0.0101	0.63%	-50.83%	-12.90%	-12.90%	-2.1079	0.0523	0.1154	6.80%	9.99%	2.1559***	0.0640		
Event - 1 Year	2670	0.0395	0.1102	0.0107	-36.46%	-22.62%	-5.08%	-5.08%	-2.2817	0.0562	0.1203	8.25%	7.46%	2.3122***	0.0540		
Event	2419	0.0236	0.1013	0.0113	-22.62%	NA	NA	NA	-2.2181	0.0570	0.1204	-2.79%	1.42%	2.2417***	0.0443		
Event + 1 Year	2529	-0.0189	0.1087	0.0130	-180.08%	-180.08%	-180.08%	7.31%	-1.9059	0.0618	0.1111	-14.08%	8.42%	1.8877***	0.0469		
Event + 2 Year	2542	-0.0256	0.1115	0.0132	35.45%	-208.47%	-208.47%	10.07%	-1.9894	0.0595	0.1111	-4.38%	4.39%	1.9638***	0.0520		
Event + 3 Year	2527	-0.0358	0.1132	0.0142	39.84%	-251.69%	-251.69%	11.75%	-1.8680	0.0575	0.1078	-10.31%	4.32%	1.8322***	0.0557		
Event + 4 Year	2487	-0.0166	0.1214	0.0137	-53.63%	-170.34%	-170.34%	19.84%	-1.9250	0.0532	0.1085	-3.36%	8.88%	1.8322***	0.0557		
Event + 5 Year	2473	-0.0075	0.1185	0.0132	-54.82%	-131.78%	-131.78%	16.98%	-1.8713	0.0554	0.1068	-2.79%	4.14%	1.9084***	0.0682		

Table G.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.	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	N	Mean	Median	Std. Err.	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	Δ Mean	Event vs Year	Δ 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%	-17.77%	2477	0.0651	0.0924	0.0037	9.05%	0.98%	10.91%	6.76%	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	3.33%	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	2.2387	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%	-1.80%	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	2.2200	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	1.5382	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	4.00%	-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							
Industry Adjusted																									
Differences between Target Firms and Industry																									
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	0.0021	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%	11.87%	-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%	-8.80%	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%	NA	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	0.0021	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	0.0754	0.0021	-1.16%	1.43%	13.89%	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	3.33%	3.33%	2.32%	14.97%	2388	0.0392	0.0740	0.0021	-6.22%	-3.32%	-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***	-0.704							
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%	-1.25%	2.49%	-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	3.3002	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 G.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.	Δ Mean	Δ Median	Event vs Year	Δ Mean	Δ Median	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	Event vs Year	Δ Mean	Δ Median	Event vs Year	Δ Mean	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)
ROE	2817	-0.0203	0.0644	0.0080	NA	NA	216.75%	-50.78%	-50.78%	2723	-0.0392	0.0673	0.0086	NA	NA	-86.48%	11.74%	11.74%	0.0189	0.0189	0.0189	0.0189	0.0189	-0.0029	-0.0029
Event - 5 Year	2856	-0.0198	0.0645	0.0080	-2.46%	0.16%	224.75%	-50.85%	-50.85%	2739	-0.0370	0.0710	0.0090	-5.61%	5.50%	-85.68%	5.92%	5.92%	0.0172	0.0172	0.0172	0.0172	0.0172	-0.0065	-0.0065
Event - 4 Year	2858	-0.0086	0.0627	0.0076	-56.57%	-2.79%	647.67%	-49.44%	-49.44%	2751	-0.0187	0.0743	0.0084	-49.46%	4.65%	-71.66%	1.21%	1.21%	0.0101	0.0101	0.0101	0.0101	0.0101	-0.0116	-0.0116
Event - 3 Year	2849	-0.0342	0.0552	0.0079	297.67%	-11.96%	88.01%	-42.57%	-42.57%	2767	-0.0189	0.0738	0.0086	1.07%	-0.67%	-71.96%	1.90%	1.90%	-0.0153	-0.0153	-0.0153	-0.0153	-0.0153	-0.0186	-0.0186
Event - 2 Year	2861	-0.0434	0.0485	0.0079	26.90%	-12.14%	48.16%	-34.64%	-34.64%	2752	-0.0181	0.0766	0.0086	-4.23%	3.79%	-70.72%	-1.83%	-1.83%	-0.0253**	-0.0253**	-0.0253**	-0.0253**	-0.0253**	-0.0281	-0.0281
Event - 1 Year	2568	-0.0643	0.0317	0.0088	48.16%	-34.64%	NA	NA	NA	2632	-0.0063	0.0752	0.0086	-1.83%	NA	NA	NA	NA	-0.0590***	-0.0590***	-0.0590***	-0.0590***	-0.0590***	-0.0435	-0.0435
Event + 1 Year	2586	-0.0691	0.0416	0.0094	7.47%	31.23%	7.47%	31.23%	31.23%	2632	-0.0239	0.0747	0.0088	350.94%	-0.66%	350.94%	-0.66%	-0.66%	-0.0452***	-0.0452***	-0.0452***	-0.0452***	-0.0452***	-0.0331	-0.0331
Event + 2 Year	2658	-0.0641	0.0527	0.0093	-7.24%	26.68%	-0.31%	66.25%	66.25%	2632	-0.0337	0.0671	0.0090	82.85%	-10.17%	724.53%	-10.77%	-10.77%	-0.203	-0.203	-0.203	-0.203	-0.203	-0.0144	-0.0144
Event + 3 Year	2649	-0.0464	0.0622	0.0091	-27.61%	18.03%	-27.84%	96.21%	96.21%	2617	-0.0423	0.0697	0.0089	-3.20%	3.87%	698.11%	-7.31%	-7.31%	-0.0041	-0.0041	-0.0041	-0.0041	-0.0041	-0.0075	-0.0075
Event + 4 Year	2668	-0.0476	0.0652	0.0088	2.59%	4.82%	-25.97%	105.68%	105.68%	2640	-0.0574	0.0662	0.0085	35.70%	-5.02%	983.02%	-11.97%	-11.97%	0.0098	0.0098	0.0098	0.0098	0.0098	-0.0010	-0.0010
Event + 5 Year	2681	-0.0285	0.0712	0.0087	-40.13%	9.20%	-55.68%	124.61%	124.61%	2639	-0.0566	0.0698	0.0093	-1.39%	5.44%	967.92%	-7.18%	-7.18%	0.0281**	0.0281**	0.0281**	0.0281**	0.0281**	0.0014	0.0014
ROIC	2740	0.0303	0.0495	0.0029	NA	NA	-72.94%	-26.26%	-26.26%	2649	0.0205	0.0523	0.0034	NA	NA	71.22%	11.66%	11.66%	0.0097**	0.0097**	0.0097**	0.0097**	0.0097**	-0.0028	-0.0028
Event - 5 Year	2765	0.0275	0.0486	0.0029	-9.24%	-1.82%	-70.18%	-24.90%	-24.90%	2653	0.0184	0.0512	0.0034	-10.24%	-2.10%	90.76%	14.06%	14.06%	0.0091**	0.0091**	0.0091**	0.0091**	0.0091**	-0.0046	-0.0046
Event - 4 Year	2771	0.0285	0.0490	0.0028	3.64%	0.82%	-71.23%	-25.51%	-25.51%	2678	0.0273	0.0534	0.0034	48.37%	4.30%	28.57%	9.36%	9.36%	0.0011	0.0011	0.0011	0.0011	0.0011	-0.0044	-0.0044
Event - 3 Year	2749	0.0291	0.0483	0.0028	2.11%	-1.43%	-71.82%	-24.43%	-24.43%	2706	0.0293	0.0533	0.0032	7.33%	-0.19%	19.80%	9.57%	9.57%	-0.0003	-0.0003	-0.0003	-0.0003	-0.0003	-0.0050	-0.0050
Event - 2 Year	2760	0.0217	0.0439	0.0028	-25.43%	-9.11%	-62.21%	-16.86%	-16.86%	2690	0.0308	0.0575	0.0032	5.12%	7.88%	13.96%	1.57%	1.57%	-0.0092**	-0.0092**	-0.0092**	-0.0092**	-0.0092**	-0.0136	-0.0136
Event - 1 Year	2478	0.0082	0.0365	0.0031	-62.21%	-16.86%	NA	NA	NA	2602	0.0381	0.0584	0.0032	13.96%	NA	NA	NA	NA	-0.0269***	-0.0269***	-0.0269***	-0.0269***	-0.0269***	-0.0219	-0.0219
Event + 1 Year	2493	0.0097	0.0402	0.0034	18.29%	10.14%	18.29%	10.14%	10.14%	2549	0.0260	0.0559	0.0033	-25.93%	-33.93%	-25.93%	-4.28%	-4.28%	-0.0164***	-0.0164***	-0.0164***	-0.0164***	-0.0164***	-0.0157	-0.0157
Event + 2 Year	2559	0.0130	0.0455	0.0034	34.02%	13.18%	58.54%	24.66%	24.66%	2540	0.0172	0.0522	0.0035	-33.85%	-6.62%	-51.00%	-10.62%	-10.62%	-0.0042	-0.0042	-0.0042	-0.0042	-0.0042	-0.0067	-0.0067
Event + 3 Year	2566	0.0118	0.0479	0.0035	-9.23%	5.27%	43.90%	31.23%	31.23%	2530	0.0190	0.0535	0.0035	10.47%	2.49%	-45.87%	-8.39%	-8.39%	-0.0072	-0.0072	-0.0072	-0.0072	-0.0072	-0.0056	-0.0056
Event + 4 Year	2579	0.0165	0.0526	0.0034	39.83%	9.81%	101.22%	44.11%	44.11%	2550	0.0123	0.0504	0.0036	-35.26%	-5.79%	-64.96%	-13.70%	-13.70%	0.0042	0.0042	0.0042	0.0042	0.0042	-0.0056	-0.0056
Event + 5 Year	2597	0.0163	0.0521	0.0035	-1.21%	-0.95%	98.78%	42.74%	42.74%	2561	0.0107	0.0512	0.0036	-13.01%	-1.59%	-69.52%	-12.33%	-12.33%	0.0055	0.0055	0.0055	0.0055	0.0055	0.0022	0.0022
ROE	2817	-0.0203	0.0644	0.0080	NA	NA	216.75%	-50.78%	-50.78%	2817	-0.0002	0.0047	0.0089	NA	NA	-8000.00%	317.02%	317.02%	-0.0114	-0.0114	-0.0114	-0.0114	-0.0114	0.0658	0.0658
Event - 5 Year	2856	-0.0198	0.0645	0.0080	-2.46%	0.16%	224.75%	-50.85%	-50.85%	2856	0.0029	0.0065	0.0089	-1550.00%	38.30%	444.83%	201.54%	201.54%	-0.203*	-0.203*	-0.203*	-0.203*	-0.203*	0.0644	0.0644
Event - 4 Year	2858	-0.0086	0.0627	0.0076	-56.57%	-2.79%	647.67%	-49.44%	-49.44%	2858	0.0297	0.0150	0.0089	924.14%	130.77%	-46.80%	30.67%	30.67%	-0.0371***	-0.0371***	-0.0371***	-0.0371***	-0.0371***	0.0518	0.0518
Event - 3 Year	2849	-0.0342	0.0552	0.0079	297.67%	-11.96%	88.01%	-42.57%	-42.57%	2849	0.0202	0.0202	0.0087	-4.97%	-4.97%	-41.91%	-2.97%	-2.97%	-0.0495***	-0.0495***	-0.0495***	-0.0495***	-0.0495***	0.0416	0.0416
Event - 2 Year	2861	-0.0434	0.0485	0.0079	26.90%	-12.14%	48.16%	-34.64%	-34.64%	2861	0.0209	0.0166	0.0086	-23.16%	-17.82%	-24.40%	18.07%	18.07%	-0.0584***	-0.0584***	-0.0584***	-0.0584***	-0.0584***	0.0368	0.0368
Event - 1 Year	2568	-0.0643	0.0317	0.0088	48.16%	-34.64%	NA	NA	NA	2568	0.0158	0.0196	0.0085	-24.40%	18.07%	NA	NA	NA	-0.0795***	-0.0795***	-0.0795***	-0.0795***	-0.0795***	0.0157	0.0157
Event + 1 Year	2586	-0.0691	0.0416	0.0094	7.47%	31.23%	7.47%	31.23%	31.23%	2586	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	6.12%	-0.103***	-0.103***	-0.103***	-0.103***	-0.103***	0.0246	0.0246
Event + 2 Year	2658	-0.0641	0.0527	0.0093	-7.24%	26.68%	-0.31%	66.25%	66.25%	2658	0.0088	0.0202	0.0083	-9.49%	-9.49%	-94.94%	3.06%	3.06%	-0.0634***	-0.0634***	-0.0634***	-0.0634***	-0.0634***	0.0353	0.0353
Event + 3 Year	2649	-0.0464	0.0622	0.0091	-27.61%	18.03%	-27.84%	96.21%	96.21%	2649	0.0148	0.0232	0.0085	1750.00%	14.85%	18.37%	-6.33%	-6.33%	-0.0659***	-0.0659***	-0.0659***	-0.0659***	-0.0659***	0.0399	0.0399
Event + 4 Year	2668	-0.0476	0.0652	0.0088	2.59%	4.82%	-25.97%	105.68%	105.68%	2668	0.0241	0.0232	0.0086	62.84%	0.00%	52.53%	18.37%	18.37%	-0.0694***	-0.0694***	-0.0694***	-0.0694***	-0.0694***	0.0443	0.0443
Event + 5 Year	2681	-0.0285	0.0712	0.0087	-40.13%	9.20%	-55.68%	124.61%	124.61%	2681	0.0161	0.0181	0.0085	-33.20%	-21.98%	1.90%	-7.65%	-7.65%	-0.0422***	-0.0422***	-0.0422***	-0.0422***	-0.0422***	0.0553	0.0553
ROIC	2740	0.0303	0.0495	0.0029	NA	NA	-72.94%	-26.26%	-26.26%	3206	0.0284	0.0405	0.0034	NA	NA	31.34%	11.36%	11.36%	0.0019	0.0019	0.0019	0.0019	0.0019	0.0090	0.0090
Event - 5 Year	2765	0.0275	0.0486	0.0029	-9.24%	-1.82%	-70.18%	-24.90%	-24.90%	3206	0.0331	0.0412	0.0034	16.35%	1.73%	12.69%	9.47%	9.47%	-0.0056	-0.0056	-0.0056	-0.0056	-0.0056	0.0074	0.0074
Event - 4 Year	2771	0.0285	0.0490	0.0028	3.64%	0.82%	-71.23%	-25.51%	-25.51%	3206	0.0333	0.0424	0.0032	6.00%	2.91%	6.37%	6.37%	6.37%	-0.0048	-0.0048	-0.0048	-0.0048	-0.0048	0.0066	0.0066
Event - 3 Year	2749	0.0291	0.0483	0.0028	2.11%	-1.43%	-71.82%	-24.43%	-24.43%	3206	0.0393	0.0439	0.0032	18.02%	3.54%	-5.09%	2.73%	2.73%	-0.102**	-0.102**	-0.102**	-0.102**	-0.102**	0.0044	0.0044
Event - 2 Year	2760	0.0217	0.0439	0.0028	-25.43%	-9.11%	-62.21%	-16.86%	-16.86%	3206	0.0355	0.0448	0.0032	-9.67%	2.05%	5.07%	0.67%	0.67%	-0.1038**	-0.1038**	-0.1038**	-0.1038**	-0.1038**	0.0009	0.0009
Event - 1 Year	2478	0.0082	0.0365	0.0031	-62.21%	-16.86%	NA	NA	NA	3205	0.0373	0.0451	0.0030	5.07%	0.67%	NA	NA	NA	-0.0291***	-0.0291***	-0.0291***	-0.0291***	-0.0291***	0.0086	0.0086
Event + 1 Year	2493	0.0097	0.040																						

Table G.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.	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	N	Mean	Median	Std. Err.	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Diff (Mean)	Diff (Median)
EV / LTM EBITDA																																
Event - 5 Year	2508	7.8718	7.3619	0.3123	NA	-11.35%	-1.65%	-11.35%	-1.65%	2508	7.3227	7.1501	0.3134	NA	NA	-4.39%	-4.39%	3.48%	3.48%	2508	7.3227	7.1501	0.3134	NA	NA	-4.39%	-4.39%	3.48%	3.48%	0.5490	0.2118	
Event - 4 Year	2543	7.6209	7.3251	0.3013	-3.19%	-8.44%	-1.16%	-8.44%	-1.16%	2543	7.0420	7.1677	0.3093	-8.83%	0.25%	-0.58%	-0.58%	3.22%	3.22%	2543	7.0420	7.1677	0.3093	-8.83%	0.25%	-0.58%	-0.58%	3.22%	3.22%	0.5789	0.1574	
Event - 3 Year	2562	6.9646	7.2580	0.3066	-8.61%	0.19%	-0.25%	0.19%	-0.25%	2562	7.0289	7.3283	0.3065	-0.26%	2.24%	-0.32%	-0.32%	0.96%	0.96%	2562	7.0289	7.3283	0.3065	-0.26%	2.24%	-0.32%	-0.32%	0.96%	0.96%	-0.0593	-0.0703	
Event - 2 Year	2587	7.2821	7.2546	0.3014	4.56%	-4.18%	-0.20%	-4.18%	-0.20%	2587	6.7012	7.2855	0.3095	-4.58%	1.55%	4.48%	4.48%	1.55%	1.55%	2587	6.7012	7.2855	0.3095	-4.58%	1.55%	4.48%	4.48%	1.55%	1.55%	0.5809	-0.0309	
Event - 1 Year	2570	6.6084	7.4409	0.2907	4.48%	-8.29%	-2.70%	-8.29%	-2.70%	2570	7.4765	7.5902	0.3033	11.57%	4.18%	-6.36%	-6.36%	-2.52%	-2.52%	2570	7.4765	7.5902	0.3033	11.57%	4.18%	-6.36%	-6.36%	-2.52%	-2.52%	0.1319	-0.1493	
Event	2312	6.9780	7.2401	0.3251	-8.29%	NA	NA	NA	NA	2312	7.0013	7.3986	0.2955	-6.36%	-2.52%	NA	NA	NA	NA	2312	7.0013	7.3986	0.2955	-6.36%	-2.52%	NA	NA	NA	NA	-0.0233	-0.1585	
Event + 1 Year	2359	6.4786	6.6481	0.3132	-7.16%	-7.16%	-8.18%	-7.16%	-8.18%	2359	6.7930	7.1600	0.3056	-2.98%	-3.22%	-2.98%	-2.98%	-3.22%	-3.22%	2359	6.7930	7.1600	0.3056	-2.98%	-3.22%	-2.98%	-2.98%	-3.22%	-3.22%	-0.3143	-0.5119	
Event + 2 Year	2381	6.2372	6.5033	0.3161	-3.73%	-10.62%	-10.18%	-10.62%	-10.18%	2381	6.6676	7.0152	0.3007	-1.85%	-2.02%	-4.77%	-4.77%	-5.18%	-5.18%	2381	6.6676	7.0152	0.3007	-1.85%	-2.02%	-4.77%	-4.77%	-5.18%	-5.18%	-0.4304	-0.5119	
Event + 3 Year	2371	6.0578	6.6942	0.3214	-2.88%	-13.19%	-7.54%	-13.19%	-7.54%	2371	6.5655	6.8965	0.3092	-1.53%	-2.27%	-6.22%	-6.22%	-6.43%	-6.43%	2371	6.5655	6.8965	0.3092	-1.53%	-2.27%	-6.22%	-6.22%	-6.43%	-6.43%	-0.5077	-0.3023	
Event + 4 Year	2356	6.6434	6.7528	0.3124	9.67%	-4.80%	-6.73%	-4.80%	-6.73%	2356	6.2417	6.8599	0.3197	-4.93%	-1.95%	-10.85%	-10.85%	-7.28%	-7.28%	2356	6.2417	6.8599	0.3197	-4.93%	-1.95%	-10.85%	-10.85%	-7.28%	-7.28%	0.4017	-0.1071	
Event + 5 Year	2341	6.4460	6.8056	0.3201	-2.97%	-7.62%	-6.00%	-7.62%	-6.00%	2341	5.8886	6.7506	0.3117	-5.66%	-1.59%	-15.89%	-15.89%	-8.76%	-8.76%	2341	5.8886	6.7506	0.3117	-5.66%	-1.59%	-15.89%	-15.89%	-8.76%	-8.76%	0.5574	0.0550	
Industry Adjusted																																
Event - 5 Year	791	8.0160	7.7235	0.5131	NA	-12.45%	-3.82%	-12.45%	-3.82%	791	6.8392	7.1266	0.1659	NA	NA	1.20%	1.20%	-0.75%	-0.75%	791	6.8392	7.1266	0.1659	NA	NA	1.20%	1.20%	-0.75%	-0.75%	1.1228**	0.5969	
Event - 4 Year	814	6.7130	7.4215	0.5054	-16.25%	4.54%	0.10%	4.54%	0.10%	814	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	-2.32%	0.37%	0.37%	814	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	-2.32%	0.37%	0.37%	0.8584***	0.3335	
Event - 3 Year	825	6.9344	7.8910	0.4953	3.30%	6.33%	-5.86%	6.33%	-5.86%	825	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	-0.04%	0.20%	0.20%	825	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	-0.04%	0.20%	0.20%	0.5593**	0.3734	
Event - 2 Year	830	7.1547	7.4889	0.4889	3.18%	-1.91%	-0.80%	-1.91%	-0.80%	830	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.78%	1.35%	1.35%	830	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.78%	1.35%	1.35%	0.96***	0.3668	
Event - 1 Year	863	7.4149	7.2937	0.4874	3.64%	-5.35%	1.85%	-5.35%	1.85%	863	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	1.49%	0.06%	0.06%	863	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	1.49%	0.06%	0.06%	1.2535***	0.3395	
Event	820	7.0180	7.4287	0.5008	-5.35%	NA	NA	NA	NA	820	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	NA	NA	820	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	NA	NA	0.5913**	0.2441	
Event + 1 Year	769	6.1631	6.5226	0.5185	-12.18%	-12.20%	-12.20%	-12.18%	-12.20%	769	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.61%	-3.85%	-3.85%	769	6.1662	6.7689	0.0917	-3.61%	-3.85%	-3.61%	-3.61%	-3.85%	-3.85%	0.2388	-0.1440	
Event + 2 Year	783	6.5264	6.4192	0.5197	5.89%	-7.00%	-13.59%	-7.00%	-13.59%	783	5.9542	6.6791	0.0896	-1.33%	-1.33%	-6.92%	-6.92%	-5.12%	-5.12%	783	5.9542	6.6791	0.0896	-1.33%	-1.33%	-6.92%	-6.92%	-5.12%	-5.12%	0.3551	-0.1811	
Event + 3 Year	769	6.0581	6.5258	0.4874	-7.18%	-13.68%	-12.15%	-13.68%	-12.15%	769	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-7.97%	-5.07%	-5.07%	769	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-7.97%	-5.07%	-5.07%	0.17	-0.0354	
Event + 4 Year	768	6.7824	6.7427	0.5561	11.96%	-3.36%	-9.23%	-3.36%	-9.23%	768	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-9.02%	-5.87%	-5.87%	768	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-9.02%	-5.87%	-5.87%	0.8668***	0.1248	
Event + 5 Year	753	6.2497	6.9092	0.5497	-7.85%	-10.95%	-6.99%	-10.95%	-6.99%	753	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-8.11%	-7.08%	-7.08%	753	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-8.11%	-7.08%	-7.08%	0.5143**	0.2794	

Table G.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.

Cash / Market Cap	Target Firms											Matched Firms											Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean			Δ Median			N	Mean	Median	Std. Err.	Δ Mean			Δ Median			Diff (Mean)	Diff (Median)			
					Event vs Year	YoY	YoY	Event vs Year	YoY	YoY					Event vs Year	YoY	YoY	Event vs Year	YoY	YoY					
Event - 5 Year	2811	0.2525	0.1350	0.0067	NA	NA	22.59%	20.00%	16.30%	22.59%	2708	0.2858	0.1292	0.0081	NA	NA	2.45%	8.90%	3.91%	-0.0333***	0.0058				
Event - 4 Year	2845	0.2705	0.1423	0.0072	7.13%	5.41%	12.01%	12.01%	16.30%	16.30%	2774	0.2915	0.1354	0.0082	1.99%	4.80%	0.45%	3.91%	3.91%	-0.0210*	0.0069				
Event - 3 Year	2833	0.2697	0.1461	0.0070	-3.00%	2.67%	12.35%	12.35%	13.28%	13.28%	2790	0.2929	0.1410	0.0082	0.48%	4.14%	-0.03%	3.91%	3.91%	-0.0231**	0.0051				
Event - 2 Year	2863	0.2738	0.1513	0.0070	1.52%	3.66%	10.66%	10.66%	9.39%	9.39%	2801	0.2865	0.1392	0.0080	-2.19%	-1.28%	2.20%	1.08%	1.08%	-0.0126	0.0121				
Event - 1 Year	2868	0.2777	0.1600	0.0068	1.42%	5.75%	9.11%	9.11%	3.44%	3.44%	2803	0.2948	0.1402	0.0084	2.90%	0.72%	-0.68%	0.36%	0.36%	-0.0171	0.0198				
Event	2582	0.3030	0.1655	0.0079	9.11%	3.44%	NA	NA	NA	NA	2700	0.2928	0.1407	0.0084	0.36%	NA	NA	NA	NA	0.0102	0.0248				
Event + 1 Year	2730	0.3136	0.1634	0.0081	-1.27%	-1.27%	3.50%	3.50%	-1.27%	-1.27%	2738	0.3075	0.1421	0.0087	5.02%	1.00%	5.02%	1.00%	1.00%	0.0061	0.0213				
Event + 2 Year	2739	0.3061	0.1469	0.0082	-2.39%	-10.10%	1.02%	1.02%	-11.24%	-11.24%	2713	0.3113	0.1367	0.0088	1.24%	4.64%	6.32%	5.69%	5.69%	-0.0052	0.0024				
Event + 3 Year	2742	0.2956	0.1392	0.0081	-3.43%	-5.24%	-2.44%	-2.44%	-15.89%	-15.89%	2711	0.2987	0.1368	0.0086	-4.05%	-8.00%	2.02%	-2.77%	-2.77%	-0.0031	0.0024				
Event + 4 Year	2745	0.2861	0.1329	0.0081	-3.21%	-4.53%	-5.58%	-5.58%	-19.70%	-19.70%	2738	0.2957	0.1346	0.0084	-1.00%	-1.61%	0.99%	-4.34%	-4.34%	-0.0096	-0.0017				
Event + 5 Year	2736	0.2761	0.1284	0.0080	-3.39%	-3.39%	-8.88%	-8.88%	-22.42%	-22.42%	2713	0.3018	0.1321	0.0088	2.06%	-1.86%	3.07%	-6.11%	-6.11%	-0.0257**	-0.0037				
Cash / Assets																									
Event - 5 Year	2878	0.1900	0.0958	0.0040	NA	NA	-3.42%	-3.42%	2.61%	2.61%	2822	0.2103	0.1017	0.0043	NA	NA	-2.15%	9.64%	9.64%	-0.0152**	-0.0059				
Event - 4 Year	2909	0.1908	0.1000	0.0040	4.38%	4.38%	-3.83%	-3.83%	-1.70%	-1.70%	2826	0.2051	0.1076	0.0044	2.54%	5.80%	4.56%	5.80%	5.80%	-0.0194***	-0.0076				
Event - 3 Year	2895	0.1956	0.1042	0.0040	2.52%	4.20%	-6.19%	-6.19%	-5.66%	-5.66%	2841	0.2071	0.1108	0.0043	-1.52%	2.97%	-3.09%	0.63%	0.63%	-0.0115**	-0.0066				
Event - 2 Year	2920	0.1958	0.1081	0.0040	0.10%	3.74%	-6.23%	-6.23%	-9.07%	-9.07%	2848	0.2058	0.1088	0.0042	-0.63%	-1.81%	-2.48%	2.48%	2.48%	-0.0101*	-0.0007				
Event - 1 Year	2920	0.1957	0.1066	0.0039	-0.05%	-1.39%	-6.23%	-6.23%	-7.79%	-7.79%	2846	0.2072	0.1172	0.0042	0.68%	7.72%	-4.86%	-4.86%	-4.86%	-0.0115**	-0.0106				
Event	2626	0.1835	0.0983	0.0040	-6.23%	-7.79%	NA	NA	NA	NA	2717	0.2007	0.1115	0.0043	-3.14%	-4.86%	NA	NA	NA	-0.0172***	-0.0115				
Event + 1 Year	2790	0.2015	0.1021	0.0043	9.81%	3.44%	8.87%	8.87%	3.44%	3.44%	2796	0.2087	0.1136	0.0043	3.99%	1.88%	3.99%	1.88%	1.88%	-0.0072	-0.0152				
Event + 2 Year	2802	0.1989	0.1007	0.0043	-1.29%	-1.37%	8.39%	8.39%	2.44%	2.44%	2768	0.2070	0.1114	0.0043	-0.81%	-1.94%	3.14%	-0.09%	-0.09%	-0.0081	-0.0107				
Event + 3 Year	2805	0.2005	0.0945	0.0044	0.80%	-6.16%	9.26%	9.26%	-3.87%	-3.87%	2769	0.2026	0.1067	0.0042	-2.13%	-4.22%	0.95%	-4.30%	-4.30%	-0.0021	-0.0122				
Event + 4 Year	2807	0.2003	0.0978	0.0043	-0.10%	-3.49%	9.16%	9.16%	-0.51%	-0.51%	2800	0.2048	0.1015	0.0043	1.09%	4.87%	2.04%	-8.97%	-8.97%	-0.0045	-0.0037				
Event + 5 Year	2802	0.1947	0.0918	0.0043	-2.80%	-6.13%	6.10%	6.10%	-6.61%	-6.61%	2779	0.2013	0.0999	0.0043	-1.71%	-1.58%	0.30%	-10.40%	-10.40%	-0.0067	-0.0081				
Cash / Market Cap																									
Event - 5 Year	2811	0.2525	0.1350	0.0067	NA	NA	22.59%	20.00%	16.30%	22.59%	3206	0.5960	0.3251	0.0145	NA	NA	-6.44%	-2.61%	-2.61%	-0.3435***	-0.1901				
Event - 4 Year	2845	0.2705	0.1423	0.0072	7.13%	5.41%	12.01%	12.01%	16.30%	16.30%	3206	0.6034	0.3253	0.0146	1.24%	0.06%	-7.59%	2.67%	2.67%	-0.3329***	-0.1880				
Event - 3 Year	2833	0.2697	0.1461	0.0070	-3.00%	2.67%	12.35%	12.35%	13.28%	13.28%	3206	0.6096	0.3357	0.0146	1.03%	3.20%	-8.53%	-5.69%	-5.69%	-0.3399***	-0.1806				
Event - 2 Year	2863	0.2738	0.1513	0.0070	1.52%	3.66%	10.66%	10.66%	9.39%	9.39%	3206	0.5923	0.3410	0.0137	-2.84%	1.58%	-5.86%	-7.16%	-7.16%	-0.3185***	-0.1897				
Event - 1 Year	2868	0.2777	0.1600	0.0068	1.42%	5.75%	9.11%	9.11%	3.44%	3.44%	3206	0.6246	0.3214	0.0137	-4.85%	-5.75%	-1.06%	-1.49%	-1.49%	-0.2859***	-0.1614				
Event	2582	0.3030	0.1655	0.0079	9.11%	3.44%	NA	NA	NA	NA	3206	0.5576	0.3166	0.0136	-1.06%	-1.49%	NA	NA	NA	-0.2546***	-0.1511				
Event + 1 Year	2730	0.3136	0.1634	0.0081	-1.27%	-1.27%	3.50%	3.50%	-1.27%	-1.27%	3206	0.6003	0.3133	0.0153	7.66%	-1.04%	7.66%	-1.04%	-1.04%	-0.2867***	-0.1489				
Event + 2 Year	2739	0.3061	0.1469	0.0082	-2.39%	-10.10%	1.02%	1.02%	-11.24%	-11.24%	3206	0.6111	0.3065	0.0159	1.80%	-2.17%	9.39%	-3.19%	-3.19%	-0.3057***	-0.1506				
Event + 3 Year	2742	0.2956	0.1392	0.0081	-3.43%	-5.24%	-2.44%	-2.44%	-15.89%	-15.89%	3205	0.6246	0.2997	0.0165	2.21%	-2.22%	12.02%	-5.34%	-5.34%	-0.3298***	-0.1605				
Event + 4 Year	2745	0.2861	0.1329	0.0081	-3.21%	-4.53%	-5.58%	-5.58%	-19.70%	-19.70%	3205	0.6239	0.2909	0.0166	-0.11%	-2.94%	11.89%	-8.12%	-8.12%	-0.3378***	-0.1580				
Event + 5 Year	2736	0.2761	0.1284	0.0080	-3.39%	-3.39%	-8.88%	-8.88%	-22.42%	-22.42%	3205	0.6110	0.2908	0.0164	-2.07%	-0.03%	9.58%	-8.15%	-8.15%	-0.3349***	-0.1624				
Cash / Assets																									
Event - 5 Year	2878	0.1900	0.0958	0.0040	NA	NA	-3.42%	-3.42%	2.61%	2.61%	3205	0.1925	0.1372	0.0026	1.32%	2.31%	11.69%	11.81%	11.81%	-0.0017	-0.0372				
Event - 4 Year	2909	0.1908	0.1000	0.0040	4.38%	4.38%	-3.83%	-3.83%	-1.70%	-1.70%	3205	0.1917	0.1359	0.0026	-0.42%	-0.95%	12.15%	12.88%	12.88%	0.0039	-0.0317				
Event - 3 Year	2895	0.1956	0.1042	0.0040	2.52%	4.20%	-6.19%	-6.19%	-5.66%	-5.66%	3206	0.1958	0.1408	0.0026	2.14%	3.61%	9.81%	8.95%	8.95%	0	-0.0327				
Event - 2 Year	2920	0.1958	0.1081	0.0040	0.10%	3.74%	-6.23%	-6.23%	-9.07%	-9.07%	3206	0.2033	0.1444	0.0027	3.83%	2.56%	5.76%	6.23%	6.23%	-0.0076*	-0.0378				
Event - 1 Year	2920	0.1957	0.1066	0.0039	-0.05%	-1.39%	-6.23%	-6.23%	-7.79%	-7.79%	3206	0.2150	0.1534	0.0027	5.76%	6.23%	NA	NA	NA	-0.0315***	-0.0651				
Event	2626	0.1835	0.0983	0.0040	-6.23%	-7.79%	NA	NA	NA	NA	3206	0.2033	0.1444	0.0027	-5.44%	-5.87%	-5.44%	-5.87%	-5.87%	-0.0018	-0.0423				
Event + 1 Year	2790	0.2015	0.1021	0.0043	9.81%	3.44%	8.87%	8.87%	3.44%	3.44%	3206	0.1958	0.1408	0.0026	-2.69%	-2.49%	-8.93%	-8.21%	-8.21%	0.0031	-0.0401				
Event + 2 Year	2802	0.1989	0.1007	0.0043	-1.29%	-1.37%	8.39%	8.39%	2.44%	2.44%	3205	0.1917	0.1359	0.0026	-2.09%	-3.48%	-10.84%	-11.41%	-11.41%	-0.0088*	-0.0414				
Event + 3 Year	2805	0.2005	0.0945	0.0044	0.80%	-6.16%	9.26%	9.26%	-3.87%	-3.87%	3205	0.1925	0.1372	0.0026	0.42%	0.96%	-10.47%	-10.47%	-10.47%	0.0078	-0.0394				
Event + 4 Year	2807	0.2003	0.0978	0.0043	-0.10%	-3.49%	9.16%	9.16%	-0.51%	-0.51%	3205	0.1900	0.1341	0.0026	-1.30%	-2.26%	-11.63%	-12.58%	-12.58%	0.0047	-0.0423				
Event + 5 Year	2802	0.1947	0.0918	0.0043	-2.80%	-6.13%	6.10%	6.10%	-6.61%	-6.61%	3206	0.2011	0.13510	0.0627	NA	NA	-1.39%	2.15%	2.15%	-0.3267***	-0.2577				

Table G.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		
Debt / EBITDA	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Diff (Median)					
																												Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	
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%	-8.11%	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	2.07%	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%	-0.0149	-0.0149														
Event	3206	0.0467	0.0113	0.0010	3.78%	98.25%	7.92%	55.78%	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	37.39%	0.00%	-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%	-0.15%	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%	-4.45%	-4.45%	-23.52%	0.1007***	0.0400														
Event - 3 Year	2840	0.3696	0.0663	0.0257	-0.10%	-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%	12.05%	2805	0.2829	0.0338	0.0239	-7.55%	-18.16%	3.32%	2.96%	0.0739**	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	-4.32%	-8.07%	-4.32%	8.07%	0.0834**	0.0465														
Event	2850	0.4065	0.1122	0.0273	4.53%	42.57%	-14.49%	-23.08%	2711	0.2923	0.0348	0.0251	-4.32%	-8.07%	-4.32%	-8.07%	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%	146.52%	19.50%	-5.46%	0.0605	0.0905														
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%	-11.00%	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														
Industry Adjusted																																
Debt / EBITDA	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Diff (Median)					
																												Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	
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%	-7.58%	0.3267***	-0.2577														
Event - 4 Year	3206	0.6613	1.0000	0.0084	2.72%	0.00%	6.39%	0.00%	3206	2.1468	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	1.3065	0.0593	-2.86%	-2.86%	4.53%	4.04%	0.5026***	-0.2345														
Event - 1 Year	3206	0.0450	0.0057	0.0010	NA	NA	12.00%	208.77%	3206	0.0634	0.0064	0.0064	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%	55.78%	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	0.0647	9.27%	10.46%	9.27%	10.46%	0.3037***	-0.3515														
Event + 2 Year	3206	0.0509	0.0327	0.0010	37.39%	0.00%	-0.98%	-46.18%	3204	2.1026	1.4987	0.0645	-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%	3203	2.0682	1.4912	0.0631	-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	0.0679	1.4532	0.0630	-0.01%	-2.55%	5.30%	5.30%	0.2061**	-0.3902														
Event + 5 Year	3206	0.0459	0.0000	0.0010	-8.93%	-100.00%	-8.93%	-100.00%	3203	0.2021	1.4410	0.0637	-2.21%	-0.8%	1.96%	4.41%	0.2541***	-0.4040														
Leverage (net)																																
Event - 5 Year	2817	0.4071	0.1052	0.0262	NA	NA	-0.15%	-0.15%	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	-0.10%	-22.46%	9.98%	69.23%	3206	0.3742	0.0827	0.0237	-1.38%	-28.02%	1.58%	-0.0046	-0.0164															
Event - 2 Year	2851	0.3628	0.0758	0.0256	-1.84%	14.33%	12.05%	12.05%	3206	0.3458	0.0827	0.0239	0.00%	0.00%	3.87%	3.87%	0.0008	-0.0069														
Event - 1 Year	2860	0.3889	0.0787	0.0260	7.19%	3.83%	4.53%	42.57%	3206	0.3881	0.0859	0.0243	12.23%	15.11%	-2.06%	-9.77%	0.0264	0.0263														
Event	2850	0.4065	0.1122	0.0273	4.53%	42.57%	-14.49%	-23.08%	3206	0.4003	0.1817	0.0252	7.68%	111.53%	7.68%	111.53%	-0.0617*	-0.0954														
Event + 1 Year	2681	0.3476	0.0863	0.0263	-14.49%	-23.08%	-14.49%																									

Table G.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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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%	-2.92%	-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	0.00%	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%	9.63%	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				
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%	-3.16%	-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%	3171	0.0170	0.0144	0.0003	1.89%	7.70%	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 G.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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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	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	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	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	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	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	NA	-0.2299***	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	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	NA	2.27%	NA	-0.1166	0.0000				
Event + 3 Year	1968	1.4469	0.0000	0.0584	0.85%	NA	12.36%	NA	2160	1.5988	0.0000	0.0577	3.06%	NA	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	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	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	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	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	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	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	NA	14.04%	NA	0.0003	0.0000				
Event	2819	0.0058	0.0000	0.0002	-3.33%	NA	NA	NA	2876	0.0065	0.0000	0.0003	14.04%	NA	NA	NA	NA	-0.0007*	0.0000				
Event + 1 Year	2927	0.0054	0.0000	0.0002	-6.90%	NA	-6.90%	NA	2867	0.0052	0.0000	0.0002	-20.00%	NA	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	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	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	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	NA	-40.00%	NA	-0.0007**	0.0000				
Industry Adjusted																							
Event - 5 Year	2217	1.3864	0.0000	0.0532	NA	NA	-7.12%	NA	3164	1.5857	0.7308	0.0371	NA	NA	NA	5.31%	NA	-0.1903***	-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%	26.62%	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%	18.53%	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	1.6180	0.8359	0.0359	1.24%	4.65%	13.27%	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%	4.57%	3.21%	4.57%	-0.3222***	-0.8410				
Event	2203	1.2877	0.0000	0.0489	-0.63%	NA	NA	NA	3161	1.6690	0.8794	0.0355	3.21%	4.57%	NA	NA	NA	-0.3829***	-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%	-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%	-13.83%	-17.94%	-0.0043	-0.7216				
Event + 3 Year	1968	1.4469	0.0000	0.0584	0.85%	NA	12.36%	NA	3106	1.4256	0.6782	0.0341	-0.93%	-6.01%	-6.01%	-14.63%	0.0213	-0.0213	-0.6782				
Event + 4 Year	1907	1.5108	0.0000	0.0613	4.42%	NA	17.33%	NA	3115	1.4368	0.7041	0.0343	0.79%	3.82%	-13.96%	-13.96%	0.074	-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%	-12.26%	0.0547	-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	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	260.00%	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%	95.65%	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%	22.50%	-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%	10.11%	-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	NA	-0.0044***	-0.0090				
Event + 1 Year	2927	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%	-60.98%	-0.0016	-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#	-100.00%	-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	NA	NA	NA	-0.0025***	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%	-51.02%	-0.0016***	0.0000					

Table G-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 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.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ 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	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	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	NA	-0.23%	NA	0.0237	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	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	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	NA	0.1071***	1.0000					
Event + 1 Year	1764	0.4495	0.0000	0.0118	-15.75%	-100.00%	-15.75%	NA	1867	0.4237	0.0000	0.0114	-0.63%	NA	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	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	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	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	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	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	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	NA	6.68%	NA	0.0158	0.0000					
Event - 2 Year	3206	0.3178	0.0000	0.0082	0.86%	NA	30.24%	NA	3205	0.3120	0.0000	0.0082	2.31%	NA	NA	4.38%	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	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	NA	0.0947***	0.0000					
Event + 1 Year	3206	0.2773	0.0000	0.0079	-13.00%	NA	-33.00%	NA	3205	0.2761	0.0000	0.0079	-13.50%	NA	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	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	0.0076	-1.59%	NA	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	0.0077	-4.90%	NA	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	NA	-28.45%	NA	-0.0026	0.0000					
Industry Adjusted																								
Target Firms																								
Event - 5 Year	1899	0.4571	0.0000	0.0114	NA	NA	16.71%	NA	3203	0.4269	0.4237	0.0020	NA	NA	NA	-1.78%	NA	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%	NA	NA	-0.02%	NA	0.0034	-0.4236					
Event - 3 Year	1973	0.4531	0.0000	0.0112	5.72%	NA	17.74%	NA	3202	0.4250	0.4234	0.0021	-0.05%	NA	NA	-0.07%	NA	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%	NA	NA	0.50%	NA	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%	NA	NA	-2.12%	NA	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%	NA	NA	2.17%	NA	0.1142***	0.3854					
Event + 1 Year	1764	0.4495	0.0000	0.0118	-15.75%	-100.00%	-15.75%	NA	3202	0.4284	0.4265	0.0020	2.17%	NA	NA	2.87%	NA	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%	NA	NA	1.60%	NA	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%	NA	NA	2.10%	NA	-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%	NA	NA	1.41%	NA	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%	NA	NA	2.19%	NA	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	NA	12.77%	NA	-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%	NA	NA	7.95%	NA	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%	NA	NA	5.93%	NA	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%	NA	NA	3.53%	NA	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%	NA	NA	1.17%	NA	-0.03%	-0.3226					
Event	3206	0.4139	0.0000	0.0087	19.97%	NA	NA	NA	3206	0.3285	0.3225	0.0025	1.17%	NA	NA	NA	NA	0.0854***	-0.3225					
Event + 1 Year	3206	0.2773	0.0000	0.0079	-13.00%	NA	-33.00%	NA	3206	0.2766	0.2857	0.0030	-15.80%	NA	NA	-15.80%	NA	0.0007	-0.2857					
Event + 2 Year	3206	0.2364	0.0000	0.0075	-14.75%	NA	-42.88%	NA	3206	0.2542	0.2551	0.0031	-8.46%	NA	NA	-22.92%	NA	-0.0168**	-0.2551					
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%	NA	NA	-26.48%	NA	-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%	NA	NA	-28.22%	NA	-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%	NA	NA	-27.28%	NA	-0.0131*	-0.2383					

Table G-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 its 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		
Event	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Event vs Year	Event vs Year	Diff (Mean)					
																						Event vs Year	Event vs Year	Event vs Year	Event vs Year	
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%	1.72%	11.32%	0.00%	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%	6.24%	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%	2.89%	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%	2.97%	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%	0.00%	3205	0.1154	0.0533	0.0039	1.14%	0.38%	1.14%	0.38%	0.0000	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								
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%	0.23%	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%	1.06%	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%	0.022***	-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%	-0.007*	-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%	5.00%	-0.0016	-0.0027								
Event - 4 Year	3206	0.1025	0.0522	0.0035	-3.76%	1.72%	11.32%	0.00%	3206	0.1089	0.0551	0.0034	0.74%	3.66%	4.22%	-3.81%	-0.0064	-0.0029								
Event - 3 Year	3206	0.1074	0.0531	0.0036	4.78%	6.24%	6.24%	0.00%	3206	0.1120	0.0547	0.0035	2.85%	1.34%	1.34%	-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	5.4%	-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%	0.00%	3206	0.1149	0.0544	0.0037	1.23%	2.64%	1.23%	2.64%	-0.0001	-0.0001								
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%	-3.7%	-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%	-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%	-0.0002	-0.0018									

Industry Adjusted

Table G.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			
Revenue Growth														Revenue Growth														Revenue Growth			
Event - 5 Year	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	YoY	Event vs Year	Δ Median	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	YoY	Event vs Year	Δ Median	Event vs Year	Δ Mean	Event vs Year	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)				
Event - 5 Year	894	0.0439	0.0289	0.0068	NA	NA	NA	NA	-91.12%	-89.27%	858	0.0320	0.0173	0.0068	NA	NA	NA	NA	6.56%	8.67%	-0.0022	6.56%	8.67%	0.0116	-0.0022	0.0116					
Event - 4 Year	894	0.0511	0.0394	0.0065	16.40%	5.19%	-18.75%	-13.31%	-92.37%	-89.80%	866	0.0351	0.0199	0.0067	9.69%	15.03%	15.03%	15.03%	-2.85%	-5.53%	-0.0063	-2.85%	-5.53%	0.0105	-0.0063	0.0105					
Event - 3 Year	902	0.0443	0.0247	0.0065	-13.31%	-18.75%	-25.10%	-20.20%	-91.20%	-87.45%	871	0.0427	0.0244	0.0071	21.65%	22.61%	22.61%	22.61%	-20.14%	-22.95%	0.0003	-20.14%	-22.95%	0.0003	-0.0109**	0.0003					
Event - 2 Year	906	0.0374	0.0185	0.0064	-15.58%	-25.10%	-32.43%	-28.34%	-89.57%	-83.24%	872	0.0425	0.0232	0.0067	-0.47%	-4.92%	-4.92%	-4.92%	-19.76%	-18.97%	-0.0047	-19.76%	-18.97%	0.0001	-0.100*	-0.0047					
Event - 1 Year	919	0.0268	0.0162	0.0059	-28.34%	-32.43%	-41.38%	-38.86%	-85.45%	-80.86%	877	0.0325	0.0161	0.0068	-23.53%	-30.60%	-30.60%	-30.60%	4.92%	16.77%	0.0001	4.92%	16.77%	0.0001	-0.0154***	0.0001					
Event + 1 Year	899	0.0039	0.0031	0.0059	-85.45%	-80.86%	-74.94%	-85.38%	NA	NA	882	0.0341	0.0188	0.0068	4.92%	16.77%	16.77%	16.77%	-11.17%	NA	-0.0230***	-11.17%	NA	-0.0157	-0.0230***	-0.0157					
Event + 2 Year	741	0.0201	0.0106	0.0070	415.38%	87.74%	29.35%	415.38%	415.38%	541.94%	802	0.0264	0.0120	0.0067	-21.66%	-28.14%	-28.14%	-28.14%	-22.58%	-36.17%	-0.0061	-22.58%	-36.17%	0.0079	-0.0092	-0.0061					
Event + 3 Year	804	0.0260	0.0199	0.0064	32.31%	6.53%	17.15%	32.31%	782.05%	583.87%	781	0.0549	0.0229	0.0077	107.95%	90.83%	90.83%	90.83%	61.00%	21.81%	0.0044	61.00%	21.81%	0.0017	0.0044	0.0017					
Event + 4 Year	796	0.0403	0.0219	0.0069	-1.42%	17.15%	-1.42%	17.15%	933.33%	574.19%	802	0.0517	0.0199	0.0076	-5.83%	-13.10%	-13.10%	-13.10%	51.61%	5.85%	0.0010	51.61%	5.85%	0.0010	0.0010	0.0010					
Event + 5 Year	812	0.0409	0.0165	0.0067	1.49%	-21.05%	1.49%	-21.05%	948.72%	432.26%	777	0.0441	0.0191	0.0072	-14.70%	-4.02%	-4.02%	-4.02%	29.33%	1.60%	-0.0026	29.33%	1.60%	-0.0026	-0.0026	-0.0026					
Operating Margin																															
Event - 5 Year	831	0.0350	0.1362	0.0217	NA	NA	NA	NA	-29.71%	-17.18%	821	0.0290	0.1358	0.0222	NA	NA	NA	NA	-5.00%	-9.35%	0.0075***	-5.00%	-9.35%	0.0004	0.0075***	0.0004					
Event - 4 Year	848	0.0313	0.1343	0.0211	-10.57%	-21.01%	-10.57%	-21.01%	-16.41%	-14.01%	848	0.0294	0.1351	0.0227	17.00%	-0.52%	-0.52%	-0.52%	-18.80%	-8.88%	-0.0008	-18.80%	-8.88%	-0.0008	-0.0008	-0.0008					
Event - 3 Year	853	0.0491	0.1316	0.0196	56.87%	-2.01%	56.87%	-2.01%	-49.90%	-14.29%	843	0.0307	0.1412	0.0222	31.20%	4.52%	4.52%	4.52%	-38.11%	-12.82%	0.0623***	-38.11%	-12.82%	0.0096	0.0623***	0.0096					
Event - 2 Year	862	0.0544	0.1253	0.0178	10.79%	-4.79%	10.79%	-4.79%	-54.78%	-9.98%	862	0.0101	0.1356	0.0234	-67.10%	-3.97%	-3.97%	-3.97%	88.12%	8.22%	-0.0013	88.12%	8.22%	-0.0013	-0.0013	-0.0013					
Event - 1 Year	887	0.0457	0.1280	0.0185	-15.99%	2.15%	-15.99%	2.15%	-46.17%	-11.88%	887	0.0278	0.1299	0.0216	175.25%	-4.20%	-4.20%	-4.20%	-31.65%	-5.23%	0.0170	-31.65%	-5.23%	0.0170	0.0170	0.0170					
Event	845	0.0246	0.1128	0.0199	-6.17%	-11.88%	-6.17%	-11.88%	NA	NA	845	0.0190	0.1231	0.0220	-31.65%	-5.25%	-5.25%	-5.25%	NA	NA	-0.0103	NA	NA	-0.0103	-0.0103	-0.0103					
Event + 1 Year	818	0.0074	0.1189	0.0217	-69.11%	5.41%	-69.11%	5.41%	-69.11%	5.41%	818	0.0043	0.1246	0.0242	-122.63%	1.22%	1.22%	1.22%	-122.63%	1.22%	0.0021	-122.63%	1.22%	0.0021	-0.0021	-0.0021					
Event + 2 Year	830	0.0044	0.1285	0.0224	-42.11%	8.07%	-42.11%	8.07%	13.92%	13.92%	830	0.0500	0.1315	0.0286	1062.79%	5.54%	5.54%	5.54%	-363.16%	6.82%	-0.0033	-363.16%	6.82%	-0.0033	-0.0033	-0.0033					
Event + 3 Year	808	0.0172	0.1312	0.0217	290.91%	2.10%	290.91%	2.10%	-30.08%	16.31%	808	0.0349	0.1223	0.0278	-30.20%	-7.00%	-7.00%	-7.00%	-283.68%	-0.65%	0.0089	-283.68%	-0.65%	0.0089	0.0089	0.0089					
Event + 4 Year	807	0.0261	0.1313	0.0221	51.74%	0.08%	51.74%	0.08%	6.10%	16.40%	807	0.0573	0.1240	0.0281	64.18%	1.39%	1.39%	1.39%	-401.58%	0.73%	0.0073	-401.58%	0.73%	0.0073	0.0073	0.0073					
Event + 5 Year	796	0.0258	0.1261	0.0223	-1.15%	-3.96%	-1.15%	-3.96%	4.88%	11.79%	796	0.0437	0.1282	0.0284	-23.75%	3.39%	3.39%	3.39%	-330.00%	4.14%	0.0021	-330.00%	4.14%	0.0021	0.0021	0.0021					
Operating Margin																															
Event - 5 Year	894	0.0439	0.0289	0.0068	NA	NA	NA	NA	-91.12%	-89.27%	858	0.0320	0.0173	0.0068	NA	NA	NA	NA	6.56%	8.67%	-0.0022	6.56%	8.67%	0.0116	-0.0022	0.0116					
Event - 4 Year	894	0.0511	0.0394	0.0065	16.40%	5.19%	-18.75%	-13.31%	-92.37%	-89.80%	866	0.0351	0.0199	0.0067	9.69%	15.03%	15.03%	15.03%	-2.85%	-5.53%	-0.0063	-2.85%	-5.53%	0.0105	-0.0063	0.0105					
Event - 3 Year	902	0.0443	0.0247	0.0065	-13.31%	-18.75%	-25.10%	-20.20%	-91.20%	-87.45%	871	0.0427	0.0244	0.0071	21.65%	22.61%	22.61%	22.61%	-20.14%	-22.95%	0.0003	-20.14%	-22.95%	0.0003	-0.1010**	0.0003					
Event - 2 Year	906	0.0374	0.0185	0.0064	-15.58%	-25.10%	-32.43%	-28.34%	-89.57%	-83.24%	872	0.0425	0.0232	0.0067	-0.47%	-4.92%	-4.92%	-4.92%	-19.76%	-18.97%	-0.0047	-19.76%	-18.97%	0.0001	-0.1010**	-0.0047					
Event - 1 Year	919	0.0268	0.0162	0.0059	-28.34%	-32.43%	-41.38%	-38.86%	-85.45%	-80.86%	877	0.0325	0.0161	0.0068	-23.53%	-30.60%	-30.60%	-30.60%	4.92%	16.77%	0.0001	4.92%	16.77%	0.0001	-0.0154***	0.0001					
Event + 1 Year	899	0.0039	0.0031	0.0059	-85.45%	-80.86%	-74.94%	-85.38%	NA	NA	882	0.0341	0.0188	0.0068	4.92%	16.77%	16.77%	16.77%	-11.17%	NA	-0.0230***	-11.17%	NA	-0.0157	-0.0230***	-0.0157					
Event + 2 Year	741	0.0201	0.0106	0.0070	415.38%	87.74%	29.35%	415.38%	415.38%	541.94%	802	0.0264	0.0120	0.0067	-21.66%	-28.14%	-28.14%	-28.14%	-22.58%	-36.17%	-0.0061	-22.58%	-36.17%	0.0079	-0.0092	-0.0061					
Event + 3 Year	804	0.0260	0.0199	0.0064	32.31%	6.53%	17.15%	32.31%	782.05%	583.87%	781	0.0549	0.0229	0.0077	107.95%	90.83%	90.83%	90.83%	61.00%	21.81%	0.0044	61.00%	21.81%	0.0017	0.0044	0.0017					
Event + 4 Year	796	0.0403	0.0219	0.0069	-1.42%	17.15%	-1.42%	17.15%	933.33%	574.19%	802	0.0517	0.0199	0.0076	-5.83%	-13.10%	-13.10%	-13.10%	51.61%	5.85%	0.0010	51.61%	5.85%	0.0010	0.0010	0.0010					
Event + 5 Year	812	0.0409	0.0165	0.0067	1.49%	-21.05%	1.49%	-21.05%	948.72%	432.26%	777	0.0441	0.0191	0.0072	-14.70%	-4.02%	-4.02%	-4.02%	29.33%	1.60%	-0.0026	29.33%	1.60%	-0.0026	-0.0026	-0.0026					
Operating Margin																															
Event - 5 Year	831	0.0350	0.1362	0.0217	NA	NA	NA	NA	-29.71%	-17.18%	821	0.0290	0.1358	0.0222	NA	NA	NA	NA	-5.00%	-9.35%	0.0075***	-5.00%	-9.35%	0.0004	0.0075***	0.0004					
Event - 4 Year	848	0.0313	0.1343	0.0211	-10.57%	-21.01%	-10.57%	-21.01%	-16.41%	-14.01%	848	0.0294	0.1351	0.0227	17.00%	-0.52%	-0.52%	-0.52%	-18.80%	-8.88%	-0.0008	-18.80%	-8.88%	-0.0008	-0.0008	-0.0008					
Event - 3 Year	853	0.0491	0.1316	0.0196	56.87%	-2.01%	56.87%	-2.01%	-49.90%	-14.29%	843	0.0307	0.1412	0.0222	31.20%	4.52%	4.52%	4.52%	-38.11%	-12.82%	0.0623***	-38.11%	-12.82%	0.0096	0.0623***	0.0096					
Event - 2 Year	862	0.0544	0.1253	0.0178	10.79%	-4.79%	10.79%	-4.79%	-54.78%	-9.98%	862	0.0101	0.1356	0.0234	-67.10%	-3.97%	-3.97%	-3.97%	88.12%	8.22%	-0.0013	88.12%	8.22%	-0.0013	-0.0013	-0.0013					
Event - 1 Year	887	0.0457	0.1280	0.0185	-15.99%	2.15%	-15.99%	2.15%	-46.17%	-11.88%	887	0.0278	0.1299	0.0216	175.25%	-4.20%	-4.20%	-4.20%	-31.65%	-5.23%	0.0170	-31.65%	-5.23%	0.0170	0.0170	0.0170					
Event	845	0.0246	0.1128	0.0199	-6.17%	-11.88%	-6.17%	-11.88%	NA	NA	845	0.0190	0.1231	0.0220	-31.65%	-5.25%	-5.25%	-5.25%	NA	NA	-0.0103	NA	NA	-0.0103	-0.0103	-0.0103					
Event + 1 Year	818	0.0074	0.1189	0.0217	-69.11%	5.41%	-69.11%	5.41%	-69.11%	5.41%	818	0.0043	0.1246	0.0242	-122.63%	1.22%	1.22%	1.22%	-122.63%	1.22%	0.0021	-122.63%	1.22%	0.0021	-0.0021	-0.0021					
Event + 2 Year	830	0.0044	0.1285	0.0224	-42.11%	8.07%	-42.11%	8.07%	13.92%	13.92%	830	0.0500	0.1315	0.0286	1062.79%	5.54%	5.54%	5.54%	-363.16%	6.82%	-0.0033	-363.16%	6.82%	-0.0033	-0.0033	-0.0033					
Event + 3 Year	808	0.0172	0.1312	0.0217	290.91%	2.10%	290.91%	2.10%	-30.08%	16.31%	808	0.0349	0.1223	0.0278	-30.20%	-7.00%	-7.00%	-7.00%	-283.68%	-0.65%	0.0089	-283.68%	-0.65%	0.0089	0.0089	0.0089					
Event + 4 Year	807	0.0261	0.1313	0.0221	51.74%	0.08%	51.74%	0.08%	6.10%	16.40%	807	0.0573	0.1240	0.0281	64.18%	1.39%	1.39%	1.39%	-401.58%	0.73%	0.0073	-401.58%	0.73%	0.0073	0.0073	0.0073					
Event + 5 Year	796	0.0258	0.1261	0.0223	-1.15%	-3.96%	-1.15%	-3.96%	4.88%	11.79%	796	0.0437	0.1282	0.028																	

Table G.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 its 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 equity). Coefficients marked with *** are significant at the 1% level, ** at the 5% level and * at the 10% level.

															Matched Firms					Differences between Target and Match																	
															Industry Adjusted					Differences between Target Firms and Industry																	
															Target Firms					Differences between Target Firms and Industry																	
	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year
ROA																																					
Event - 5 Year	812	0.0714	0.0931	0.0058	NA	NA	NA	NA	-31.79%	-18.15%	-18.15%	787	0.0627	0.0929	0.0063	NA	NA	NA	-12.44%	-4.52%	0.0152***	0.0002															
Event - 4 Year	825	0.0723	0.0932	0.0057	1.26%	0.11%	0.11%	-32.64%	-18.24%	-18.24%	803	0.0639	0.0924	0.0062	1.91%	-2.91%	-2.91%	-14.08%	-1.66%	0.0138***	0.0030																
Event - 3 Year	843	0.0687	0.0868	0.0057	-4.98%	-6.87%	-6.87%	-29.11%	-12.21%	-12.21%	803	0.0673	0.0924	0.0062	5.32%	2.44%	2.44%	-18.42%	-4.00%	0.0071	-0.0056																
Event - 2 Year	846	0.0702	0.0881	0.0053	2.18%	1.50%	1.50%	-30.63%	-13.51%	-13.51%	803	0.0615	0.0971	0.0066	-8.62%	5.09%	5.09%	-10.73%	-8.65%	0.0061	-0.0090																
Event - 1 Year	883	0.0656	0.0832	0.0054	-6.55%	-5.56%	-5.56%	-25.76%	-8.41%	-8.41%	804	0.0578	0.0879	0.0066	-6.02%	-9.47%	-9.47%	-5.02%	0.91%	-0.0050	-0.0047																
Event	841	0.0487	0.0762	0.0058	-25.76%	-8.41%	-8.41%	NA	NA	NA	805	0.0549	0.0887	0.0065	-5.02%	0.91%	0.91%	NA	NA	-0.0203***	-0.0125																
Event + 1 Year	776	0.0506	0.0826	0.0064	3.90%	8.40%	8.40%	3.90%	8.40%	8.40%	768	0.0549	0.0887	0.0065	0.00%	1.13%	1.13%	0.00%	1.13%	-0.0148***	-0.0071																
Event + 2 Year	799	0.0504	0.0828	0.0065	-0.40%	0.24%	0.24%	3.49%	8.66%	8.66%	752	0.0554	0.0916	0.0068	6.38%	2.12%	2.12%	6.38%	3.27%	-0.0071	-0.0088																
Event + 3 Year	772	0.0505	0.0824	0.0069	0.20%	-0.48%	-0.48%	3.70%	8.14%	8.14%	734	0.0585	0.0902	0.0069	-4.97%	-1.53%	-1.53%	1.09%	1.69%	-0.0093*	-0.0078																
Event + 4 Year	776	0.0645	0.0988	0.0068	27.72%	19.90%	19.90%	32.44%	29.66%	29.66%	757	0.0452	0.0854	0.0072	-18.56%	-5.32%	-5.32%	-17.67%	-3.72%	0.0038	0.0134																
Event + 5 Year	755	0.0652	0.0974	0.0066	1.09%	-1.42%	-1.42%	33.88%	27.82%	27.82%	730	0.0516	0.0909	0.0074	14.16%	6.44%	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	NA	-16.40%	-9.70%	-9.70%	896	2.0278	1.4214	0.0607	NA	NA	NA	-1.04%	-2.29%	-0.1120***	0.0723																
Event - 4 Year	913	2.1605	1.4890	0.0609	-2.88%	-0.31%	-0.31%	-13.93%	-9.42%	-9.42%	899	2.0402	1.3985	0.0629	0.61%	-1.61%	-1.61%	-1.64%	-0.69%	-0.2213***	0.0905																
Event - 3 Year	907	2.1120	1.4627	0.0587	-2.52%	-1.77%	-1.77%	-11.70%	-7.79%	-7.79%	904	2.0126	1.3685	0.0609	-1.35%	-2.15%	-2.15%	-4.49%	-0.29%	-0.1728***	0.0942																
Event - 2 Year	920	2.1045	1.4441	0.0591	-1.27%	-0.36%	-0.36%	-11.39%	-6.60%	-6.60%	917	2.0271	1.3907	0.0577	0.72%	1.62%	1.62%	-1.00%	-0.13%	-0.2440***	0.0534																
Event - 1 Year	926	1.9361	1.4053	0.0515	-8.00%	-2.69%	-2.69%	-3.68%	-4.02%	-4.02%	924	2.0460	1.4257	0.0607	0.83%	0.92%	0.92%	-1.92%	-1.00%	-0.3275***	-0.0204																
Event	890	1.8648	1.3488	0.0518	-3.68%	-4.02%	-4.02%	NA	NA	NA	921	2.0068	1.3889	0.0588	-1.92%	-2.58%	-2.58%	NA	NA	-0.4187***	-0.0401																
Event + 1 Year	863	2.0443	1.4439	0.0632	9.63%	7.05%	7.05%	9.63%	7.05%	7.05%	886	2.0905	1.3891	0.0660	4.17%	0.01%	0.01%	4.17%	0.01%	-0.2054***	0.0548																
Event + 2 Year	882	2.0831	1.4639	0.0621	1.90%	1.39%	1.39%	11.71%	8.53%	8.53%	878	2.0894	1.3939	0.0670	-0.05%	0.35%	0.35%	4.12%	0.36%	-0.0623	0.0700																
Event + 3 Year	871	2.0867	1.4314	0.0630	0.17%	-2.22%	-2.22%	11.90%	6.12%	6.12%	866	2.1263	1.4160	0.0659	1.77%	1.59%	1.59%	5.95%	1.95%	-0.0111	0.0154																
Event + 4 Year	874	2.2136	1.4477	0.0680	6.08%	1.14%	1.14%	18.70%	7.33%	7.33%	872	2.0995	1.3871	0.0653	-1.26%	-2.04%	-2.04%	4.02%	-0.416	0.0066	0.0066																
Event + 5 Year	870	2.2578	1.4985	0.0680	2.00%	3.51%	3.51%	21.07%	11.10%	11.10%	852	2.1088	1.4709	0.0645	0.44%	6.04%	6.04%	5.08%	5.90%	-0.0435	0.0276																
ROA																																					
Event - 5 Year	812	0.0714	0.0931	0.0058	NA	NA	NA	-31.79%	-18.15%	-18.15%	812	0.0293	0.0631	0.0023	NA	NA	NA	43.34%	3.80%	0.0449***	0.0309																
Event - 4 Year	825	0.0723	0.0932	0.0057	1.26%	0.11%	0.11%	-32.64%	-18.24%	-18.24%	825	0.0340	0.0633	0.0022	16.04%	0.32%	0.32%	23.53%	3.48%	0.0392***	0.0287																
Event - 3 Year	843	0.0687	0.0868	0.0057	-4.98%	-6.87%	-6.87%	-29.11%	-12.21%	-12.21%	843	0.0374	0.0672	0.0022	10.00%	3.00%	3.00%	-12.30%	0.46%	0.0339***	0.0245																
Event - 2 Year	846	0.0702	0.0881	0.0053	2.18%	1.50%	1.50%	-30.63%	-13.51%	-13.51%	846	0.0428	0.0711	0.0021	14.44%	9.05%	9.05%	-1.87%	-7.88%	0.0291***	0.0189																
Event - 1 Year	883	0.0656	0.0832	0.0054	-6.55%	-5.56%	-5.56%	-25.76%	-8.41%	-8.41%	883	0.0408	0.0684	0.0021	-4.67%	-3.80%	-3.80%	2.94%	-4.24%	0.0239***	0.0167																
Event	841	0.0487	0.0762	0.0058	-25.76%	-8.41%	-8.41%	NA	NA	NA	841	0.0420	0.0655	0.0021	2.94%	-4.24%	-4.24%	NA	NA	0.0099***	0.0101																
Event + 1 Year	776	0.0506	0.0826	0.0064	3.90%	8.40%	8.40%	3.90%	8.40%	8.40%	776	0.0431	0.0704	0.0020	2.62%	7.48%	7.48%	2.62%	7.48%	0.0059*	0.0066																
Event + 2 Year	799	0.0504	0.0828	0.0065	-0.40%	0.24%	0.24%	3.49%	8.66%	8.66%	799	0.0426	0.0746	0.0021	-1.16%	5.97%	5.97%	1.43%	13.89%	0.0063*	0.0058																
Event + 3 Year	772	0.0505	0.0824	0.0069	0.20%	-0.48%	-0.48%	3.70%	8.14%	8.14%	772	0.0420	0.0754	0.0021	-1.41%	1.07%	1.07%	0.00%	15.11%	0.006*	0.0070																
Event + 4 Year	776	0.0645	0.0988	0.0068	27.72%	19.90%	19.90%	32.44%	29.66%	29.66%	776	0.0418	0.0767	0.0021	-0.48%	1.72%	1.72%	-0.48%	17.10%	0.0131***	0.0106																
Event + 5 Year	755	0.0652	0.0974	0.0066	1.09%	-1.42%	-1.42%	33.88%	27.82%	27.82%	755	0.0392	0.0740	0.0021	-6.22%	-3.52%	-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	NA	-16.40%	-9.70%	-9.70%	984	3.2126	1.8812	0.1466	NA	NA	NA	0.62%	3.00%	-0.9819***	-0.3875																
Event - 4 Year	913	2.1605	1.4890	0.0609	-2.88%	-0.31%	-0.31%	-13.93%	-9.42%	-9.42%	984	2.9536	1.8807	0.1346	-8.06%	-0.03%	-0.03%	9.45%	3.03%	-0.7871***	-0.3917																
Event - 3 Year	907	2.1120	1.4627	0.0587	-2.52%	-1.77%	-1.77%	-11.70%	-7.79%	-7.79%	984	3.3257	1.9341	0.1625	12.60%	2.84%	2.84%	-12.30%	0.18%	-1.2137***	-0.4714																
Event - 2 Year	920	2.1045	1.4441	0.0591	-1.27%	-0.36%	-0.36%	-11.39%	-6.60%	-6.60%	984	3.1265	1.9251	0.1487	-5.99%	-0.47%	-0.47%	3.39%	0.65%	-1.0222***	-0.4810																
Event - 1 Year	926	1.9361	1.4053	0.0515	-8.00%	-2.69%	-2.69%	-3.68%	-4.02%	-4.02%	984	3.2316	1.9436	0.1545	3.36%	0.96%	0.96%	-0.03%	-0.31%	-1.2955***	-0.5383																
Event	890	1.8648	1.3488	0.0518	-3.68%	-4.02%	-4.02%	NA	NA	NA	984	3.2326	1.9376	0.1600	0.03%	-0.31%	-0.31%	NA	NA	-1.3678***	-0.5888																
Event + 1 Year	863	2.0443	1.4439	0.0632	9.63%	7.05%	7.05%	9.63%	7.05%	7.05%	984	3.0425	1.8145	0.1494	-5.88%	-6.35%	-6.35%	-5.88%	-6.35%	-0.9982***	-0.3706																
Event + 2 Year	882	2.0831	1.4639	0.0621	1.90%	1.39%	1.39%	11.71%	8.53%	8.53%	984	2.8914	1.8655	0.1284	-10.55%	2.81%	2.81%	1.43%	13.89%	-0.8083***	-0.4016																
Event + 3 Year	871	2.0867	1.4314	0.0630	0.17%	-2.22%	-2.22%	11.90%	6.12%	6.12%	984	2.8900	1.8677	0.1277	-0.08%	0.12%	0.12%	0.00%	-3.72%	-0.8023***	-0.4363																
Event + 4 Year	874	2.2136	1.4477	0.0680	6.08%	1.14%	1.14%	18.70%	7.33%	7.33%	984	3.0087	1.9073	0.1361	4.18%	1.12%	1.12%	-0.63%	-3.61%	-0.7951***	-0.4596																
Event + 5 Year	870	2.2578	1.4985	0.0680	2.00%	3.51%	3.51%	21.07%	11.10%	11.10%	984	3.2251	2.0335	0.1411	7.19%	6.62%	6.62%	5.08%	5.90%	-0.9673***	-0.5350																

Table G.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					
ROE	Event - 5 Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)										
																Event - 4 Year	Event - 3 Year	Event - 2 Year	Event - 1 Year	Event + 1 Year	Event + 2 Year	Event + 3 Year	Event + 4 Year	Event + 5 Year	NA
ROE	Event - 5 Year	911	0.0153	0.0896	0.0126	NA	NA	-504.58%	-45.42%	-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%	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%	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%	-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%	-32.40%	224.08%	-32.40%	911	-0.0142	0.0837	0.0150	-201.43%	-6.48%	119.01%	-3.94%	-0.0253**	-0.0113				
	Event + 1 Year	915	-0.0619	0.0489	0.0152	224.08%	19.02%	23.75%	NA	23.75%	19.02%	904	-0.0311	0.0804	0.0152	119.01%	-3.94%	NA	NA	-0.0590***	-0.0315				
	Event + 2 Year	873	-0.0580	0.0647	0.0160	-24.28%	11.17%	-6.30%	32.31%	-6.30%	32.31%	849	-0.0293	0.0741	0.0158	-3.93%	-1.07%	-5.79%	-7.84%	-0.0452***	-0.0167				
	Event + 3 Year	850	-0.0658	0.0656	0.0170	13.45%	1.39%	6.30%	34.15%	6.30%	34.15%	837	-0.0308	0.0705	0.0159	4.42%	-4.80%	-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%	-38.13%	47.85%	857	-0.0598	0.0667	0.0170	95.42%	-5.39%	92.28%	-17.04%	0.0056	0.0098				
	Event + 5 Year	845	-0.0183	0.0801	0.0153	-52.22%	10.79%	-70.44%	63.80%	-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%	-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%	-59.03%	-28.01%	851	0.0285	0.0558	0.0055	3.64%	-3.63%	-37.37%	-5.56%	0.0091**	-0.0001				
	Event - 3 Year	892	0.0339	0.0511	0.0050	-2.87%	-8.26%	-57.82%	-21.53%	-57.82%	-21.53%	863	0.0308	0.0587	0.0057	5.20%	-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%	-56.40%	-22.59%	860	0.0300	0.0616	0.0058	-2.60%	4.94%	-31.00%	-14.45%	-0.0098	-0.0098				
	Event - 1 Year	919	0.0283	0.0478	0.0048	-13.72%	-7.72%	-49.47%	-16.11%	-49.47%	-16.11%	871	0.0209	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	NA	NA	863	0.0207	0.0527	0.0057	-9.61%	-1.50%	NA	NA	-0.0263***	-0.0126				
	Event + 1 Year	817	0.0135	0.0470	0.0059	-5.59%	17.21%	-5.59%	17.21%	-5.59%	17.21%	826	0.0250	0.0569	0.0059	16.43%	7.97%	16.43%	7.97%	-0.0164***	-0.0069				
	Event + 2 Year	851	0.0135	0.0504	0.0059	0.00%	7.23%	5.69%	25.61%	0.00%	7.23%	810	0.0240	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%	11.89%	27.93%	799	0.0186	0.0522	0.0062	-26.60%	-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%	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%	111.89%	40.65%	795	0.0219	0.0576	0.0064	11.84%	11.84%	5.80%	9.30%	0.0045	-0.0012				
	Event - 5 Year	911	0.0153	0.0896	0.0126	NA	NA	-504.58%	-45.42%	-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%	544.79%	-43.73%	920	0.0029	0.0065	0.0089	-1550.00%	38.30%	444.83%	201.54%	-0.203*	0.0644				
	Event - 3 Year	924	-0.0035	0.0830	0.0139	-63.54%	-4.49%	1668.57%	-41.08%	1668.57%	-41.08%	924	0.0297	0.0150	0.0089	924.14%	130.77%	-46.80%	30.67%	-0.0371***	0.0618				
	Event - 2 Year	928	0.0141	0.0820	0.0124	-502.86%	-1.20%	-539.01%	-40.37%	-539.01%	-40.37%	928	0.0272	0.0202	0.0087	-8.42%	34.67%	-41.91%	-2.97%	-0.495***	0.0416				
	Event - 1 Year	942	-0.0191	0.0724	0.0135	-235.46%	-11.71%	224.08%	-32.40%	224.08%	-32.40%	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%	19.02%	-6.30%	32.31%	-6.30%	32.31%	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%	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	-0.0658	0.0647	0.0160	-24.28%	11.17%	-6.30%	32.31%	-6.30%	32.31%	873	0.0008	0.0202	0.0083	-94.94%	-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%	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%	-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%	-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%	-64.25%	-31.80%	984	0.0430	0.0518	0.0050	NA	NA	0.90%	2.90%	-0.003	0.0070				
	Event - 4 Year	891	0.0349	0.0557	0.0052	-12.75%	-5.27%	-59.03%	-28.01%	-59.03%	-28.01%	984	0.0427	0.0545	0.0057	-0.70%	5.21%	1.64%	-2.20%	-0.078	0.0012				
	Event - 3 Year	892	0.0339	0.0511	0.0050	-2.87%	-8.26%	-57.82%	-21.53%	-57.82%	-21.53%	984	0.0534	0.0564	0.0058	25.06%	3.49%	-18.73%	-5.50%	-0.195***	-0.0653				
	Event - 2 Year	900	0.0328	0.0518	0.0048	-3.24%	1.37%	-56.40%	-22.59%	-56.40%	-22.59%	984	0.0423	0.0578	0.0055	-20.73%	2.48%	2.60%	-7.95%	-0.095	-0.0060				
	Event - 1 Year	919	0.0283	0.0478	0.0048	-13.72%	-7.72%	-49.47%	-16.11%	-49.47%	-16.11%	984	0.0492	0.0570	0.0054	-11.38%	-6.49%	-11.79%	-6.49%	-0.209***	-0.0092				
	Event	882	0.0143	0.0401	0.0053	-49.47%	-16.11%	NA	NA	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%	-5.59%	17.21%	982	0.0399	0.0512	0.0055	-3.94%	-8.06%	-8.06%	-3.94%	-0.0264***	-0.0042				
	Event + 2 Year	851	0.0135	0.0504	0.0059	0.00%	7.23%	5.69%	25.61%	0.00%	7.23%	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%	11.89%	27.93%	982	0.0399	0.0514	0.0053	-4.99%	-3.56%	-4.99%	-3.56%	-0.0239***	-0.0001				
	Event + 4 Year	827	0.0247	0.0540	0.0061	54.38%	5.26%	72.73%	34.66%	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%	111.89%	40.65%	983	0.0386	0.0510	0.0057	-23.87%	-5.90%	-11.06%	-4.32%	-0.0083	0.0054				

Table G.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 its 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		
EV / LTM EBITDA	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	YoY	Event vs Year	Δ Mean	Event vs Year	Δ Median	YoY	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	YoY	Event vs Year	Δ Mean	Event vs Year	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)			
																														Event vs Year	Event vs Year	Event vs Year
Event - 5 Year	791	8.0160	7.7235	0.5131	NA	NA	-12.45%	-3.82%	-12.45%	-3.82%	-12.45%	NA	NA	791	6.4865	6.9421	0.4806	0.4806	NA	NA	1.59%	1.59%	0.5490	0.5490	0.7814	0.7814	0.5490	0.5490	0.5490			
Event - 4 Year	814	6.7130	7.4215	0.5054	-16.25%	-3.91%	4.54%	0.10%	4.54%	0.10%	-1.24%	-1.24%	-1.16%	814	6.4061	6.8616	0.5307	0.5307	2.16%	2.16%	2.87%	2.87%	0.5789	0.5789	0.5509	0.5509	0.5789	0.5789	0.5509			
Event - 3 Year	825	6.9344	7.8910	0.4953	3.30%	6.33%	1.21%	-5.86%	-1.91%	-5.86%	-1.91%	-1.91%	3.01%	825	7.2167	7.0679	0.4942	0.4942	12.65%	12.65%	-8.69%	-8.69%	-0.0593	-0.0593	0.8231	0.8231	-0.0593	-0.0593	0.8231			
Event - 2 Year	830	7.1547	7.4889	0.4889	3.18%	5.10%	-1.91%	-0.80%	-1.91%	-0.80%	-1.91%	-1.91%	2.71%	830	6.6695	7.2596	0.4928	0.4928	7.58%	7.58%	-1.19%	-1.19%	-2.91%	-2.91%	0.5809	0.5809	0.2293	0.2293	0.5809	0.5809	0.2293	
Event - 1 Year	863	7.4149	7.2937	0.4874	3.64%	-2.61%	-5.35%	1.85%	-5.35%	-0.80%	-5.35%	1.85%	0.43%	863	6.6985	6.6578	0.5049	0.5049	0.43%	0.43%	-1.62%	-1.62%	-1.62%	-1.62%	0.1319	0.1319	0.6359	0.6359	0.1319	0.1319	0.6359	
Event	820	7.0180	7.4287	0.5008	-5.35%	1.85%	NA	NA	NA	NA	NA	NA	NA	820	6.5898	7.0483	0.4931	0.4931	5.87%	5.87%	NA	NA	NA	NA	-0.0233	-0.0233	0.3804	0.3804	-0.0233	0.3804		
Event + 1 Year	769	6.1631	6.5226	0.5185	-12.18%	-12.20%	-12.18%	-12.20%	-12.18%	-12.20%	-12.18%	-12.20%	-12.18%	769	6.3780	6.9693	0.5085	0.5085	-3.21%	-3.21%	-3.21%	-3.21%	-1.12%	-1.12%	-0.3143	-0.3143	-0.4467	-0.4467	-0.3143	-0.4467		
Event + 2 Year	783	6.5264	6.4192	0.5197	5.89%	-1.39%	-7.00%	-13.59%	-7.00%	-13.59%	-7.00%	-13.59%	-5.01%	783	6.1976	6.6199	0.5100	0.5100	-2.83%	-2.83%	-5.95%	-5.95%	-6.08%	-6.08%	-0.4304	-0.4304	-0.2007	-0.2007	-0.4304	-0.2007		
Event + 3 Year	769	6.0581	6.5258	0.4874	-7.18%	1.66%	-13.68%	-12.15%	-13.68%	-12.15%	-13.68%	-12.15%	0.47%	769	6.2609	6.6512	0.5175	0.5175	1.02%	1.02%	-4.99%	-4.99%	-5.63%	-5.63%	-0.5077	-0.5077	-0.1254	-0.1254	-0.5077	-0.1254		
Event + 4 Year	768	6.7824	6.7427	0.5561	11.96%	3.32%	-3.36%	-9.23%	-3.36%	-9.23%	-3.36%	-9.23%	-3.88%	768	5.6670	6.3930	0.5033	0.5033	-9.49%	-9.49%	-14.00%	-14.00%	-9.30%	-9.30%	0.4017	0.4017	0.3497	0.3497	0.4017	0.3497	0.4017	
Event + 5 Year	753	6.2497	6.9092	0.5497	-7.85%	2.47%	-10.95%	-6.99%	-10.95%	-6.99%	-10.95%	-6.99%	0.23%	753	5.3287	6.4077	0.5305	0.5305	-5.97%	-5.97%	-19.14%	-19.14%	-9.09%	-9.09%	0.5574	0.5574	0.5015	0.5015	0.5574	0.5015	0.5574	

Target Firms															Industry Adjusted															Differences between Target Firms and Industry		
EV / LTM EBITDA	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	YoY	Event vs Year	Δ Mean	Event vs Year	Δ Median	YoY	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	YoY	Event vs Year	Δ Mean	Event vs Year	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)			
																														Event vs Year	Event vs Year	Event vs Year
Event - 5 Year	791	8.0160	7.7235	0.5131	NA	NA	-12.45%	-3.82%	-12.45%	-3.82%	-12.45%	NA	NA	791	6.8392	7.1266	0.1659	0.1659	NA	NA	1.20%	1.20%	1.1228**	1.1228**	0.5969	0.5969	1.1228**	0.5969	0.5969			
Event - 4 Year	814	6.7130	7.4215	0.5054	-16.25%	-3.91%	4.54%	0.10%	4.54%	0.10%	-1.24%	-1.16%	4.00%	814	6.5491	7.0138	0.0877	0.0877	2.16%	2.16%	-2.32%	-2.32%	0.8584***	0.8584***	0.3335	0.3335	0.8584***	0.3335	0.3335			
Event - 3 Year	825	6.9344	7.8910	0.4953	3.30%	6.33%	1.21%	-5.86%	-1.91%	-5.86%	-1.91%	-1.91%	3.01%	825	6.3998	7.0258	0.0898	0.0898	12.65%	12.65%	-8.69%	-8.69%	0.200%	0.200%	0.5593**	0.5593**	0.3734	0.3734	0.5593**	0.3734		
Event - 2 Year	830	7.1547	7.4889	0.4889	3.18%	5.10%	-1.91%	-0.80%	-1.91%	-0.80%	-1.91%	-1.91%	2.71%	830	6.2856	6.9458	0.0906	0.0906	7.58%	7.58%	-1.19%	-1.19%	1.35%	1.35%	0.96**	0.96**	0.3668	0.3668	0.96**	0.3668		
Event - 1 Year	863	7.4149	7.2937	0.4874	3.64%	-2.61%	-5.35%	1.85%	-5.35%	-0.80%	-5.35%	1.85%	0.43%	863	6.3030	7.0355	0.0949	0.0949	0.28%	0.28%	1.49%	1.49%	0.06%	0.06%	1.2535***	1.2535***	0.3305	0.3305	1.2535***	0.3305		
Event	820	7.0180	7.4287	0.5008	-5.35%	1.85%	NA	NA	NA	NA	NA	NA	NA	820	6.3972	7.0397	0.0934	0.0934	1.49%	1.49%	NA	NA	NA	NA	0.5913**	0.5913**	0.2441	0.2441	0.5913**	0.2441		
Event + 1 Year	769	6.1631	6.5226	0.5185	-12.18%	-12.20%	-12.18%	-12.20%	-12.18%	-12.20%	-12.18%	-12.20%	-12.18%	769	6.1662	6.7689	0.0917	0.0917	-3.61%	-3.61%	-3.61%	-3.61%	-3.85%	-3.85%	0.2388	0.2388	-0.1440	-0.1440	0.2388	-0.1440		
Event + 2 Year	783	6.5264	6.4192	0.5197	5.89%	-1.39%	-7.00%	-13.59%	-7.00%	-13.59%	-7.00%	-13.59%	-5.01%	783	5.9542	6.6791	0.0806	0.0806	-3.44%	-3.44%	-6.92%	-6.92%	-5.12%	-5.12%	0.3551	0.3551	-0.1811	-0.1811	0.3551	-0.1811		
Event + 3 Year	769	6.0581	6.5258	0.4874	-7.18%	1.66%	-13.68%	-12.15%	-13.68%	-12.15%	-13.68%	-12.15%	0.47%	769	5.8874	6.6527	0.0912	0.0912	-1.12%	-1.12%	-7.97%	-7.97%	-5.50%	-5.50%	0.17	0.17	-0.0354	-0.0354	0.17	-0.0354		
Event + 4 Year	768	6.7824	6.7427	0.5561	11.96%	3.32%	-3.36%	-9.23%	-3.36%	-9.23%	-3.36%	-9.23%	-3.88%	768	5.8200	6.6263	0.0912	0.0912	-1.14%	-1.14%	-9.02%	-9.02%	-5.87%	-5.87%	0.8668***	0.8668***	0.1248	0.1248	0.8668***	0.1248		
Event + 5 Year	753	6.2497	6.9092	0.5497	-7.85%	2.47%	-10.95%	-6.99%	-10.95%	-6.99%	-10.95%	-6.99%	0.23%	753	5.8784	6.5416	0.0901	0.0901	-1.28%	-1.28%	-8.11%	-8.11%	-7.08%	-7.08%	0.5143**	0.5143**	0.2794	0.2794	0.5143**	0.2794		

Table G.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.

Debt / EBITDA	Target Firms										Matched Firms										Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)					
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	6.44%	0.00%	6.44%	19.54%	986	0.0564	0.0466	0.0018	0.00%	-2.10%	8.69%	-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%	0.00%	-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	-3.89%	-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%	0.180%	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	915	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%	886	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%	-35.80%	-26.84%	-39.71%	865	0.3610	0.1311	0.0446	-21.18%	-32.73%	-13.12%	-33.98%	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	0.0425	-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					

Debt / EBITDA	Target Firms										Industry Adjusted										Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)					
Event - 5 Year	805	2.8241	1.4391	0.1565	NA	NA	1.14%	3.72%	984	2.5842	1.0641	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	1.0513	0.1193	-7.83%	-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	1.0512	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	-2.90%	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	2.2800	1.3889	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%	0.00%	-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%	-1.08%	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	1.5395	0.1133	6.44%	2.26%	-7.40%	-1.91%	0.0861	-0.2953					
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%	0.180%	10.29%	16.28%	984	0.5692	0.2905	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	0.0452	-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%	-35.80%	-26.84%	-39.71%	984	0.4837	0.2530	0.0438	-10.99%	-11.51%	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 G.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 its 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.	Δ Mean YoY	Δ Median YoY	Event vs Year		Δ Mean	Δ Median	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year		Δ Mean	Δ Median	Event vs Year	Δ Mean	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)				
							Event vs Year	Δ Median									Event vs Year	Δ Median									Event vs Year	Δ Median		
Capital Expenditures																														
Event - 5 Year	864	0.0176	0.0097	0.0007	NA	NA	-19.89%	-26.80%	-19.89%	-13.40%	803	0.0170	0.0089	0.0008	NA	NA	-11.18%	-16.85%	-11.18%	-17.78%	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%	-12.96%	-2.38%	804	0.0172	0.0090	0.0008	1.18%	1.12%	-12.21%	-17.78%	-12.21%	-17.78%	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%	-15.06%	-4.65%	822	0.0167	0.0087	0.0008	-2.91%	-3.33%	-9.58%	-14.94%	-9.58%	-14.94%	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%	-8.44%	1.22%	842	0.0156	0.0083	0.0007	-6.59%	-4.60%	-3.21%	-10.84%	-3.21%	-10.84%	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%	-10.76%	NA	856	0.0155	0.0076	0.0007	-0.64%	-8.43%	-2.58%	-2.63%	-2.58%	-2.63%	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	NA	NA	852	0.0151	0.0074	0.0007	-2.58%	-2.63%	NA	NA	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%	12.77%	16.90%	815	0.0155	0.0077	0.0008	2.65%	4.05%	2.65%	4.05%	2.65%	4.05%	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%	19.86%	1.20%	800	0.0150	0.0073	0.0007	-3.23%	-5.19%	-0.66%	-1.35%	-0.66%	-1.35%	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%	18.44%	9.68%	786	0.0156	0.0074	0.0008	4.00%	1.37%	3.31%	0.00%	3.31%	0.00%	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%	30.50%	-1.96%	794	0.0162	0.0077	0.0008	3.85%	4.05%	7.28%	4.05%	7.28%	4.05%	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%	26.95%	-1.96%	757	0.0164	0.0089	0.0008	1.23%	15.58%	8.61%	20.27%	8.61%	20.27%	757	0.0164	0.0089	0.0008	1.23%	15.58%	8.61%	20.27%	0.0003	0.0011
Industry Adjusted																														
Event - 5 Year	864	0.0176	0.0097	0.0007	NA	NA	-19.89%	-26.80%	-19.89%	-13.40%	975	0.0177	0.0142	0.0005	NA	NA	-12.43%	-15.49%	-12.43%	-15.49%	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%	-12.96%	-2.38%	978	0.0170	0.0136	0.0005	-3.95%	-4.23%	-8.82%	-11.76%	-8.82%	-11.76%	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%	-15.06%	-4.65%	978	0.0165	0.0130	0.0005	-2.94%	-4.41%	-6.06%	-7.69%	-6.06%	-7.69%	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%	-8.44%	1.22%	981	0.0162	0.0128	0.0004	-1.82%	-1.54%	-4.32%	-6.25%	-4.32%	-6.25%	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%	-10.76%	NA	984	0.0159	0.0127	0.0004	-1.85%	-0.78%	-2.52%	-5.51%	-2.52%	-5.51%	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	NA	NA	984	0.0155	0.0120	0.0004	-2.52%	-5.51%	NA	NA	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%	12.77%	16.90%	977	0.0166	0.0130	0.0005	7.10%	8.33%	7.10%	8.33%	7.10%	8.33%	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%	19.86%	1.20%	976	0.0172	0.0139	0.0005	3.61%	6.92%	10.97%	15.83%	10.97%	15.83%	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%	18.44%	9.68%	973	0.0175	0.0148	0.0005	1.74%	6.47%	12.90%	23.33%	12.90%	23.33%	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%	30.50%	-1.96%	974	0.0183	0.0165	0.0005	4.57%	11.49%	18.06%	37.50%	18.06%	37.50%	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%	26.95%	-1.96%	974	0.0183	0.0164	0.0005	0.00%	-0.61%	18.06%	36.67%	18.06%	36.67%	974	0.0183	0.0164	0.0005	0.00%	-0.61%	18.06%	36.67%	-0.0004	-0.0064

Table G-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 its 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		
Event	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	Event vs Year			YoY			Event vs Year			Δ Median			Diff (Mean)	Diff (Median)						
							Δ Mean	Δ Median	Event vs Year	YoY	Δ Mean	Δ Median	Event vs Year	YoY	Δ Mean	Δ Median	Event vs Year									
Dividend Yield																										
Event - 5 Year	722	1.4861	0.0000	0.0848	NA	NA	-2.63%	NA	NA	797	1.3831	0.0000	0.0777	NA	NA	11.42%	NA	NA	-0.1837**	0.0000						
Event - 4 Year	719	1.5395	0.0000	0.0868	3.59%	NA	-6.01%	NA	NA	801	1.4684	0.0000	0.0795	6.17%	NA	4.94%	NA	NA	-0.2039***	0.0000						
Event - 3 Year	717	1.5448	0.0000	0.0868	0.34%	NA	-6.35%	NA	NA	803	1.5367	0.0000	0.0826	4.65%	NA	0.28%	NA	NA	-0.2026***	0.0000						
Event - 2 Year	716	1.5574	0.0000	0.0874	0.82%	NA	-7.09%	NA	NA	803	1.4882	0.0000	0.0777	-3.16%	NA	3.55%	NA	NA	-0.1635**	0.0000						
Event - 1 Year	713	1.5904	0.0000	0.0888	2.12%	NA	-9.02%	NA	NA	802	1.5191	0.1850	0.0779	2.08%	NA	1.44%	NA	NA	-0.2055***	-0.1850						
Event	715	1.4470	0.0000	0.0842	-9.02%	NA	NA	NA	NA	809	1.5410	0.0500	0.0793	1.44%	NA	NA	NA	NA	-0.2292***	-0.0500						
Event + 1 Year	689	1.3958	0.0000	0.0872	-3.54%	NA	-3.54%	NA	NA	765	1.4176	0.0000	0.0791	-8.01%	NA	-8.01%	NA	NA	-0.1620**	0.0000						
Event + 2 Year	681	1.3871	0.0000	0.0878	-0.62%	NA	-4.14%	NA	NA	737	1.4030	0.0000	0.0805	-1.03%	NA	-8.96%	NA	NA	-0.1166	0.0000						
Event + 3 Year	651	1.2842	0.0000	0.0871	-7.42%	NA	-11.25%	NA	NA	692	1.3875	0.0000	0.0847	-1.10%	NA	-9.96%	NA	NA	-0.1518*	0.0000						
Event + 4 Year	634	1.2792	0.0000	0.0918	-0.39%	NA	-11.60%	NA	NA	663	1.4466	0.0000	0.0906	4.26%	NA	-6.13%	NA	NA	-0.0341	0.0000						
Event + 5 Year	602	1.3730	0.0000	0.0958	7.33%	NA	-5.11%	NA	NA	637	1.4623	0.0000	0.0905	1.09%	NA	-5.11%	NA	NA	-0.0818	0.0000						
Share Repurchase																										
Event - 5 Year	952	0.0036	0.0000	0.0003	0.00%	NA	61.11%	NA	NA	898	0.0040	0.0000	0.0004	NA	NA	65.00%	NA	NA	0.0003	0.0000						
Event - 4 Year	953	0.0042	0.0000	0.0003	16.67%	NA	38.10%	NA	NA	898	0.0044	0.0000	0.0004	10.00%	NA	50.00%	NA	NA	0.0001	0.0000						
Event - 3 Year	955	0.0046	0.0000	0.0003	9.52%	NA	26.09%	NA	NA	900	0.0049	0.0000	0.0004	11.36%	NA	34.69%	NA	NA	0.0004	0.0000						
Event - 2 Year	961	0.0055	0.0000	0.0004	19.57%	NA	5.45%	NA	NA	914	0.0052	0.0000	0.0004	6.12%	NA	26.92%	NA	NA	0.0005	0.0000						
Event - 1 Year	971	0.0061	0.0000	0.0004	10.91%	NA	-4.92%	NA	NA	922	0.0060	0.0000	0.0004	13.38%	NA	10.00%	NA	NA	0.0003	0.0000						
Event	941	0.0058	0.0000	0.0004	-4.92%	NA	NA	NA	NA	926	0.0066	0.0000	0.0004	10.00%	NA	NA	NA	NA	-0.0007*	0.0000						
Event + 1 Year	873	0.0056	0.0000	0.0004	-3.45%	NA	-3.45%	NA	NA	889	0.0057	0.0000	0.0004	-13.64%	NA	-13.64%	NA	NA	0.0002	0.0000						
Event + 2 Year	909	0.0053	0.0000	0.0004	-5.36%	NA	-8.62%	NA	NA	887	0.0058	0.0000	0.0004	1.75%	NA	-12.12%	NA	NA	-0.0007**	0.0000						
Event + 3 Year	884	0.0044	0.0000	0.0004	-16.98%	NA	-24.14%	NA	NA	869	0.0048	0.0000	0.0004	-17.24%	NA	-27.27%	NA	NA	-0.0004	0.0000						
Event + 4 Year	901	0.0041	0.0000	0.0004	-6.82%	NA	-29.31%	NA	NA	889	0.0042	0.0000	0.0004	-12.50%	NA	-36.36%	NA	NA	-0.0008***	0.0000						
Event + 5 Year	896	0.0039	0.0000	0.0004	-4.88%	NA	-32.76%	NA	NA	867	0.0039	0.0000	0.0004	-7.14%	NA	-40.91%	NA	NA	-0.0007**	0.0000						
Industry Adjusted																										
Event - 5 Year	722	1.4861	0.0000	0.0848	NA	NA	-2.63%	NA	NA	981	1.5144	0.8232	0.0576	NA	NA	7.25%	19.16%	NA	-0.0283	-0.8232						
Event - 4 Year	719	1.5395	0.0000	0.0868	3.59%	NA	-6.01%	NA	NA	981	1.5277	0.8608	0.0569	0.88%	NA	6.32%	13.16%	NA	0.0118	-0.8608						
Event - 3 Year	717	1.5448	0.0000	0.0868	0.34%	NA	-6.33%	NA	NA	980	1.5559	0.8737	0.0582	1.85%	NA	4.39%	12.27%	NA	-0.0111	-0.8737						
Event - 2 Year	716	1.5574	0.0000	0.0874	0.82%	NA	-7.09%	NA	NA	980	1.5995	0.9067	0.0585	0.23%	NA	3.78%	8.18%	NA	-0.0021	-0.9067						
Event - 1 Year	713	1.5904	0.0000	0.0888	2.12%	NA	-9.02%	NA	NA	980	1.6065	0.9555	0.0577	3.01%	NA	5.38%	2.66%	NA	-0.0161	-0.9555						
Event	715	1.4470	0.0000	0.0842	-9.02%	NA	NA	NA	NA	980	1.6242	0.9809	0.0561	1.10%	NA	2.66%	NA	NA	-0.1772*	-0.9809						
Event + 1 Year	689	1.3958	0.0000	0.0872	-3.54%	NA	-3.54%	NA	NA	966	1.4862	0.8506	0.0549	-8.50%	NA	-8.50%	NA	NA	-0.0904	-0.8506						
Event + 2 Year	681	1.3871	0.0000	0.0878	-0.62%	NA	-4.14%	NA	NA	963	1.3564	0.7559	0.0523	-8.73%	NA	-11.13%	NA	NA	-0.0307	-0.7559						
Event + 3 Year	651	1.2842	0.0000	0.0871	-7.42%	NA	-11.25%	NA	NA	955	1.2733	0.6919	0.0514	-6.13%	NA	-8.47%	NA	NA	0.0109	-0.6919						
Event + 4 Year	634	1.2792	0.0000	0.0918	-0.39%	NA	-11.60%	NA	NA	952	1.2473	0.6570	0.0516	-2.04%	NA	-5.04%	NA	NA	0.0319	-0.6570						
Event + 5 Year	602	1.3730	0.0000	0.0958	7.33%	NA	-5.11%	NA	NA	950	1.2592	0.6570	0.0525	0.95%	NA	-22.47%	NA	NA	0.1138	-0.6570						
Share Repurchase																										
Event - 5 Year	953	0.0036	0.0000	0.0003	0.00%	NA	61.11%	NA	NA	984	0.0057	0.0017	0.0002	NA	NA	73.68%	41.17%	NA	-0.0021***	-0.0017						
Event - 4 Year	952	0.0042	0.0000	0.0003	16.67%	NA	38.10%	NA	NA	984	0.0066	0.0035	0.0003	15.79%	NA	105.88%	148.57%	NA	-0.0024***	-0.0035						
Event - 3 Year	955	0.0046	0.0000	0.0003	9.52%	NA	26.09%	NA	NA	984	0.0074	0.0055	0.0002	12.12%	NA	33.78%	58.18%	NA	-0.0028***	-0.0055						
Event - 2 Year	961	0.0055	0.0000	0.0004	19.57%	NA	5.45%	NA	NA	984	0.0084	0.0067	0.0002	13.51%	NA	17.86%	29.85%	NA	-0.0029***	-0.0067						
Event - 1 Year	971	0.0061	0.0000	0.0004	10.91%	NA	-4.92%	NA	NA	984	0.0095	0.0085	0.0002	13.10%	NA	26.87%	2.35%	NA	-0.0034***	-0.0085						
Event	941	0.0058	0.0000	0.0004	-4.92%	NA	NA	NA	NA	984	0.0099	0.0087	0.0003	4.21%	NA	NA	NA	NA	-0.0041***	-0.0087						
Event + 1 Year	873	0.0056	0.0000	0.0004	-3.45%	NA	-3.45%	NA	NA	982	0.0079	0.0052	0.0003	-20.20%	NA	-20.20%	NA	NA	-0.0023***	-0.0052						
Event + 2 Year	909	0.0053	0.0000	0.0004	-5.36%	NA	-8.62%	NA	NA	984	0.0069	0.0036	0.0002	-12.66%	NA	-30.30%	NA	NA	-0.0016***	-0.0036						
Event + 3 Year	884	0.0044	0.0000	0.0004	-16.98%	NA	-24.14%	NA	NA	982	0.0061	0.0022	0.0002	-11.59%	NA	-38.89%	NA	NA	-0.0017***	-0.0022						
Event + 4 Year	901	0.0041	0.0000	0.0004	-6.82%	NA	-29.31%	NA	NA	984	0.0054	0.0008	0.0002	-11.48%	NA	-45.45%	NA	NA	-0.0013***	-0.0008						
Event + 5 Year	896	0.0039	0.0000	0.0004	-4.88%	NA	-32.76%	NA	NA	983	0.0050	0.0000	0.0002	-7.41%	NA	-49.49%	NA	NA	-0.0011**	0.0000						

Table G-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 its 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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Differences between Target and Match									
																					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	0.0294	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	2.89%	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												
Industry Adjusted																														
Event - 5 Year	983	0.4299	0.0000	0.0037	0.54%	NA	-7.39%	NA	983	0.4299	0.0000	0.0037	0.54%	NA	1.10%	NA	0.0109	0.0000												
Event - 4 Year	984	0.3171	0.0000	0.0047	NA	NA	35.63%	NA	984	0.3171	0.0000	0.0047	NA	NA	17.41%	NA	0.0051	0.0000												
Event - 3 Year	984	0.3280	0.0000	0.0045	3.44%	NA	33.11%	NA	984	0.3280	0.0000	0.0045	3.44%	NA	13.51%	NA	0.0003	0.0000												
Event - 2 Year	984	0.3406	0.0000	0.0044	3.84%	NA	25.72%	NA	984	0.3406	0.0000	0.0044	3.84%	NA	10.25%	NA	0.0007	0.0000												
Event - 1 Year	984	0.3537	0.0000	0.0043	3.85%	NA	16.84%	NA	984	0.3537	0.0000	0.0043	3.85%	NA	5.26%	NA	0.0203	0.0000												
Event	984	0.3640	0.0000	0.0044	2.91%	NA	14.97%	NA	984	0.3640	0.0000	0.0044	2.91%	NA	2.28%	NA	0.0161	0.0000												
Event + 1 Year	984	0.3723	0.0000	0.0043	3.86%	NA	NA	NA	984	0.3723	0.0000	0.0043	3.86%	NA	NA	NA	0.0647***	0.0000												
Event + 2 Year	984	0.3210	0.0000	0.0055	-13.78%	NA	-26.27%	NA	984	0.3210	0.0000	0.0055	-13.78%	NA	-13.78%	NA	0.0012	0.0000												
Event + 3 Year	984	0.2892	0.0000	0.0057	-9.91%	NA	-39.77%	NA	984	0.2892	0.0000	0.0057	-9.91%	NA	-22.32%	NA	-0.026*	0.0000												
Event + 4 Year	984	0.2664	0.0000	0.0141	0.76%	NA	-39.31%	NA	984	0.2664	0.0000	0.0141	0.76%	NA	-24.03%	NA	-0.0012	0.0000												
Event + 5 Year	984	0.2522	0.0000	0.0136	-9.16%	NA	-44.87%	NA	984	0.2522	0.0000	0.0136	-9.16%	NA	-32.26%	NA	-0.0113	0.0000												
Event	984	0.2433	0.0000	0.0054	-3.53%	NA	-43.48%	NA	984	0.2433	0.0000	0.0054	-3.53%	NA	-34.65%	NA	0.0037	0.0000												

Table G.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 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 5% level and * at the 10% level.

		Target Firms										Matched Firms										Differences between Target and Match			
		N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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	20.37%	NA	0.0327***	0.0000						
Event - 3 Year		984	0.1738	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	0.0266***	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	0.0732	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	0.0000						
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%	0.0004	0.0000						
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	-8.85%	-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	0.0044	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%	-1.38%	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																									
		N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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%	2.04%	0.0237**	-0.1357						
Event - 2 Year		984	0.1870	0.0000	0.0124	6.37%	NA	2.73%	NA	984	0.1562	0.1357	0.0038	2.04%	0.00%	0.00%	0.00%	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	0.1565	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	-12.81%	-12.81%	-10.63%	-12.81%	0.0127	-0.1177						
Event + 2 Year		984	0.1331	0.0000	0.0114	-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%	-29.83%	-0.0064	-0.0947						
Herfindahl-Hirschman Index																									
Event - 5 Year		984	0.0765	0.0506	0.0042	NA	NA	0.78%	1.58%	984	0.0873	0.0550	0.0044	NA	NA	-13.53%	-5.64%	-0.0107*	-0.0044						
Event - 4 Year		984	0.0732	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	0.0046	-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	0.0046	-10.56%	-1.52%	NA	NA	0.0017	-0.0005						
Event + 1 Year		984	0.0852	0.0520	0.0044	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	0.0530	0.0046	0.38%	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	2.93%	-0.38%	15.78%	1.75%	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						
Industry Adjusted																									
		N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)						

Table G.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 its 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.

13D Filing	Target Firms										Matched Firms										Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Dif (Mean)	Dif (Median)					
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					

13D Filing	Target Firms										Industry Adjusted										Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Dif (Mean)	Dif (Median)					
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%	33.44%	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 G.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 event 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.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ 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	NA	0.1643	0.0000	0.0118	NA	NA	NA	-12.96%	0.0112	0.0000							
Event - 4 Year	984	0.1626	0.0000	0.0118	1.25%	NA	139.36%	NA	NA	0.1663	0.0000	0.0119	1.22%	NA	NA	-14.01%	0.0062	0.0000							
Event - 3 Year	984	0.1636	0.0000	0.0118	0.62%	NA	137.90%	NA	NA	0.1623	0.0000	0.0117	-2.41%	NA	NA	-11.89%	0.0096	0.0000							
Event - 2 Year	984	0.1596	0.0000	0.0117	-2.44%	NA	143.86%	NA	NA	0.1511	0.0000	0.0114	-6.90%	NA	NA	-5.36%	0.0046	0.0000							
Event - 1 Year	984	0.1514	0.0000	0.0114	-5.14%	NA	157.07%	NA	NA	0.1531	0.0000	0.0115	1.32%	NA	NA	-6.60%	0.0000	0.0000							
Event	984	0.3892	0.0000	0.0156	157.07%	NA	NA	NA	NA	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	NA	0.1359	0.0000	0.0109	-4.97%	NA	NA	-4.97%	-0.0138*	0.0000							
Event + 2 Year	984	0.0894	0.0000	0.0091	-15.42%	NA	-77.03%	NA	NA	0.1217	0.0000	0.0104	-10.45%	NA	NA	-14.90%	-0.0241***	0.0000							
Event + 3 Year	984	0.0711	0.0000	0.0082	-20.47%	NA	-81.73%	NA	NA	0.1105	0.0000	0.0100	-9.20%	NA	NA	-22.73%	-0.0297***	0.0000							
Event + 4 Year	984	0.0681	0.0000	0.0080	-4.22%	NA	-82.50%	NA	NA	0.1014	0.0000	0.0096	-8.24%	NA	NA	-29.09%	-0.0231***	0.0000							
Event + 5 Year	984	0.0661	0.0000	0.0079	-2.94%	NA	-83.02%	NA	NA	0.0892	0.0000	0.0091	-12.03%	NA	NA	-37.62%	-0.0162**	0.0000							
Poison Pill																									
Event - 5 Year	984	0.1514	0.0000	0.0114	NA	NA	18.16%	NA	NA	0.1572	0.0000	0.0116	NA	NA	NA	-14.10%	0.0355***	0.0000							
Event - 4 Year	984	0.1484	0.0000	0.0113	-1.98%	NA	20.55%	NA	NA	0.1511	0.0000	0.0114	-3.88%	NA	NA	-10.72%	0.0402***	0.0000							
Event - 3 Year	984	0.1463	0.0000	0.0113	-1.42%	NA	22.28%	NA	NA	0.1491	0.0000	0.0113	-1.32%	NA	NA	-9.52%	0.0443***	0.0000							
Event - 2 Year	984	0.1443	0.0000	0.0112	-1.37%	NA	23.98%	NA	NA	0.1450	0.0000	0.0112	-2.75%	NA	NA	-6.97%	0.0530***	0.0000							
Event - 1 Year	984	0.1413	0.0000	0.0111	-2.08%	NA	26.61%	NA	NA	0.1359	0.0000	0.0109	-6.28%	NA	NA	-0.74%	0.0480***	0.0000							
Event	984	0.1789	0.0000	0.0122	26.61%	NA	NA	NA	NA	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	NA	0.1247	0.0000	0.0105	-7.56%	NA	NA	-7.56%	0.0299***	0.0000							
Event + 2 Year	984	0.1057	0.0000	0.0098	-19.37%	NA	-40.92%	NA	NA	0.1065	0.0000	0.0098	-14.60%	NA	NA	-21.05%	0.0149**	0.0000							
Event + 3 Year	984	0.0884	0.0000	0.0091	-16.37%	NA	-50.59%	NA	NA	0.0892	0.0000	0.0091	-16.24%	NA	NA	-33.88%	0.0112	0.0000							
Event + 4 Year	984	0.0894	0.0000	0.0091	-1.13%	NA	-50.03%	NA	NA	0.0801	0.0000	0.0087	-10.20%	NA	NA	-40.62%	0.0115*	0.0000							
Event + 5 Year	984	0.0843	0.0000	0.0089	-5.70%	NA	-52.88%	NA	NA	0.0832	0.0000	0.0088	-3.87%	NA	NA	-38.32%	0.0168***	0.0000							
Industry Adjusted																									
Classified Board																									
Event - 5 Year	984	0.1606	0.0000	0.0117	NA	NA	142.34%	NA	NA	0.1126	0.0014	0.0029	NA	NA	NA	19.54%	0.048***	-0.0914							
Event - 4 Year	984	0.1626	0.0000	0.0118	1.25%	NA	139.36%	NA	NA	0.1180	0.1004	0.0029	4.80%	NA	NA	14.07%	0.0446***	-0.1004							
Event - 3 Year	984	0.1636	0.0000	0.0118	0.62%	NA	137.90%	NA	NA	0.1250	0.1096	0.0029	5.93%	NA	NA	7.68%	0.0386***	-0.1096							
Event - 2 Year	984	0.1596	0.0000	0.0117	-2.44%	NA	143.86%	NA	NA	0.1314	0.1143	0.0029	4.29%	NA	NA	8.12%	0.0282***	-0.1143							
Event - 1 Year	984	0.1514	0.0000	0.0114	-5.14%	NA	157.07%	NA	NA	0.1378	0.1204	0.0029	4.87%	NA	NA	-2.32%	0.0136	-0.1204							
Event	984	0.3892	0.0000	0.0156	157.07%	NA	NA	NA	NA	0.1346	0.1185	0.0029	2.92%	NA	NA	NA	0.2546***	-0.1185							
Event + 1 Year	984	0.1057	0.0000	0.0098	-72.84%	NA	-72.84%	NA	NA	0.1202	0.1087	0.0030	-10.70%	NA	NA	-10.70%	-0.0145	-0.1087							
Event + 2 Year	984	0.0894	0.0000	0.0091	-15.42%	NA	-77.03%	NA	NA	0.1096	0.0958	0.0029	-8.92%	NA	NA	-18.57%	-0.0202**	-0.0958							
Event + 3 Year	984	0.0711	0.0000	0.0082	-20.47%	NA	-81.73%	NA	NA	0.1024	0.0937	0.0029	-6.57%	NA	NA	-23.92%	-0.0313***	-0.0937							
Event + 4 Year	984	0.0681	0.0000	0.0080	-4.22%	NA	-82.50%	NA	NA	0.0962	0.0804	0.0027	-6.05%	NA	NA	-28.53%	-0.0281***	-0.0804							
Event + 5 Year	984	0.0661	0.0000	0.0079	-2.94%	NA	-83.02%	NA	NA	0.0892	0.0724	0.0026	-7.28%	NA	NA	-33.73%	-0.0231***	-0.0724							
Poison Pill																									
Event - 5 Year	984	0.1514	0.0000	0.0114	NA	NA	18.16%	NA	NA	0.1288	0.1257	0.0027	NA	NA	NA	-4.66%	0.0226*	-0.1257							
Event - 4 Year	984	0.1484	0.0000	0.0113	-1.98%	NA	20.55%	NA	NA	0.1311	0.1294	0.0027	1.79%	NA	NA	-6.33%	0.0173	-0.1294							
Event - 3 Year	984	0.1463	0.0000	0.0113	-1.42%	NA	22.28%	NA	NA	0.1321	0.1298	0.0027	0.76%	NA	NA	-7.04%	0.0142	-0.1298							
Event - 2 Year	984	0.1443	0.0000	0.0112	-1.37%	NA	23.98%	NA	NA	0.1323	0.1293	0.0027	0.15%	NA	NA	-7.18%	0.0112	-0.1293							
Event - 1 Year	984	0.1413	0.0000	0.0111	-2.08%	NA	26.61%	NA	NA	0.1277	0.1253	0.0027	-3.48%	NA	NA	-7.42%	0.0136	-0.1253							
Event	984	0.1789	0.0000	0.0122	26.61%	NA	NA	NA	NA	0.1228	0.1160	0.0026	-3.84%	NA	NA	NA	0.0561***	-0.1160							
Event + 1 Year	984	0.1311	0.0000	0.0108	-26.72%	NA	-26.72%	NA	NA	0.1053	0.0993	0.0027	-14.25%	NA	NA	-14.25%	0.0258**	-0.0993							
Event + 2 Year	984	0.1057	0.0000	0.0098	-19.37%	NA	-40.92%	NA	NA	0.0942	0.0835	0.0026	-10.54%	NA	NA	-23.29%	0.0115	-0.0835							
Event + 3 Year	984	0.0884	0.0000	0.0091	-16.37%	NA	-50.59%	NA	NA	0.0858	0.0698	0.0026	-8.92%	NA	NA	-30.13%	0.0026	-0.0698							
Event + 4 Year	984	0.0894	0.0000	0.0091	-1.13%	NA	-50.03%	NA	NA	0.0805	0.0596	0.0025	-6.18%	NA	NA	-48.62%	0.0089	-0.0596							
Event + 5 Year	984	0.0843	0.0000	0.0089	-5.70%	NA	-52.88%	NA	NA	0.0772	0.0531	0.0025	-4.10%	NA	NA	-54.22%	0.0071	-0.0531							

Table G.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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ 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%	-0.180	-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	0.98%	-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%	-17.99%	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%	84.42%	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%	84.42%	72.95%	470	0.0490	0.0214	0.0097	-10.91%	NA	18.07%	-24.65%	-0.0416	-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%	29.07%	-0.0013	-0.0063							
Event + 4 Year	470	0.0501	0.0384	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	-0.0064						
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	0.1293	0.0391	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	20.417%	-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	-0.0423	0.0984	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						
Industry Adjusted																								
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%	0.514	5.49%	-6.23%	-0.1463***	-0.0408						
Event	547	0.0187	0.0122	0.0077	-11.79%	-17.99%	NA	NA	582	0.1767	0.0482	0.0210	5.49%	-6.23%	NA	NA	-0.1588***	-0.0360						
Event + 1 Year	452	0.0242	0.0076	0.0093	29.41%	-37.70%	29.41%	84.42%	579	0.1683	0.0442	0.0210	-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%	84.42%	72.95%	581	0.1969	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	0.0384	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	0.0294	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	20.417%	-8.60%	-91.78%	-22.94%	582	-2.1838	0.0386	0.2901	5.53%	NA	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%	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%	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%	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%	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	-7.46%	8.73%	2.0366***	0.0460								
Event + 3 Year	481	-0.0423	0.1014	0.0295	-58.45%	3.15%	-510.00%	29.01%	582	-2.0690	0.0623	0.2752	-7.31%	19.12%	-0.39%	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%	17.88%	-2.75%	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%	18.92%	-13.59%	1.8093***	0.0555							

Table G.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 its 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.	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Median	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	YoY	Δ Mean	Event vs Year	Δ Median	Event vs Year	Dif (Mean)	Dif (Median)						
																							Event - 5 Year	Event - 4 Year	Event - 3 Year	Event - 2 Year	Event - 1 Year	Event
ROA																												
Event - 5 Year	501	0.0714	0.0914	0.0079	NA	NA	-53.64%	-33.44%	479	0.0704	0.0976	0.0085	NA	NA	-1.99%	9.32%	6.45%	0.0010	0.0010	0.0010	0.0017	-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%	9.32%	17.67%	17.67%	0.0086	0.0086	0.0086	0.0017	0.0017						
Event - 3 Year	506	0.0678	0.0870	0.0067	-3.33%	-3.33%	-51.18%	-30.11%	500	0.0685	0.0913	0.0083	8.73%	3.40%	0.73%	13.80%	13.80%	-0.0006	-0.0006	-0.0006	-0.0043	-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%	3.59%	-0.0052	-0.0052	-0.0052	-0.0160	-0.0160						
Event - 1 Year	503	0.0591	0.0830	0.0062	-14.96%	-1.54%	-43.90%	-26.75%	500	0.0731	0.1010	0.0079	-2.01%	0.70%	-5.61%	2.87%	2.87%	-0.0139	-0.0139	-0.0139	-0.0180	-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	NA	-0.0359***	-0.0359***	-0.0359***	-0.0431	-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%	1.92%	-0.0346***	-0.0346***	-0.0346***	-0.0405	-0.0405						
Event + 2 Year	446	0.0481	0.0724	0.0082	10.70%	10.70%	45.32%	19.08%	458	0.0697	0.0918	0.0080	-27.40%	-17.83%	-17.83%	-17.83%	-11.65%	-0.0086	-0.0086	-0.0086	-0.0194	-0.0194						
Event + 3 Year	447	0.0488	0.0803	0.0089	14.6%	10.91%	47.43%	32.07%	463	0.0667	0.0984	0.0086	22.93%	7.19%	1.01%	5.29%	5.29%	-0.0209*	-0.0209*	-0.0209*	-0.0181	-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	-6.10%	-6.10%	-8.84%	-11.07%	-11.07%	-0.0068	-0.0068	-0.0068	-0.0142	-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%	-9.53%	-0.0021	-0.0021	-0.0021	0.0036	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%	1.89%	-0.2680**	-0.2680**	-0.2680**	-0.1720	-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%	1.38%	-0.4790***	-0.4790***	-0.4790***	-0.2170	-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	-1.98%	-1.98%	-0.62%	3.43%	3.43%	-0.2983***	-0.2983***	-0.2983***	-0.2007	-0.2007						
Event - 2 Year	539	1.8976	1.3967	0.0654	-3.15%	0.68%	-10.60%	-8.37%	542	2.3245	1.5588	0.0879	3.48%	5.36%	-3.48%	5.36%	5.36%	-0.4547***	-0.4547***	-0.4547***	-0.1621	-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%	4.97%	-0.4270***	-0.4270***	-0.4270***	-0.2289	-0.2289						
Event	532	1.6964	1.2798	0.0628	-7.89%	-4.19%	NA	NA	500	2.2435	1.6424	0.0797	-2.30%	4.97%	NA	NA	NA	-0.5471***	-0.5471***	-0.5471***	-0.3626	-0.3626						
Event + 1 Year	497	1.8389	1.3039	0.0725	1.88%	8.40%	8.40%	1.88%	517	2.1587	1.5282	0.0794	-3.78%	-6.95%	-3.78%	-6.95%	-6.95%	-0.3199***	-0.3199***	-0.3199***	-0.2243	-0.2243						
Event + 2 Year	499	2.0446	1.2882	0.0869	11.19%	-1.20%	20.53%	0.66%	519	2.1367	1.4697	0.0716	-1.02%	-3.83%	-4.76%	-10.52%	-10.52%	-0.0921	-0.0921	-0.0921	-0.1815	-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%	-11.36%	0.0331	0.0331	0.0331	-0.0393	-0.0393						
Event + 4 Year	501	2.2280	1.4589	0.0914	5.30%	2.99%	31.22%	13.99%	515	2.2707	1.5100	0.0856	9.13%	2.64%	1.21%	-8.06%	-8.06%	-0.0446	-0.0446	-0.0446	-0.0511	-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%	-5.63%	-0.1303	-0.1303	-0.1303	-0.0573	-0.0573						
Industry Adjusted																												
Target Firms and Industry																												
Event - 5 Year	501	0.0293	0.0631	0.0023	NA	NA	-53.64%	-33.44%	501	0.0293	0.0631	0.0023	NA	NA	43.34%	3.80%	3.80%	0.0449***	0.0449***	0.0449***	0.0300	0.0300						
Event - 4 Year	503	0.0340	0.0633	0.0022	16.04%	0.32%	-53.77%	-32.44%	503	0.0340	0.0633	0.0022	16.04%	0.32%	23.53%	3.48%	3.48%	0.0392***	0.0392***	0.0392***	0.0287	0.0287						
Event - 3 Year	506	0.0374	0.0652	0.0021	-30.11%	-3.33%	-51.18%	-30.11%	506	0.0428	0.0671	0.0022	10.00%	3.00%	12.30%	0.46%	0.46%	0.0339***	0.0339***	0.0339***	0.0245	0.0245						
Event - 2 Year	506	0.0695	0.0843	0.0065	2.51%	-3.10%	-52.37%	-27.88%	506	0.0428	0.0671	0.0021	14.44%	9.05%	-1.87%	-7.88%	-7.88%	0.0291***	0.0291***	0.0291***	0.0189	0.0189						
Event - 1 Year	503	0.0591	0.0830	0.0062	-14.96%	-1.54%	-43.90%	-26.75%	503	0.0408	0.0684	0.0021	-4.67%	-3.80%	2.94%	-4.24%	-4.24%	0.0239***	0.0239***	0.0239***	0.0167	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	NA	0.0099***	0.0099***	0.0099***	0.0101	0.0101						
Event + 1 Year	441	0.0435	0.0654	0.0073	31.42%	7.57%	31.42%	7.57%	441	0.0435	0.0654	0.0073	31.42%	7.57%	2.62%	7.48%	7.48%	0.0059*	0.0059*	0.0059*	0.0066	0.0066						
Event + 2 Year	446	0.0481	0.0724	0.0082	10.70%	10.70%	45.32%	19.08%	446	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	13.89%	0.0063*	0.0063*	0.0063*	0.0058	0.0058						
Event + 3 Year	447	0.0488	0.0803	0.0089	14.6%	10.91%	47.43%	32.07%	447	0.0420	0.0754	0.0021	-1.41%	1.07%	0.00%	15.11%	15.11%	0.006*	0.006*	0.006*	0.0070	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%	17.10%	0.0131***	0.0131***	0.0131***	0.0106	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%	12.98%	0.0167***	0.0167***	0.0167***	0.0161	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%	-0.26%	-1.2521***	-1.2521***	-1.2521***	-0.6519	-0.6519						
Event - 4 Year	533	1.9138	1.4031	0.0696	-7.11%	-2.56%	-11.36%	-8.79%	582	3.2001	2.0652	0.1875	-3.39%	-4.14%	-0.97%	4.05%	4.05%	-1.2863***	-1.2863***	-1.2863***	-0.6021	-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%	1.44%	-1.4712***	-1.4712***	-1.4712***	-0.6695	-0.6695						
Event - 2 Year	539	1.8976	1.3967	0.0654	-3.15%	0.68%	-10.60%	-8.37%	582	3.5577	2.0999	0.2144	3.71%	2.10%	-10.93%	-0.64%	-0.64%	-1.6601***	-1.6601***	-1.6601***	-0.7032	-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%	-3.34%	-1.4878***	-1.4878***	-1.4878***	-0.8228	-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	NA	-1.4725***	-1.4725***	-1.4725***	-0.8066	-0.8066						
Event + 1 Year	497	1.8389	1.3039	0.0725	1.88%	8.40%	8.40%	1.88%	582	3.3564	2.0279	0.2072	5.92%	-2.80%	5.92%	-2.80%	-2.80%	-1.5175***	-1.5175***	-1.5175***	-0.7240	-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%	-7.73%	-10.68%	-8.38%	-8.38%	-0.786***	-0.786***	-0.786***	-0.6234	-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%	-4.98%	-0.8641***	-0.8641***	-0.8641***	-0.5661	-0.5661						
Event + 4 Year	501	2.2280	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%	-2.15%	-2.15%	-0.8749***	-0.8749***	-0.8749***	-0.5398	-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%	2.64%	8.60%	-2.14%	-2.14%	-1.199***	-1.199***	-1.199***	-0.5492	-0.5492						

Table G.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.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Diff (Median)				
ROE	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%	0.0066	-0.0181							
Event - 2 Year	554	-0.0287	0.0494	0.0172	81.65%	-2.95%	383.45%	-83.20%	544	-0.0280	0.0668	0.0192	10.24%	-3.19%	-128.83%	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 + 1 Year	549	-0.1244	0.0083	0.0195	55.50%	-76.88%	-11.90%	100.00%	550	0.0081	0.0764	0.0194	-119.80%	18.82%	211.11%	6.81%	-0.1324***	-0.0681							
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	45.44%	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	-0.0424	0.0863	0.0191	-74.69%	21.38%	-253.09%	12.96%	-0.0339	-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	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%	0.062	-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%	14.04%	-88.98%	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%	-156.69%	51.23%	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%	-182.68%	59.65%	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%	72.28%	492	0.0272	0.0577	0.0076	57.23%	12.04%	-2.51%	4.72%	-0.0167	-0.0122							
Event + 4 Year	483	0.0103	0.0491	0.0077	55.24%	7.91%	-228.35%	99.30%	484	0.0251	0.0538	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							
ROE	543	-0.0410	0.0531	0.0193	NA	NA	203.41%	-84.37%	543	-0.0002	0.0047	0.0089	NA	NA	-800.00%	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%	-0.203*	0.0644							
Event - 3 Year	554	-0.0158	0.0509	0.0177	-33.61%	-11.17%	687.34%	-83.69%	552	0.0297	0.0150	0.0089	924.14%	34.67%	-46.80%	30.67%	-0.0371***	0.0518							
Event - 2 Year	552	-0.0287	0.0494	0.0172	81.65%	-2.95%	383.45%	-83.20%	554	0.0272	0.0202	0.0087	-8.42%	NA	-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%	18.07%	-24.40%	18.07%	-0.0584***	0.0368							
Event	549	-0.1244	0.0083	0.0195	55.50%	-76.88%	-11.90%	100.00%	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%	-47.67%	451.81%	481	0.0320	0.0208	0.0086	102.33%	6.12%	102.33%	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	530	0.0261	0.0465	0.0071	NA	NA	-148.66%	-38.71%	582	0.0376	0.0413	0.0078	NA	NA	35.37%	16.96%	-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%	-0.0349***	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	8.84%	5.91%	6.04%	3.65%	-0.0349***	-0.0076							
Event	519	-0.0127	0.0285	0.0071	-196.95%	-26.92%	14.04%	-88.98%	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%	-156.69%	51.23%	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%	-182.68%	59.65%	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%	72.28%	582	0.0475	0.0550	0.0068	7.21%	13.87%	-6.68%	13.87%	-0.037***	-0.0092							
Event + 4 Year	483	0.0103	0.0491	0.0077	55.24%	7.91%	-228.35%	99.30%	582	0.0367	0.0523	0.0068	-22.74%	-4.91%	-27.90%	8.28%	-0.0204***	-0.0035							
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 G.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 its 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.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ 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%	-0.21%	474	7.1598	7.0656	0.6753	NA	NA	3.48%	4.89%	4.89%	0.0063	-0.1355			
Event - 4 Year	524	8.5116	7.1960	0.6507	18.77%	3.84%	-25.55%	-0.21%	-0.21%	535	7.3362	6.8314	0.7043	2.46%	-3.31%	0.95%	8.49%	8.49%	1.1754	0.3646			
Event - 3 Year	528	7.7109	6.8480	0.6967	-9.41%	-4.84%	-17.82%	4.86%	-17.82%	533	6.9499	7.2578	0.6983	-5.27%	6.24%	6.56%	2.11%	2.11%	0.7610	-0.4098			
Event - 2 Year	518	6.0868	6.7856	0.6695	-21.06%	-0.91%	4.10%	5.82%	4.10%	536	7.6959	7.5187	0.7065	-10.73%	3.59%	-3.77%	-1.43%	-1.43%	-1.6691*	-0.7331			
Event - 1 Year	519	7.6369	7.3078	0.6515	25.47%	7.70%	-17.03%	-1.74%	-1.74%	525	7.1083	7.6407	0.6871	1.62%	1.62%	4.18%	3.00%	3.00%	0.5286	-0.3329			
Event	500	6.3366	7.1808	0.6962	-17.03%	-1.74%	NA	NA	NA	483	7.4057	7.4113	0.6014	4.18%	-3.00%	NA	NA	NA	-1.0691	-0.2305			
Event + 1 Year	499	6.2512	6.5503	0.7537	-1.35%	-8.78%	-1.35%	-8.78%	-8.78%	491	7.1827	7.5069	0.6361	-3.01%	1.29%	-3.01%	1.29%	1.29%	-0.9314	-0.9566			
Event + 2 Year	503	6.3450	5.9834	0.8266	1.50%	-8.65%	0.13%	-16.68%	-16.68%	498	6.3930	6.7621	0.6389	-10.98%	-9.92%	-13.67%	-8.76%	-8.76%	-0.0480	-0.7787			
Event + 3 Year	499	5.3846	6.2204	0.7573	-15.14%	3.96%	-15.02%	-13.37%	-13.37%	493	6.8245	6.5873	0.6295	6.75%	-2.58%	-7.85%	-11.12%	-11.12%	-1.4399	-0.3669			
Event + 4 Year	495	6.1572	6.5295	0.7502	14.35%	4.97%	-2.83%	-9.07%	-9.07%	502	6.8387	6.9994	0.6796	0.21%	6.26%	-7.66%	-5.56%	-5.56%	-0.6815	-0.4699			
Event + 5 Year	494	5.7553	6.6501	0.7726	-6.53%	1.85%	-9.17%	-7.39%	-7.39%	506	6.7617	7.4109	0.6638	-1.13%	5.88%	-8.70%	-0.01%	-0.01%	-1.0064	-0.7608			
EV / LTM EBITDA																							
Event - 5 Year	484	7.1662	6.9301	0.6613	NA	NA	-11.58%	3.62%	-0.21%	582	6.5348	6.6347	0.2121	NA	NA	7.79%	9.20%	9.20%	0.6314	0.2954			
Event - 4 Year	524	8.5116	7.1960	0.6507	18.77%	3.84%	-25.55%	-0.21%	-0.21%	524	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.37%	0.8584***	0.3335			
Event - 3 Year	528	7.7109	6.8480	0.6967	-9.41%	-4.84%	-17.82%	4.86%	-17.82%	528	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.20%	0.5593**	0.3734			
Event - 2 Year	518	6.0868	6.7856	0.6695	-21.06%	-0.91%	4.10%	5.82%	4.10%	518	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	1.35%	0.96**	0.3668			
Event - 1 Year	519	7.6369	7.3078	0.6515	25.47%	7.70%	-17.03%	-1.74%	-1.74%	519	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	0.06%	1.2535***	0.3305			
Event	500	6.3366	7.1808	0.6962	-17.03%	-1.74%	NA	NA	NA	500	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	NA	0.5913**	0.2441			
Event + 1 Year	499	6.2512	6.5503	0.7537	-1.35%	-8.78%	-1.35%	-8.78%	-8.78%	499	6.1662	6.7089	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	-3.85%	0.2388	-0.1440			
Event + 2 Year	503	6.3450	5.9834	0.8266	1.50%	-8.65%	0.13%	-16.68%	-16.68%	503	5.9542	6.6791	0.0866	-3.44%	-1.33%	-6.92%	-5.12%	-5.12%	0.3551	-0.1811			
Event + 3 Year	499	5.3846	6.2204	0.7573	-15.14%	3.96%	-15.02%	-13.37%	-13.37%	499	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	-5.50%	0.17	-0.0354			
Event + 4 Year	495	6.1572	6.5295	0.7502	14.35%	4.97%	-2.83%	-9.07%	-9.07%	495	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	-5.87%	0.8668***	0.1248			
Event + 5 Year	494	5.7553	6.6501	0.7726	-6.53%	1.85%	-9.17%	-7.39%	-7.39%	494	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	-7.08%	0.5143**	0.2794			
EV / LTM EBITDA																							
Event - 5 Year	484	7.1662	6.9301	0.6613	NA	NA	-11.58%	3.62%	-0.21%	582	6.5348	6.6347	0.2121	NA	NA	7.79%	9.20%	9.20%	0.6314	0.2954			
Event - 4 Year	524	8.5116	7.1960	0.6507	18.77%	3.84%	-25.55%	-0.21%	-0.21%	524	6.5491	7.0138	0.0877	2.16%	4.00%	-2.32%	0.37%	0.37%	0.8584***	0.3335			
Event - 3 Year	528	7.7109	6.8480	0.6967	-9.41%	-4.84%	-17.82%	4.86%	-17.82%	528	6.3998	7.0258	0.0898	-2.28%	0.17%	-0.04%	0.20%	0.20%	0.5593**	0.3734			
Event - 2 Year	518	6.0868	6.7856	0.6695	-21.06%	-0.91%	4.10%	5.82%	4.10%	518	6.2856	6.9458	0.0906	-1.78%	-1.14%	1.78%	1.35%	1.35%	0.96**	0.3668			
Event - 1 Year	519	7.6369	7.3078	0.6515	25.47%	7.70%	-17.03%	-1.74%	-1.74%	519	6.3030	7.0355	0.0949	0.28%	1.29%	1.49%	0.06%	0.06%	1.2535***	0.3305			
Event	500	6.3366	7.1808	0.6962	-17.03%	-1.74%	NA	NA	NA	500	6.3972	7.0397	0.0934	1.49%	0.06%	NA	NA	NA	0.5913**	0.2441			
Event + 1 Year	499	6.2512	6.5503	0.7537	-1.35%	-8.78%	-1.35%	-8.78%	-8.78%	499	6.1662	6.7089	0.0917	-3.61%	-3.85%	-3.61%	-3.85%	-3.85%	0.2388	-0.1440			
Event + 2 Year	503	6.3450	5.9834	0.8266	1.50%	-8.65%	0.13%	-16.68%	-16.68%	503	5.9542	6.6791	0.0866	-3.44%	-1.33%	-6.92%	-5.12%	-5.12%	0.3551	-0.1811			
Event + 3 Year	499	5.3846	6.2204	0.7573	-15.14%	3.96%	-15.02%	-13.37%	-13.37%	499	5.8874	6.6527	0.0912	-1.12%	-0.40%	-7.97%	-5.50%	-5.50%	0.17	-0.0354			
Event + 4 Year	495	6.1572	6.5295	0.7502	14.35%	4.97%	-2.83%	-9.07%	-9.07%	495	5.8200	6.6263	0.0912	-1.14%	-0.40%	-9.02%	-5.87%	-5.87%	0.8668***	0.1248			
Event + 5 Year	494	5.7553	6.6501	0.7726	-6.53%	1.85%	-9.17%	-7.39%	-7.39%	494	5.8784	6.5416	0.0901	1.00%	-1.28%	-8.11%	-7.08%	-7.08%	0.5143**	0.2794			

Table G-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.

Debt / EBITDA	Target Firms												Matched Firms												Differences between Target and Match			
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)										
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	5.68%	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	3.32%	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%	NA	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	-0.0002	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%	83.54%	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%	-498.33%	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	-0.1016	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*	0.0028										
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%	0.0905	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%	-10.62%	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										
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	0.2169	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	0.2050	1.3719	0.1426	4.76%	1.74%	-7.93%	1.40%	0.2404	-0.4329										
Event - 2 Year	582	0.7045	1.0000	0.0189	-0.72%	0.00%	14.53%	0.00%	582	0.1967	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	0.0957	1.5009	0.1362	4.47%	NA	-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	0.0231	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	0.2640	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	0.3365	1.6347	0.1475	3.20%	4.65%	15.49%	14.31%	-0.0494	-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	-2.32%	1.30%	1.19%	0.96%	-0.0462	-0.3086										
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	-2.52%	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%	83.54%	582	0.3433	0.0583	0.0574	-1.01%	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%	-498.33%	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	0.0638	-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	1.0889	0.0552	-9.15%	-7.56%	-9.69%	-0.0343	-0.0302											
Event	541	0.3841	0.1198	0.0564	23.35%	52.22%	NA	NA	582	0.4130	0.0807	0.0559	-9.69%	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%	-0.0694	-0.1512										
Event + 2 Year	500	0.3151	0.0588	0.0562	-2.63%	23.79%	-17.96%	-50.92%	582	0.4886	0.1580	0.0564	-5.91%	NA	24.47%	95.79%	-0.0992	-0.0652										
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%	181.06%	-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.	YoY		Event vs Year		N	Mean	Median	Std. Err.	YoY		Event vs Year		Diff (Mean)	Diff (Median)								
					Δ Mean	Δ Median	Δ Mean	Δ Median					Δ Mean	Δ Median	Δ Mean	Δ 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	0.0083	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.	YoY		Event vs Year		N	Mean	Median	Std. Err.	YoY		Event vs Year		Diff (Mean)	Diff (Median)								
					Δ Mean	Δ Median	Δ Mean	Δ Median					Δ Mean	Δ Median	Δ Mean	Δ 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%	-0.0060	-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 G.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.	Δ Mean	Δ Median	YoY	YoY	Event vs Year	Δ Mean	Δ Median	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	YoY	YoY	Event vs Year	Δ Mean	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)	Diff (Median)			
Dividend Yield																														
Event - 5 Year	443	1.0083	0.0000	0.1013	NA	NA	NA	-9.60%	NA	NA	NA	448	1.0196	0.0000	0.1017	NA	NA	NA	NA	2.28%	NA	NA	NA	-0.0113	0.0000	0.0000				
Event - 4 Year	447	0.9566	0.0000	0.0999	-5.13%	NA	NA	-4.71%	NA	NA	NA	454	0.9848	0.0000	0.0964	-3.41%	NA	NA	NA	5.89%	NA	NA	NA	-0.0282	0.0000	0.0000				
Event - 3 Year	448	0.9353	0.0000	0.0931	-2.23%	NA	NA	-2.54%	NA	NA	NA	459	0.9992	0.0000	0.0950	1.46%	NA	NA	NA	4.36%	NA	NA	NA	-0.0639	0.0000	0.0000				
Event - 2 Year	450	0.9530	0.0000	0.0955	1.89%	NA	NA	-4.35%	NA	NA	NA	458	1.0226	0.0000	0.0972	2.34%	NA	NA	NA	1.98%	NA	NA	NA	-0.0696	0.0000	0.0000				
Event - 1 Year	449	0.8825	0.0000	0.0872	-7.40%	NA	NA	3.29%	NA	NA	NA	465	1.0905	0.0000	0.1016	6.64%	NA	NA	NA	-4.37%	NA	NA	NA	-0.2080	0.0000	0.0000				
Event	449	0.9115	0.0000	0.0879	3.29%	NA	NA	NA	NA	NA	NA	470	1.0428	0.0000	0.0962	-4.37%	NA	NA	NA	NA	NA	NA	NA	-0.1313	0.0000	0.0000				
Event + 1 Year	405	0.8118	0.0000	0.0865	-10.94%	NA	NA	-10.94%	NA	NA	NA	436	0.9946	0.0000	0.0967	-4.62%	NA	NA	NA	-4.62%	NA	NA	NA	-0.1828	0.0000	0.0000				
Event + 2 Year	373	0.8453	0.0000	0.1016	4.13%	NA	NA	-7.26%	NA	NA	NA	403	1.1525	0.0000	0.1126	13.88%	NA	NA	NA	10.52%	NA	NA	NA	-0.3072**	0.0000	0.0000				
Event + 3 Year	351	0.9545	0.0000	0.1106	12.92%	NA	NA	4.72%	NA	NA	NA	390	1.1376	0.0000	0.1132	-1.29%	NA	NA	NA	9.09%	NA	NA	NA	-0.1831	0.0000	0.0000				
Event + 4 Year	335	1.1384	0.0000	0.1300	19.27%	NA	NA	24.89%	NA	NA	NA	373	1.1253	0.0000	0.1165	-1.08%	NA	NA	NA	7.91%	NA	NA	NA	0.0131	0.0000	0.0000				
Event + 5 Year	315	1.2121	0.0000	0.1345	6.47%	NA	NA	32.98%	NA	NA	NA	361	1.2163	0.0000	0.1230	8.09%	NA	NA	NA	16.64%	NA	NA	NA	-0.0042	0.0000	0.0000				
Share Repurchase																														
Event - 5 Year	558	0.0044	0.0000	0.0005	NA	NA	NA	36.36%	NA	NA	NA	544	0.0036	0.0000	0.0005	NA	NA	NA	NA	94.44%	NA	NA	NA	0.0008	0.0000	0.0000				
Event - 4 Year	566	0.0040	0.0000	0.0005	-9.09%	NA	NA	50.00%	NA	NA	NA	556	0.0044	0.0000	0.0005	22.22%	NA	NA	NA	59.09%	NA	NA	NA	-0.0004	0.0000	0.0000				
Event - 3 Year	566	0.0048	0.0000	0.0005	20.00%	NA	NA	25.00%	NA	NA	NA	558	0.0049	0.0000	0.0005	11.36%	NA	NA	NA	42.86%	NA	NA	NA	-0.0001	0.0000	0.0000				
Event - 2 Year	568	0.0061	0.0000	0.0006	27.08%	NA	NA	-1.64%	NA	NA	NA	557	0.0059	0.0000	0.0006	20.41%	NA	NA	NA	18.64%	NA	NA	NA	0.0003	0.0000	0.0000				
Event - 1 Year	570	0.0064	0.0000	0.0006	4.92%	NA	NA	-6.25%	NA	NA	NA	554	0.0067	0.0000	0.0006	13.55%	NA	NA	NA	4.48%	NA	NA	NA	-0.0002	0.0000	0.0000				
Event	565	0.0060	0.0000	0.0006	6.25%	NA	NA	NA	NA	NA	NA	567	0.0070	0.0000	0.0006	4.48%	NA	NA	NA	NA	NA	NA	NA	-0.0010	0.0000	0.0000				
Event + 1 Year	497	0.0069	0.0000	0.0007	15.00%	NA	NA	15.00%	NA	NA	NA	520	0.0061	0.0000	0.0006	-12.86%	NA	NA	NA	-12.86%	NA	NA	NA	0.0008	0.0000	0.0000				
Event + 2 Year	505	0.0047	0.0000	0.0005	-31.88%	NA	NA	-21.67%	NA	NA	NA	523	0.0058	0.0000	0.0006	-4.92%	NA	NA	NA	-17.14%	NA	NA	NA	-0.0012	0.0000	0.0000				
Event + 3 Year	513	0.0047	0.0000	0.0005	0.00%	NA	NA	-21.67%	NA	NA	NA	520	0.0047	0.0000	0.0005	-18.97%	NA	NA	NA	-32.86%	NA	NA	NA	0.0000	0.0000	0.0000				
Event + 4 Year	519	0.0032	0.0000	0.0004	-31.91%	NA	NA	-46.67%	NA	NA	NA	518	0.0048	0.0000	0.0005	2.13%	NA	NA	NA	-31.43%	NA	NA	NA	-0.0016**	0.0000	0.0000				
Event + 5 Year	516	0.0037	0.0000	0.0005	15.63%	NA	NA	-38.33%	NA	NA	NA	510	0.0044	0.0000	0.0005	-8.33%	NA	NA	NA	-37.14%	NA	NA	NA	-0.0008	0.0000	0.0000				
Dividend Yield																														
Event - 5 Year	443	1.0083	0.0000	0.1013	NA	NA	NA	-9.60%	NA	NA	NA	448	1.0196	0.0000	0.1017	NA	NA	NA	NA	6.00%	NA	NA	NA	-0.2343**	-0.5748	-0.5748				
Event - 4 Year	447	0.9566	0.0000	0.0999	-5.13%	NA	NA	-4.71%	NA	NA	NA	454	0.9848	0.0000	0.0964	-3.41%	NA	NA	NA	9.56%	NA	NA	NA	-0.2456**	-0.5826	-0.5826				
Event - 3 Year	448	0.9353	0.0000	0.0931	-2.23%	NA	NA	-2.54%	NA	NA	NA	459	0.9992	0.0000	0.0950	1.46%	NA	NA	NA	10.14%	NA	NA	NA	-0.2605**	-0.6322	-0.6322				
Event - 2 Year	450	0.9530	0.0000	0.0955	1.89%	NA	NA	-4.35%	NA	NA	NA	458	1.0226	0.0000	0.0972	2.34%	NA	NA	NA	6.53%	NA	NA	NA	-0.2834***	-0.6872	-0.6872				
Event - 1 Year	449	0.8825	0.0000	0.0872	-7.40%	NA	NA	3.29%	NA	NA	NA	465	1.0905	0.0000	0.1016	6.64%	NA	NA	NA	4.00%	NA	NA	NA	-0.3839***	-0.7422	-0.7422				
Event	449	0.9115	0.0000	0.0879	3.29%	NA	NA	NA	NA	NA	NA	470	1.0428	0.0000	0.0962	-4.37%	NA	NA	NA	NA	NA	NA	NA	-0.4056***	-0.7661	-0.7661				
Event + 1 Year	405	0.8118	0.0000	0.0865	-10.94%	NA	NA	-10.94%	NA	NA	NA	436	0.9946	0.0000	0.0967	-4.62%	NA	NA	NA	NA	NA	NA	NA	-0.4489***	-0.7221	-0.7221				
Event + 2 Year	373	0.8453	0.0000	0.1016	4.13%	NA	NA	-7.26%	NA	NA	NA	403	1.1525	0.0000	0.1126	13.88%	NA	NA	NA	-18.13%	NA	NA	NA	-0.2522**	-0.6272	-0.6272				
Event + 3 Year	351	0.9545	0.0000	0.1106	12.92%	NA	NA	4.72%	NA	NA	NA	390	1.1376	0.0000	0.1132	-1.29%	NA	NA	NA	11.48%	NA	NA	NA	-0.1656	-0.6294	-0.6294				
Event + 4 Year	335	1.1384	0.0000	0.1300	19.27%	NA	NA	24.89%	NA	NA	NA	373	1.1253	0.0000	0.1165	-1.08%	NA	NA	NA	-14.96%	NA	NA	NA	-0.0088	-0.6289	-0.6289				
Event + 5 Year	315	1.2121	0.0000	0.1345	6.47%	NA	NA	32.98%	NA	NA	NA	360	1.2425	0.0000	0.0938	8.31%	NA	NA	NA	-5.66%	NA	NA	NA	-0.0304	-0.6696	-0.6696				
Share Repurchase																														
Event - 5 Year	558	0.0044	0.0000	0.0005	NA	NA	NA	36.36%	NA	NA	NA	542	0.0064	0.0016	0.0003	NA	NA	NA	NA	75.00%	NA	NA	NA	-0.0022***	-0.0016	-0.0016				
Event - 4 Year	566	0.0040	0.0000	0.0005	-9.09%	NA	NA	50.00%	NA	NA	NA	582	0.0070	0.0045	0.0003	9.38%	NA	NA	NA	60.00%	NA	NA	NA	-0.0033***	-0.0045	-0.0045				
Event - 3 Year	566	0.0048	0.0000	0.0005	20.00%	NA	NA	25.00%	NA	NA	NA	582	0.0081	0.0064	0.0003	13.71%	NA	NA	NA	38.27%	NA	NA	NA	-0.0033***	-0.0062	-0.0062				
Event - 2 Year	568	0.0061	0.0000	0.0006	27.08%	NA	NA	-1.64%	NA	NA	NA	582	0.0092	0.0082	0.0003	13.58%	NA	NA	NA	28.13%	NA	NA	NA	-0.0033***	-0.0084	-0.0084				
Event - 1 Year	570	0.0064	0.0000	0.0006	4.92%	NA	NA	-6.25%	NA	NA	NA	582	0.0103	0.0097	0.0003	11.96%	NA	NA	NA	8.74%	NA	NA	NA	-0.0039***	-0.0097	-0.0097				
Event	565	0.0060	0.0000	0.0006	6.25%	NA	NA	NA	NA	NA	NA	582	0.0112	0.0111	0.0003	8.74%	NA	NA	NA	NA	NA	NA	NA	-0.0052***	-0.0111	-0.0111				
Event + 1 Year	497	0.0069	0.0000	0.0007	15.00%	NA	NA	15.00%	NA	NA	NA	580	0.0096	0.0086	0.0003	-14.29%	NA	NA	NA	-14.29%	NA	NA	NA	-0.0027***	-0.0086	-0.0086				
Event + 2 Year	505	0.0047	0.0000	0.0005	-31.88%	NA	NA	-21.67%	NA	NA	NA	582	0.0072	0.0043	0.0003	-25.00%	NA	NA	NA	-35.71%	NA	NA	NA	-0.0025***	-0.0043	-0.0043				
Event + 3 Year	513	0.0047	0.0000	0.0005	0.00%	NA	NA	-21.67%	NA	NA	NA	582	0.0064	0.0017	0.0003	-11.11%	NA	NA	NA	-42.86%	NA	NA	NA	-0.0017***	-0.0017	-0.0017				
Event + 4 Year	519	0.0032	0.0000	0.0004	-31.91%	NA	NA	-46.67%	NA	NA	NA	582	0.0056	0.0000	0.0003	-12.50%	NA	NA	NA	-50.00%	NA	NA	NA	-0.0024***	-0.0000	-0.0000				
Event + 5 Year	516	0.0037	0.0000	0.0005	15.63%	NA	NA	-38.33%	NA	NA	NA	582	0.0050	0.0000	0.0003	-10.71%	NA	NA	NA	-55.36%	NA	NA	NA	-0.0013**	-0.0000	-0.0000				

Table G-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															Industry Adjusted																
	N	Mean	Median	Std. Err.	Δ Mean			Δ Median			Event vs Year	N	Mean	Median	Std. Err.	Δ Mean			Δ Median			Event vs Year	N	Mean	Median	Std. Err.	Δ Mean			Δ Median			Event vs Year	N	Mean	Median	Std. Err.	Δ Mean			Δ Median			Event vs Year			
					YoY	YoY	YoY	YoY	YoY	YoY						YoY	YoY	YoY	YoY	YoY	YoY						YoY	YoY	YoY	YoY	YoY	YoY						YoY									
EPS Estimate Miss																																															
Event - 5 Year	339	0.5103	1.0000	0.0272	NA	NA	0.0272	0.00%	0.00%	13.76%	0.00%	0.0000	0.0264	NA	NA	0.4109	0.0000	0.0264	0.49%	NA	NA	11.88%	NA	0.0994***	1.0000																						
Event - 4 Year	347	0.4640	0.0000	0.0268	-9.07%	-100.00%	0.0266	3.21%	NA	21.22%	NA	0.0000	0.0255	0.49%	NA	0.4129	0.0000	0.0255	0.49%	NA	NA	11.33%	NA	0.0511	0.0000																						
Event - 3 Year	355	0.4789	0.0000	0.0266	3.21%	NA	0.0266	3.21%	NA	21.22%	NA	0.0000	0.0253	0.49%	NA	0.4158	0.0000	0.0253	0.49%	NA	NA	10.56%	NA	0.0631*	0.0000																						
Event - 2 Year	372	0.4409	0.0000	0.0258	-7.93%	NA	0.0258	19.14%	NA	31.66%	NA	0.0000	0.0254	0.49%	NA	0.4494	0.0000	0.0254	8.08%	NA	NA	2.29%	NA	-0.0085	0.0000																						
Event - 1 Year	375	0.5253	1.0000	0.0258	19.14%	NA	0.0254	10.51%	NA	10.51%	NA	0.00%	0.0243	0.49%	NA	0.3712	0.0000	0.0243	17.40%	NA	NA	23.84%	NA	0.1541***	0.0000																						
Event	379	0.5805	1.0000	0.0254	10.51%	0.00%	0.0254	0.00%	NA	NA	NA	0.00%	0.0243	0.49%	NA	0.4597	0.0000	0.0243	23.84%	NA	NA	0.1208***	1.0000																								
Event + 1 Year	332	0.5301	1.0000	0.0274	-8.68%	0.00%	0.0274	0.00%	NA	-8.68%	0.00%	0.0000	0.0255	0.49%	NA	0.4529	0.0000	0.0255	1.48%	NA	NA	-1.48%	NA	0.0772***	1.0000																						
Event + 2 Year	314	0.3758	0.0000	0.0274	-29.11%	-100.00%	0.0274	-35.26%	NA	-100.00%	NA	0.0000	0.0264	0.49%	NA	0.3119	0.0000	0.0264	4.66%	NA	NA	3.31%	NA	-0.0991***	0.0000																						
Event + 3 Year	308	0.4448	0.0000	0.0284	18.36%	NA	0.0284	18.36%	NA	-23.38%	NA	0.0000	0.0259	0.49%	NA	0.3922	0.0000	0.0259	-17.41%	NA	NA	-14.68%	NA	0.0526	0.0000																						
Event + 4 Year	331	0.4381	0.0000	0.0273	-1.51%	NA	0.0273	-1.51%	NA	-24.53%	NA	0.0000	0.0255	0.49%	NA	0.3523	0.0000	0.0255	-10.17%	NA	NA	-23.36%	NA	0.0858**	0.0000																						
Event + 5 Year	313	0.4409	0.0000	0.0281	0.64%	NA	0.0281	-2.405%	NA	-2.405%	NA	0.0000	0.0276	0.49%	NA	0.4695	0.0000	0.0276	33.27%	NA	NA	2.13%	NA	-0.0286	0.0000																						
Analyst Sell Recommendation																																															
Event - 5 Year	582	0.3058	0.0000	0.0191	NA	NA	0.0191	40.48%	NA	40.48%	NA	0.0000	0.0189	NA	NA	0.2967	0.0000	0.0189	NA	NA	NA	19.08%	NA	0.0091	0.0000																						
Event - 4 Year	582	0.3265	0.0000	0.0195	6.77%	NA	0.0195	31.58%	NA	31.58%	NA	0.0000	0.0186	-6.34%	NA	0.2779	0.0000	0.0186	-6.34%	NA	NA	27.13%	NA	-0.0486*	0.0000																						
Event - 3 Year	582	0.3076	0.0000	0.0191	-5.79%	NA	0.0191	39.66%	NA	39.66%	NA	0.0000	0.0196	20.98%	NA	0.3362	0.0000	0.0196	20.98%	NA	NA	5.09%	NA	0.0256	0.0000																						
Event - 2 Year	582	0.3076	0.0000	0.0191	0.00%	NA	0.0191	39.66%	NA	39.66%	NA	0.0000	0.0197	3.57%	NA	0.3482	0.0000	0.0197	3.57%	NA	NA	1.46%	NA	-0.0406	0.0000																						
Event - 1 Year	582	0.3574	0.0000	0.0199	16.19%	NA	0.0199	16.19%	NA	20.20%	NA	0.0000	0.0198	9.98%	NA	0.3516	0.0000	0.0198	9.98%	NA	NA	0.48%	NA	0.0058	0.0000																						
Event	582	0.4296	0.0000	0.0205	20.20%	NA	0.0205	20.20%	NA	20.20%	NA	0.0000	0.0198	0.48%	NA	0.3533	0.0000	0.0198	0.48%	NA	NA	0.0762***	0.0000																								
Event + 1 Year	582	0.3351	0.0000	0.0196	-22.00%	NA	0.0196	-22.00%	NA	-22.00%	NA	0.0000	0.0188	-17.46%	NA	0.2916	0.0000	0.0188	-17.46%	NA	NA	-17.46%	NA	0.0435	0.0000																						
Event + 2 Year	582	0.2337	0.0000	0.0176	-80.00%	NA	0.0176	-45.60%	NA	-45.60%	NA	0.0000	0.0182	-10.01%	NA	0.2624	0.0000	0.0182	-10.01%	NA	NA	-25.73%	NA	-0.0288	0.0000																						
Event + 3 Year	582	0.1804	0.0000	0.0160	-58.01%	NA	0.0160	-58.01%	NA	-58.01%	NA	0.0000	0.0184	1.98%	NA	0.2676	0.0000	0.0184	1.98%	NA	NA	-24.26%	NA	-0.0872***	0.0000																						
Event + 4 Year	582	0.2079	0.0000	0.0168	15.24%	NA	0.0168	15.24%	NA	-51.61%	NA	0.0000	0.0173	-15.40%	NA	0.2264	0.0000	0.0173	-15.40%	NA	NA	-35.92%	NA	-0.0185	0.0000																						
Event + 5 Year	582	0.2354	0.0000	0.0176	13.23%	NA	0.0176	-45.20%	NA	-45.20%	NA	0.0000	0.0170	-5.30%	NA	0.2144	0.0000	0.0170	-5.30%	NA	NA	-39.32%	NA	0.0210	0.0000																						
Analyst Sell Recommendation																																															
Event - 5 Year	582	0.3058	0.0000	0.0191	NA	NA	0.0191	40.48%	NA	40.48%	NA	0.0000	0.0189	NA	NA	0.2967	0.0000	0.0189	NA	NA	NA	19.08%	NA	0.0091	0.0000																						
Event - 4 Year	582	0.3265	0.0000	0.0195	6.77%	NA	0.0195	31.58%	NA	31.58%	NA	0.0000	0.0186	-6.34%	NA	0.2779	0.0000	0.0186	-6.34%	NA	NA	27.13%	NA	-0.0486*	0.0000																						
Event - 3 Year	582	0.3076	0.0000	0.0191	-5.79%	NA	0.0191	39.66%	NA	39.66%	NA	0.0000	0.0196	20.98%	NA	0.3362	0.0000	0.0196	20.98%	NA	NA	5.09%	NA	0.0256	0.0000																						
Event - 2 Year	582	0.3076	0.0000	0.0191	0.00%	NA	0.0191	39.66%	NA	39.66%	NA	0.0000	0.0197	3.57%	NA	0.3482	0.0000	0.0197	3.57%	NA	NA	1.46%	NA	-0.0406	0.0000																						
Event - 1 Year	582	0.3574	0.0000	0.0199	16.19%	NA	0.0199	16.19%	NA	20.20%	NA	0.0000	0.0198	9.98%	NA	0.3516	0.0000	0.0198	9.98%	NA	NA	0.48%	NA	0.0058	0.0000																						
Event	582	0.4296	0.0000	0.0205	20.20%	NA	0.0205	20.20%	NA	20.20%	NA	0.0000	0.0198	0.48%	NA	0.3533	0.0000	0.0198	0.48%	NA	NA	0.0762***	0.0000																								
Event + 1 Year	582	0.3351	0.0000	0.0196	-22.00%	NA	0.0196	-22.00%	NA	-22.00%	NA	0.0000	0.0188	-17.46%	NA	0.2916	0.0000	0.0188	-17.46%	NA	NA	-17.46%	NA	0.0435	0.0000																						
Event + 2 Year	582	0.2337	0.0000	0.0176	-80.00%	NA	0.0176	-45.60%	NA	-45.60%	NA	0.0000	0.0182	-10.01%	NA	0.2624	0.0000	0.0182	-10.01%	NA	NA	-25.73%	NA	-0.0288	0.0000																						
Event + 3 Year	582	0.1804	0.0000	0.0160	-58.01%	NA	0.0160	-58.01%	NA	-58.01%	NA	0.0000	0.0184	1.98%	NA	0.2676	0.0000	0.0184	1.98%	NA	NA	-24.26%	NA	-0.0872***	0.0000																						
Event + 4 Year	582	0.2079	0.0000	0.0168	15.24%	NA	0.0168	15.24%	NA	-51.61%	NA	0.0000	0.0173	-15.40%	NA	0.2264	0.0000	0.0173	-15.40%	NA	NA	-35.92%	NA	-0.0185	0.0000																						
Event + 5 Year	582	0.2354	0.0000	0.0176	13.23%	NA	0.0176	-45.20%	NA	-45.20%	NA	0.0000	0.0170	-5.30%	NA	0.2144	0.0000	0.0170	-5.30%	NA	NA	-39.32%	NA	0.0210	0.0000																						
Analyst Sell Recommendation																																															
Event - 5 Year	582	0.3058	0.0000	0.0191	NA	NA	0.0191	40.48%	NA	40.48%	NA	0.0000	0.0189	NA	NA	0.2967	0.0000	0.0189	NA	NA	NA	19.08%	NA	0.0091	0.0000																						
Event - 4 Year	582	0.3265	0.0000	0.0195	6.77%	NA	0.0195	31.58%	NA	31.58%	NA	0.0000	0.0186	-6.34%	NA	0.2779	0.0000	0.0186	-6.34%	NA	NA	27.13%	NA	-0.0486*	0.0000																						
Event - 3 Year	582	0.3076	0.0000	0.0191	-5.79%	NA	0.0191	39.66%	NA	39.66%	NA	0.0000	0.0196	20.98%	NA	0.3362	0.0000	0.0196	20.98%	NA	NA	5.09%	NA	0.0256	0.0000																						
Event - 2 Year	582	0.3076	0.0000	0.0191	0.00%	NA	0.0191	39.66%	NA	39.66%	NA	0.0000	0.0197	3.57%	NA	0.3482	0.0000	0.0197	3.57%	NA	NA	1.46%	NA	-0.0406	0.0000																						
Event - 1 Year	582	0.3574	0.0000	0.0199	16.19%	NA	0.0199	16.19%	NA	20.20%	NA	0.0000	0.0198	9.98%	NA	0.3516	0.0000	0.0198	9.98%	NA	NA	0.48%	NA	0.0058	0.0000																						
Event	582	0.4296	0.0000	0.0205	20.20%	NA	0.0205	20.20%	NA	20.20%	NA	0.0000	0.0198	0.48%	NA	0.3533	0.0000	0.0198	0.48%	NA	NA	0.0762***	0.0000																								
Event + 1 Year	582	0.3351	0.0000	0.0196	-22.00%	NA	0.0196	-22.00%	NA	-22.00%	NA	0.0000	0.0188	-17.46%	NA	0.2916	0.0000	0.0188	-17.46%	NA	NA	-17.46%	NA	0.0435	0.0000																						
Event + 2 Year	582	0.2337	0.0000	0.0176	-80.00%	NA	0.0176	-45.60%	NA	-45.60%	NA	0.0000	0.0182	-10.01%	NA	0.2624	0.0000	0.0182	-10.01%	NA	NA	-25.																									

Table G.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 its 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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Dif (Mean)	Dif (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	0.0085	0.0000					
Event - 1 Year	582	0.0619	0.0000	0.0100	111.99%	NA	582.34%	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	NA	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					
Industry Adjusted																							
N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Dif (Mean)	Dif (Median)						
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	582.34%	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 G.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.	Δ Mean	Δ Median	Event vs Year	Δ Mean	Δ Median	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	YoY	Δ Mean	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	Event vs Year	Δ Mean	Δ 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	NA	NA	583	0.1838	0.0000	0.0141	NA	NA	NA	3.81%	NA	NA	0.0140	0.0000	582	0.1478	0.0000	0.0147	NA	NA	198.78%	NA	NA	3.81%	NA	NA	0.0140	0.0000
Event - 4 Year	582	0.1546	0.0000	0.0150	4.60%	NA	185.64%	NA	NA	NA	583	0.1509	0.0000	0.0148	12.78%	NA	NA	-7.95%	NA	NA	0.0037	0.0000	582	0.1546	0.0000	0.0150	4.60%	NA	185.64%	NA	NA	-7.95%	NA	NA	0.0037	0.0000
Event - 3 Year	582	0.1426	0.0000	0.0145	-7.76%	NA	209.68%	NA	NA	NA	583	0.1475	0.0000	0.0147	-2.25%	NA	NA	-5.83%	NA	NA	-0.0049	0.0000	582	0.1426	0.0000	0.0145	-7.76%	NA	209.68%	NA	NA	-5.83%	NA	NA	-0.0049	0.0000
Event - 2 Year	582	0.1495	0.0000	0.0148	4.84%	NA	195.38%	NA	NA	NA	583	0.1630	0.0000	0.0153	10.51%	NA	NA	-14.79%	NA	NA	-0.0135	0.0000	582	0.1495	0.0000	0.0148	4.84%	NA	195.38%	NA	NA	-14.79%	NA	NA	-0.0135	0.0000
Event - 1 Year	582	0.1409	0.0000	0.0144	-5.75%	NA	213.41%	NA	NA	NA	583	0.1561	0.0000	0.0150	-4.23%	NA	NA	-11.02%	NA	NA	-0.0152	0.0000	582	0.1409	0.0000	0.0144	-5.75%	NA	213.41%	NA	NA	-11.02%	NA	NA	-0.0152	0.0000
Event	582	0.4416	0.0000	0.0206	213.41%	NA	NA	NA	NA	NA	583	0.1389	0.0000	0.0143	-11.02%	NA	NA	NA	NA	NA	0.3026***	0.0000	582	0.4416	0.0000	0.0206	213.41%	NA	NA	NA	NA	NA	0.3026***	0.0000		
Event + 1 Year	582	0.1014	0.0000	0.0125	-77.04%	NA	-77.04%	NA	NA	NA	583	0.1184	0.0000	0.0134	-14.76%	NA	NA	NA	-14.76%	NA	-0.0170	0.0000	582	0.1014	0.0000	0.0125	-77.04%	NA	-77.04%	NA	NA	NA	-0.0170	0.0000		
Event + 2 Year	582	0.0739	0.0000	0.0109	-27.12%	NA	-83.27%	NA	NA	NA	583	0.1081	0.0000	0.0129	-8.70%	NA	NA	NA	-22.17%	NA	-0.0342**	0.0000	582	0.0739	0.0000	0.0109	-27.12%	NA	-83.27%	NA	NA	NA	-0.0342**	0.0000		
Event + 3 Year	582	0.0584	0.0000	0.0097	-20.97%	NA	-86.78%	NA	NA	NA	583	0.1046	0.0000	0.0127	-3.24%	NA	NA	NA	-24.66%	NA	-0.0462***	0.0000	582	0.0584	0.0000	0.0097	-20.97%	NA	-86.78%	NA	NA	NA	-0.0462***	0.0000		
Event + 4 Year	582	0.0584	0.0000	0.0097	0.00%	NA	-86.78%	NA	NA	NA	583	0.0909	0.0000	0.0119	-13.10%	NA	NA	NA	-34.56%**	NA	-0.0325**	0.0000	582	0.0584	0.0000	0.0097	0.00%	NA	-86.78%	NA	NA	NA	-0.0325**	0.0000		
Event + 5 Year	582	0.0515	0.0000	0.0092	-11.82%	NA	-88.34%	NA	NA	NA	583	0.0806	0.0000	0.0113	-11.33%	NA	NA	NA	-41.97%	NA	-0.0291**	0.0000	582	0.0515	0.0000	0.0092	-11.82%	NA	-88.34%	NA	NA	NA	-0.0291**	0.0000		
Poison Pill																																				
Event - 5 Year	582	0.2251	0.0000	0.0173	NA	NA	3.82%	NA	NA	NA	583	0.1612	0.0000	0.0152	NA	NA	NA	-6.39%	NA	NA	0.0639***	0.0000	582	0.2251	0.0000	0.0173	NA	NA	3.82%	NA	NA	-6.39%	NA	NA	0.0639***	0.0000
Event - 4 Year	582	0.2285	0.0000	0.0174	1.51%	NA	2.28%	NA	NA	NA	583	0.1630	0.0000	0.0153	1.12%	NA	NA	-7.42%	NA	NA	0.0656***	0.0000	582	0.2285	0.0000	0.0174	1.51%	NA	2.28%	NA	NA	-7.42%	NA	NA	0.0656***	0.0000
Event - 3 Year	582	0.2268	0.0000	0.0174	-0.74%	NA	3.04%	NA	NA	NA	583	0.1578	0.0000	0.0151	-3.19%	NA	NA	-4.37%	NA	NA	0.0690***	0.0000	582	0.2268	0.0000	0.0174	-0.74%	NA	3.04%	NA	NA	-4.37%	NA	NA	0.0690***	0.0000
Event - 2 Year	582	0.2165	0.0000	0.0171	-4.54%	NA	7.94%	NA	NA	NA	583	0.1527	0.0000	0.0149	-3.23%	NA	NA	-1.18%	NA	NA	0.0638***	0.0000	582	0.2165	0.0000	0.0171	-4.54%	NA	7.94%	NA	NA	-1.18%	NA	NA	0.0638***	0.0000
Event - 1 Year	582	0.2045	0.0000	0.0167	-5.54%	NA	14.28%	NA	NA	NA	583	0.1492	0.0000	0.0148	-2.29%	NA	NA	1.14%	NA	NA	0.0552**	0.0000	582	0.2045	0.0000	0.0167	-5.54%	NA	14.28%	NA	NA	1.14%	NA	NA	0.0552**	0.0000
Event	582	0.2337	0.0000	0.0176	14.28%	NA	NA	NA	NA	NA	583	0.1509	0.0000	0.0148	1.14%	NA	NA	NA	NA	NA	0.0827***	0.0000	582	0.2337	0.0000	0.0176	14.28%	NA	NA	NA	NA	NA	0.0827***	0.0000		
Event + 1 Year	582	0.1838	0.0000	0.0161	-21.35%	NA	-21.35%	NA	NA	NA	583	0.1304	0.0000	0.0140	-13.59%	NA	NA	NA	-12.53%**	NA	0.0535***	0.0000	582	0.1838	0.0000	0.0161	-21.35%	NA	-21.35%	NA	NA	NA	0.0535***	0.0000		
Event + 2 Year	582	0.1340	0.0000	0.0141	-27.09%	NA	-42.66%	NA	NA	NA	583	0.1166	0.0000	0.0133	-10.58%	NA	NA	NA	-23.79%**	NA	0.0174	0.0000	582	0.1340	0.0000	0.0141	-27.09%	NA	-42.66%	NA	NA	NA	0.0174	0.0000		
Event + 3 Year	582	0.1151	0.0000	0.0132	-14.10%	NA	-50.75%	NA	NA	NA	583	0.1029	0.0000	0.0126	-11.75%	NA	NA	NA	-31.81%	NA	0.0122	0.0000	582	0.1151	0.0000	0.0132	-14.10%	NA	-50.75%	NA	NA	NA	0.0122	0.0000		
Event + 4 Year	582	0.0928	0.0000	0.0120	-19.37%	NA	-60.29%	NA	NA	NA	583	0.0840	0.0000	0.0115	-18.37%	NA	NA	NA	-44.35%	NA	0.0087	0.0000	582	0.0928	0.0000	0.0120	-19.37%	NA	-60.29%	NA	NA	NA	0.0087	0.0000		
Event + 5 Year	582	0.0808	0.0000	0.0113	-12.93%	NA	-65.43%	NA	NA	NA	583	0.0720	0.0000	0.0107	-14.29%	NA	NA	NA	-52.28%**	NA	0.0087	0.0000	582	0.0808	0.0000	0.0113	-12.93%	NA	-65.43%	NA	NA	NA	0.0087	0.0000		
Industry Adjusted																																				
Event - 5 Year	582	0.1478	0.0000	0.0147	NA	NA	198.78%	NA	NA	NA	582	0.1178	0.1031	0.0035	NA	NA	NA	17.49%	NA	NA	0.033**	-0.1031	582	0.1478	0.0000	0.0147	NA	NA	198.78%	NA	NA	17.49%	NA	NA	0.033**	-0.1031
Event - 4 Year	582	0.1546	0.0000	0.0150	4.60%	NA	185.64%	NA	NA	NA	582	0.1241	0.1094	0.0035	5.35%	NA	NA	11.52%	NA	NA	0.0305**	-0.1094	582	0.1546	0.0000	0.0150	4.60%	NA	185.64%	NA	NA	11.52%	NA	NA	0.0305**	-0.1094
Event - 3 Year	582	0.1426	0.0000	0.0145	-7.76%	NA	209.68%	NA	NA	NA	582	0.1289	0.1151	0.0035	3.87%	NA	NA	7.37%	NA	NA	0.01137	0.0000	582	0.1426	0.0000	0.0145	-7.76%	NA	209.68%	NA	NA	7.37%	NA	NA	0.01137	0.0000
Event - 2 Year	582	0.1495	0.0000	0.0148	4.84%	NA	195.38%	NA	NA	NA	582	0.1344	0.1244	0.0035	4.27%	NA	NA	2.98%	NA	NA	0.0151	-0.1244	582	0.1495	0.0000	0.0148	4.84%	NA	195.38%	NA	NA	2.98%	NA	NA	0.0151	-0.1244
Event - 1 Year	582	0.1409	0.0000	0.0144	-5.75%	NA	213.41%	NA	NA	NA	582	0.1394	0.1257	0.0035	3.72%	NA	NA	-0.72%	NA	NA	0.0015	-0.1257	582	0.1409	0.0000	0.0144	-5.75%	NA	213.41%	NA	NA	-0.72%	NA	NA	0.0015	-0.1257
Event	582	0.4416	0.0000	0.0206	213.41%	NA	NA	NA	NA	NA	582	0.1384	0.1248	0.0035	-0.72%	NA	NA	NA	NA	NA	0.3032***	-0.1248	582	0.4416	0.0000	0.0206	213.41%	NA	NA	NA	NA	NA	0.3032***	-0.1248		
Event + 1 Year	582	0.1014	0.0000	0.0125	-77.04%	NA	-77.04%	NA	NA	NA	582	0.1284	0.1150	0.0037	-7.23%	NA	NA	-7.85%	NA	NA	-0.027**	-0.1150	582	0.1014	0.0000	0.0125	-77.04%	NA	-77.04%	NA	NA	NA	-0.027**	-0.1150		
Event + 2 Year	582	0.0739	0.0000	0.0109	-27.12%	NA	-83.27%	NA	NA	NA	582	0.1117	0.1002	0.0037	-13.01%	NA	NA	-19.29%	NA	NA	-0.0378***	-0.1002	582	0.0739	0.0000	0.0109	-27.12%	NA	-83.27%	NA	NA	NA	-0.0378***	-0.1002		
Event + 3 Year	582	0.0584	0.0000	0.0097	-20.97%	NA	-86.78%	NA	NA	NA	582	0.1042	0.0927	0.0036	-6.71%	NA	NA	-7.49%	NA	NA	-0.0458***	-0.0927	582	0.0584	0.0000	0.0097	-20.97%	NA	-86.78%	NA	NA	NA	-0.0458***	-0.0927		
Event + 4 Year	582	0.0584	0.0000	0.0097	0.00%	NA	-86.78%	NA	NA	NA	582	0.0991	0.0807	0.0036	-4.89%	NA	NA	-28.40%	NA	NA	-0.0407***	-0.0807	582	0.0584	0.0000	0.0097	0.00%	NA	-86.78%	NA	NA	NA	-0.0407***	-0.0807		
Event + 5 Year	582	0.0515	0.0000	0.0092	-11.82%	NA	-88.34%	NA	NA	NA	582	0.0936	0.0730	0.0036	-5.55																					

Table G.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.

ROA	Target Firms												Matched Firms												Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)									
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%	-60.48%	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	-45.08%	-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	0.0083	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	0.0389	0.0225	119.48%	60.93%	116.67%	187.32%	102	0.0321	0.0569	0.0199	206.48%	-5.01%	2658.33%	19.54%	-0.0161	0.0020									
Event + 4 Year	94	0.0529	1.0003	0.0217	213.02%	70.29%	578.21%	389.27%	100	0.0420	0.0756	0.0189	32.86%	3400.00%	32.86%	58.82%	0.0109	0.0247									
Event + 5 Year	90	0.0527	0.0819	0.0200	-18.34%	-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%	-16.39%	113	2.1425	1.2908	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%	4.19%	-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	5.01%	5.01%	-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%	-0.69%	8.03%	-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	0.2068	-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%	2.27%	2.27%	-0.40%	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	3.16%	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									
ROA																											
Event - 5 Year	95	0.027	0.0676	0.0213	NA	NA	-71.11%	-69.67%	95	0.0283	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%	-60.48%	90	0.0374	0.0652	0.0022	10.00%	0.0022	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	0.0099***	0.0101									
Event + 1 Year	91	-0.0060	0.0371	0.0227	-176.92%	80.98%	-176.92%	80.98%	91	0.0341	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%	98	0.0426	0.0746	0.0021	-1.16%	5.97%	1.43%	13.89%	0.0063*	0.0058									
Event + 3 Year	88	0.0169	0.0389	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	1.0003	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	-18.34%	-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%	-16.39%	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	3.0658	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	3.16%	3.16%	16.43%	16.73%	121	3.2041	2.1111	0.3986	0.03%	7.06%	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	0.4685	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 G.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.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	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	-0.0654	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	-0.0806																						
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 + 1 Year	101	-0.1015	-0.0022	0.0405	15.47%	-105.51%	NA	NA	116	-0.0880	0.0590	0.0467	37.94%	15.69%	NA	NA	-0.0135	-0.0612																						
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	-37.85%	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	-68.71%	17.88%	-70.37%	-22.71%	-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%	0.0228	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	-27.18%	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%	7.96%	-212.57%	-37.41%	-0.0270	-0.0223																						
Event - 1 Year	112	-0.0043	0.0395	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	397.67%	-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%	-6.56%	-131.98%	7.51%	-0.0224	-0.0028																						
Event + 4 Year	100	0.0248	0.0550	0.0188	-253.09%	66.67%	-182.67%	1941.29%	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	-271.11%	-30.63%	-84.77%	-20.42%	0.0183	0.0318																						
Industry Adjusted																																								
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%	-0.203*	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	-0.0654	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%	18.07%	-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	-0.1889	-0.0213	0.0405	15.47%	-105.51%	87.09%	-559.09%	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%	-1531.82%	102	0.0008	0.0202	0.0083	-97.50%	14.85%	-94.94%	3.06%	-0.0634***	0.0353																						
Event + 3 Year	98	-0.1404	0.0315	0.0534	9.09%	211.88%	38.33%	-3263.64%	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%	-4259.09%	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%	-0.0429	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%	9.96%	-31.53%	-10.41%	-0.042*	-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	0.0395	0.0147	-54.74%	8.41%	597.67%	-44.18%	121	0.0271	0.0429	0.0153	37.81%	1.15%	-13.75%	-13.75%	-0.032	-0.0094																						
Event	108	-0.0300	0.0187	0.0162	397.67%	-44.18%	NA	NA	121	0.0139	0.0370	0.0153	-49.82%	3.51%	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	0.0370	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	12.98%	4.14%	238.13%	42.70%	-0.0578**	-0.0177																						
Event + 4 Year	100	0.0248	0.0550	0.0188	-253.09%	66.67%	-182.67%	1941.29%	121	0.0470	0.0528	0.0172	12.98%	4.14%	196.28%	37.03%	-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 G.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 its 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.

EV / LTM EBITDA	Target Firms										Matched Firms										Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)			
Event - 5 Year	90	6.2004	5.3240	1.4857	NA	NA	-20.98%	12.33%	90	6.0201	5.0276	1.7366	NA	NA	29.36%	18.53%	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%	-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%	-29.97%	13.44%	-0.8577	1.2084				
Event - 2 Year	91	4.4936	6.6228	1.6296	37.41%	8.83%	9.03%	-10.24%	91	7.0791	7.4246	1.2083	71.49%	51.00%	-33.85%	-19.73%	-33.85%	-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%	-32.19%	3.0392	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	6.5647	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%	-3.7508	-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%	-6.21%	-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					

EV / LTM EBITDA	Target Firms										Industry Adjusted										Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)			
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%	-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%	-0.04%	0.20%	0.5593**	0.3734			
Event - 2 Year	91	4.4936	6.6228	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%	1.78%	1.35%	0.96***	0.3608			
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%	1.49%	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	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%	-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%	-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%	-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%	-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%	-8.11%	-7.08%	0.5143***	0.2794			

Table G.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		
Event	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Differences between Target and Match											
																						Event vs Year	Event vs Year	Event vs Year								
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	NA	NA	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%	-0.28%	19.96%	-6.24%	115	0.3187	0.1706	0.0403	17.38%	19.72%	-2.54%	-16.24%	-0.880	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	0.3266	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	0.0497	0.1977	19.60%	19.60%	9.27%	18.51%	108	0.3073	0.1240	0.0437	-1.06%	-13.23%	13.06%	0.0605	0.0737															
Event + 2 Year	99	0.3989	0.2954	0.0489	8.46%	19.07%	8.46%	42.41%	107	0.3276	0.1342	0.0479	6.61%	8.23%	5.47%	-6.09%	0.0713	0.012														
Event + 3 Year	100	0.4025	0.2130	0.0498	9.90%	-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%	15.17%	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	0.1093	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	0.1890	0.0970	0.0196	-11.55%	4.39%	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	0.0923	0.0238	4.82%	-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	5.82%	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%	-0.0144	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														
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	NA	NA	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%	0.2995	-0.2161***	-0.1228														
Event - 2 Year	110	0.2806	0.1763	0.0337	-1.09%	-0.28%	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	0.3266	0.1653	0.0418	12.76%	13.53%	NA	NA	121	0.3108	0.1429	0.0437	18.08%	4.72%	NA	NA	-0.3365***	-0.1455														
Event + 1 Year	100	0.3678	0.0497	0.1977	19.60%	19.60%	9.27%	18.51%	121	0.6322	0.2900	0.0886	-9.81%	-6.69%	-9.81%	-6.69%	-0.2654***	-0.0923														
Event + 2 Year	99	0.3989	0.2954	0.0489	8.46%	19.07%	8.46%	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	9.90%	-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	0.5964	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%	-0.0229	-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	-0.39%	-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	2.57%	2.19%	5.42%	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	-2.41%	-2.41%	3.46%	-7.17%	0.0259	-0.0189														
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	3.73%	3.73%	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	-7.90%	-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	0.3062	0.1739	0.0307	-2.51%	-7.90%	-23.23%	-20.89%	-0.5719	-1.0110														
Industry Adjusted																																

Table G.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.

Debt / EBITDA	Target Firms											Matched Firms											Differences between Target and Match		
	N	Mean	Median	Std. Err.	YoY			Event vs Year			N	Mean	Median	Std. Err.	YoY			Event vs Year			Diff (Mean)	Diff (Median)			
					Δ Mean	Δ Median	YoY	Δ Mean	Δ Median	Event vs Year					Δ Mean	Δ Median	YoY	Δ Mean	Δ Median	Event vs Year					
Event - 5 Year	94	2.4913	0.7229	0.4511	NA	NA	6.28%	-36.75%	0.00%	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%	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%	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	0.0043	5.13%	0.00%	15.49%	0.00%	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	NA	121	0.0497	0.0250	0.0053	NA	NA	-3.22%	48.40%	-0.0160**	-0.0250						
Event + 1 Year	121	0.0349	0.0000	0.0043	3.87%	NA	14.61%	NA	NA	121	0.0471	0.0296	0.0050	-5.23%	18.40%	2.12%	25.34%	-0.0122*	-0.0296						
Event + 2 Year	121	0.0360	0.0000	0.0044	3.15%	NA	11.11%	NA	NA	121	0.0446	0.0270	0.0046	-5.31%	-8.78%	7.85%	37.41%	-0.0086	-0.0270						
Event + 3 Year	121	0.0362	0.0000	0.0043	0.56%	NA	10.50%	NA	NA	121	0.0518	0.0434	0.0048	16.14%	60.74%	-7.14%	-14.52%	-0.0155**	-0.0434						
Event + 4 Year	121	0.0378	0.0000	0.0043	4.42%	NA	5.82%	NA	NA	121	0.0500	0.0413	0.0047	-3.47%	-4.84%	-3.80%	-10.17%	-0.0122*	-0.0413						
Event + 5 Year	121	0.0400	0.0000	0.0047	5.82%	NA	NA	NA	NA	121	0.0481	0.0371	0.0047	-3.80%	-10.17%	NA	NA	-0.0081	-0.0371						
Leverage (net)	121	0.0372	0.0000	0.0047	-7.00%	NA	-7.00%	NA	NA	121	0.0464	0.0270	0.0048	-3.83%	-27.22%	-3.53%	-27.22%	-0.0092	-0.0270						
Event - 5 Year	111	0.5209	0.0863	0.1473	NA	NA	-38.78%	-11.70%	0.00%	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%	0.00%	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%	0.00%	115	0.3209	0.0748	0.1175	-11.43%	-18.34%	13.67%	-20.72%	0.1271	-0.0341						
Event - 2 Year	112	0.3567	0.0222	0.1346	-20.38%	-45.45%	-10.60%	243.24%	0.00%	114	0.2450	0.1026	0.0968	-23.65%	37.17%	13.21%	-42.20%	0.1116	-0.0804						
Event - 1 Year	115	0.4520	0.1844	0.1321	26.72%	730.63%	-29.45%	-58.68%	NA	118	0.2484	0.1124	0.1006	1.89%	9.53%	12.12%	-47.24%	0.2036	0.0720						
Event + 1 Year	101	0.3189	0.0762	0.1242	-29.45%	-58.68%	-15.40%	-67.72%	NA	116	0.2785	0.0593	0.1005	-47.24%	NA	NA	NA	0.0404	0.0169						
Event + 2 Year	104	0.3285	0.1085	0.1352	21.76%	341.06%	3.01%	42.39%	0.00%	108	0.4809	0.2916	0.1262	72.68%	391.74%	72.68%	391.74%	-0.2111	-0.2670						
Event + 3 Year	103	0.3094	0.0591	0.1346	-5.81%	-45.53%	-2.98%	-22.44%	0.00%	106	0.3643	0.1325	0.1194	-24.95%	-54.56%	30.81%	123.44%	-0.0358	-0.0240						
Event + 4 Year	107	0.4832	0.1274	0.1409	56.17%	115.57%	51.52%	67.19%	0.00%	112	0.3389	0.0799	0.1175	-16.63%	121.33%	21.69%	-39.12%	-0.0970	0.0230						
Event + 5 Year	107	0.3800	0.2224	0.1205	-21.36%	74.57%	19.16%	191.86%	0.00%	103	0.2190	0.0248	0.1178	-35.38%	-68.96%	-21.36%	-58.18%	0.1443	0.0475						

Debt / EBITDA	Target Firms											Industry Adjusted											Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	YoY			Event vs Year			N	Mean	Median	Std. Err.	YoY			Event vs Year			Diff (Mean)	Diff (Median)			
					Δ Mean	Δ Median	YoY	Δ Mean	Δ Median	Event vs Year					Δ Mean	Δ Median	YoY	Δ Mean	Δ Median	Event vs Year					
Event - 5 Year	94	2.4913	0.7229	0.4511	NA	NA	6.28%	-36.75%	0.00%	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%	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%	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	0.0043	5.13%	0.00%	15.49%	0.00%	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	NA	121	2.5546	1.6347	0.3720	9.72%	11.42%	-7.95%	-16.00%	0.7043	-0.6520						
Event + 1 Year	121	0.0349	0.0000	0.0043	3.87%	NA	14.61%	NA	NA	121	2.3516	1.3717	0.3304	-7.95%	-16.09%	NA	NA	0.2962	-0.9145						
Event + 2 Year	121	0.0360	0.0000	0.0044	0.56%	NA	11.11%	NA	NA	121	2.1165	1.3434	0.3264	-10.00%	-10.00%	-2.06%	-2.06%	0.0173	-0.9412						
Event + 3 Year	121	0.0378	0.0000	0.0043	4.42%	NA	10.50%	NA	NA	121	2.4674	1.7404	0.3457	16.58%	29.55%	26.88%	26.88%	-0.3258	-0.9595						
Event + 4 Year	121	0.0400	0.0000	0.0043	5.82%	NA	5.82%	NA	NA	121	2.4711	1.7257	0.3444	0.15%	-0.84%	5.08%	25.81%	-0.5406	-1.1207						
Event + 5 Year	121	0.0372	0.0000	0.0047	-7.00%	NA	-7.00%	NA	NA	121	2.2151	1.4263	0.3267	-10.36%	-17.35%	-5.80%	-5.80%	0.7095	-0.2917						
Leverage (net)	121	0.0372	0.0000	0.0047	-7.00%	NA	-7.00%	NA	NA	121	2.1308	1.5882	0.2825	-3.81%	11.35%	-9.39%	15.78%	-0.5647	-0.7124						
Event - 5 Year	111	0.5209	0.0863	0.1473	NA	NA	-38.78%	-11.70%	0.00%	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%	0.00%	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%	0.00%	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%	0.00%	121	0.4324	0.2311	0.1253	-24.21%	-24.21%	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%	NA	121	0.4878	0.2198	0.1238	12.81%	-4.89%	-6.19%	10.69%	-0.0354	-0.0354						
Event + 1 Year	101	0.3189	0.0762	0.1242	-29.45%	-58.68%	-15.40%	-67.72%	NA	121	0.4576	0.2433	0.1246	-6.19%	10.69%	NA	NA	-0.1387	-0.1671						
Event + 2 Year	104	0.3285	0.1085	0.1352	21.76%	341.06%	3.01%	42.39%	0.00%	121	0.4825	0.3646	0.1200	5.44%	49.86%	5.44%	49.86%	-0.2127	-0.3400						
Event + 3 Year	103	0.3094	0.0591	0.1346	-5.81%	-45.53%	-2.98%	-22.44%	0.00%	121	0.3647	0.1089	0.1295	-1.16%	-70.13%	4.22%	-55.24%	-0.0004	-0.0004						
Event + 4 Year	107	0.4832	0.1274	0.1409	56.17%	115.57%	51.52%	67.19%	0.00%	121	0.4619	0.0415	0.1222	-23.53%	-61.89%	-20.30%	-82.94%	-0.0553	0.0176						
Event + 5 Year	107	0.3800	0.2224	0.1205	-21.36%	74.57%	19.16%	191.86%	0.00%	121	0.3608	0.2188	0.1205	-1.07%	49.72%	-21.15%	-10.07%	0.1224	-0.0914						

Table G.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.

Capital Expenditures	Target Firms											Matched Firms											Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Diff (Median)				
																						Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year
Event - 5 Year	108	0.0154	0.0074	0.0020	NA	NA	-15.58%	-12.16%	99	0.0171	0.0088	0.0023	NA	NA	-11.70%	-8.78%	-11.70%	-8.78%	-0.0017	-0.0024	-0.0007				
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%	-23.74%	-34.07%	-0.0059*	-0.0028	-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%	-11.05%	-6.79%	-11.05%	-0.0031	-0.0026	-0.0026				
Event - 2 Year	110	0.0134	0.0074	0.0018	1.52%	48.00%	-2.89%	-12.16%	107	0.0179	0.0074	0.0024	10.49%	-2.63%	-15.64%	-18.92%	-15.64%	-18.92%	-0.0045	0.0000	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	0.0021	-18.44%	4.05%	3.42%	-22.08%	3.42%	-22.08%	0.0010	0.0012	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	3.42%	-22.08%	-0.0020	0.0005	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%	-3.97%	30.00%	-0.0023	-0.0020	-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%	-8.61%	11.67%	-0.0005	-0.0007	-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%	-7.28%	5.00%	0.0030	0.0002	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%	2.65%	26.67%	0.0047	0.0032	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%	-1.99%	58.33%	0.0025	-0.0010	-0.0010				

Capital Expenditures	Target Firms											Industry Adjusted											Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	Diff (Median)				
																						Δ Mean YoY	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year
Event - 5 Year	108	0.0154	0.0074	0.0020	NA	NA	-15.58%	-12.16%	121	1.3986	0.5725	0.1625	0.1625	0.1625	-12.16%	-10.77%	-12.16%	-10.77%	-0.0003	-0.0051	-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%	17.68%	17.68%	-1.3187***	-0.6300	-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%	-1.60%	-1.60%	-1.3085***	-0.0073	-0.0073				
Event - 2 Year	110	0.0134	0.0074	0.0018	1.52%	48.00%	-2.89%	-12.16%	120	1.3494	0.6642	0.1567	0.69%	0.81%	0.69%	1.64%	1.64%	1.64%	-1.336***	-0.0050	-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%	-4.88%	-4.88%	-1.3269***	-0.0028	-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%	-6.45%	-6.45%	-1.321***	-0.0051	-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%	5.98%	5.98%	-1.2346***	-0.0066	-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%	6.03%	6.03%	-1.3341***	-0.0063	-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%	3.23%	3.23%	3.23%	-1.2664***	-0.0063	-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%	3.03%	16.26%	-1.3884***	-0.0035	-0.0035				
Event + 5 Year	93	0.0173	0.0085	0.0025	-14.36%	-21.30%	33.08%	30.77%	119	1.4188	0.8135	0.1585	-2.35%	3.50%	6.75%	15.63%	6.75%	15.63%	-1.4025***	-0.0063	-0.0063				

Table G.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 its 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.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ 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	NA	92	0.9666	0.0000	0.1952	NA	NA	13.16%	NA	NA	NA	NA	0.0760	0.0000						
Event - 4 Year	79	1.2200	0.0000	0.2766	17.02%	NA	-26.24%	NA	NA	93	1.1174	0.0000	0.2243	15.60%	NA	-2.11%	NA	NA	NA	NA	0.1026	0.0000						
Event - 3 Year	77	0.8081	0.0000	0.1988	-33.76%	NA	11.36%	NA	NA	93	1.2555	0.0000	0.2300	12.36%	NA	-12.88%	NA	NA	NA	NA	-0.4474	0.0000						
Event - 2 Year	78	0.8794	0.0000	0.2138	8.82%	NA	2.33%	NA	NA	93	1.4678	0.0000	0.2503	16.91%	NA	-25.48%	NA	NA	NA	NA	-0.5885*	0.0000						
Event - 1 Year	78	0.8800	0.0000	0.2084	0.07%	NA	2.26%	NA	NA	91	1.2931	0.0000	0.2422	-11.90%	NA	-15.41%	NA	NA	NA	NA	-0.4131	0.0000						
Event	78	0.8999	0.0000	0.2244	2.26%	NA	NA	NA	NA	91	1.0838	0.0000	0.2138	-15.41%	NA	NA	NA	NA	NA	NA	-0.1940	0.0000						
Event + 1 Year	72	1.1376	0.0000	0.2765	26.41%	NA	26.41%	NA	NA	86	0.9372	0.0000	0.1942	-14.32%	NA	-14.32%	NA	NA	NA	NA	0.2004	0.0000						
Event + 2 Year	74	1.5953	0.0000	0.3397	40.23%	NA	77.28%	NA	NA	83	1.1801	0.0000	0.2442	25.92%	NA	7.89%	NA	NA	NA	NA	0.4151	0.0000						
Event + 3 Year	74	1.4999	0.0000	0.3151	-5.98%	NA	66.67%	NA	NA	79	1.4465	0.0000	0.2950	22.57%	NA	32.25%	NA	NA	NA	NA	0.0534	0.0000						
Event + 4 Year	75	1.6949	0.0000	0.3384	13.00%	NA	88.34%	NA	NA	77	1.3496	0.0000	0.2695	-6.70%	NA	23.39%	NA	NA	NA	NA	0.3453	0.0000						
Event + 5 Year	67	1.6945	0.0000	0.3508	-0.02%	NA	88.30%	NA	NA	76	1.3067	0.0000	0.2911	-3.18%	NA	19.46%	NA	NA	NA	NA	0.3878	0.0000						
Share Repurchase																												
Event - 5 Year	119	0.0019	0.0000	0.0007	NA	NA	152.63%	NA	NA	107	0.0051	0.0000	0.0012	NA	NA	-3.92%	NA	NA	NA	NA	-0.0033**	0.0000						
Event - 4 Year	117	0.0036	0.0000	0.0010	89.47%	NA	33.33%	NA	NA	110	0.0027	0.0000	0.0009	-47.06%	NA	81.48%	NA	NA	NA	NA	0.0009	0.0000						
Event - 3 Year	114	0.0027	0.0000	0.0009	-25.00%	NA	77.78%	NA	NA	113	0.0035	0.0000	0.0010	29.63%	NA	40.00%	NA	NA	NA	NA	-0.0008	0.0000						
Event - 2 Year	118	0.0036	0.0000	0.0010	33.33%	NA	33.33%	NA	NA	111	0.0044	0.0000	0.0011	25.71%	NA	11.36%	NA	NA	NA	NA	-0.0009	0.0000						
Event - 1 Year	120	0.0036	0.0000	0.0011	0.00%	NA	33.33%	NA	NA	119	0.0046	0.0000	0.0010	4.95%	NA	6.52%	NA	NA	NA	NA	-0.0009	0.0000						
Event	116	0.0048	0.0000	0.0012	33.33%	NA	NA	NA	NA	117	0.0049	0.0000	0.0012	6.32%	NA	NA	NA	NA	NA	NA	-0.0001	0.0000						
Event + 1 Year	105	0.0039	0.0000	0.0011	-18.75%	NA	-18.75%	NA	NA	107	0.0041	0.0000	0.0011	-16.33%	NA	-16.33%	NA	NA	NA	NA	-0.0002	0.0000						
Event + 2 Year	108	0.0046	0.0000	0.0012	17.95%	NA	-4.17%	NA	NA	109	0.0047	0.0000	0.0011	14.63%	NA	-4.08%	NA	NA	NA	NA	0.0000	0.0000						
Event + 3 Year	107	0.0036	0.0000	0.0011	-21.74%	NA	-25.00%	NA	NA	113	0.0031	0.0000	0.0009	-34.04%	NA	-36.73%	NA	NA	NA	NA	0.0005	0.0000						
Event + 4 Year	111	0.0028	0.0000	0.0009	-22.22%	NA	-41.67%	NA	NA	113	0.0035	0.0000	0.0010	12.90%	NA	-28.57%	NA	NA	NA	NA	-0.0007	0.0000						
Event + 5 Year	109	0.0015	0.0000	0.0007	-46.43%	NA	-68.75%	NA	NA	104	0.0025	0.0000	0.0009	-28.57%	NA	-48.98%	NA	NA	NA	NA	-0.0011	0.0000						
Industry Adjusted																												
Event - 5 Year	80	1.0426	0.0000	0.2261	NA	NA	-13.69%	NA	NA	121	0.0046	0.0000	0.0006	7900.20%	3768.24%	8007.65%	NA	3903.50%	NA	1.038***	-0.5725							
Event - 4 Year	79	1.2200	0.0000	0.2766	17.02%	NA	-26.24%	NA	NA	121	0.0056	0.0017	0.0007	-4.38%	11.14%	7558.62%	4199.32%	NA	1.2144***	-0.6303								
Event - 3 Year	77	0.8081	0.0000	0.1988	-33.76%	NA	11.36%	NA	NA	121	0.0068	0.0043	0.0007	-8.82%	13.52%	-5.16%	26.17%	NA	0.8013***	-0.7223								
Event - 2 Year	78	0.8794	0.0000	0.2138	8.82%	NA	2.33%	NA	NA	121	0.0076	0.0062	0.0007	2.10%	-8.04%	1.26%	4.38%	NA	0.8718***	-0.6642								
Event - 1 Year	78	0.8800	0.0000	0.2084	0.07%	NA	2.26%	NA	NA	121	0.0086	0.0079	0.0007	-0.51%	3.90%	1.57%	-4.46%	NA	0.8714***	-0.6901								
Event	78	0.8999	0.0000	0.2244	2.26%	NA	NA	NA	NA	121	0.0092	0.0084	0.0007	-0.63%	8.51%	-1.14%	12.74%	NA	0.8007***	-0.7488								
Event + 1 Year	72	1.1376	0.0000	0.2765	26.41%	NA	26.41%	NA	NA	121	0.0076	0.0046	0.0008	-6.54%	-9.56%	-7.13%	-1.87%	NA	1.1298***	-0.6772								
Event + 2 Year	74	1.5953	0.0000	0.3397	40.23%	NA	77.28%	NA	NA	121	0.0068	0.0032	0.0008	8.07%	7.91%	1.00%	-2.40%	NA	1.5887***	-0.7308								
Event + 3 Year	74	1.4999	0.0000	0.3151	-5.98%	NA	66.67%	NA	NA	121	0.0060	0.0018	0.0007	-4.75%	-3.79%	2.94%	3.82%	NA	1.4939***	-0.7031								
Event + 4 Year	75	1.6949	0.0000	0.3384	13.00%	NA	88.34%	NA	NA	121	0.0051	0.0000	0.0006	9.76%	-10.27%	4.54%	-13.67%	NA	1.6898***	-0.6309								
Event + 5 Year	67	1.6945	0.0000	0.3508	-0.02%	NA	88.30%	NA	NA	121	0.0040	0.0000	0.0006	0.80%	28.94%	10.63%	15.70%	NA	1.6905***	-0.8135								
Share Repurchase																												
Event - 5 Year	119	0.0019	0.0000	0.0007	NA	NA	152.63%	NA	NA	121	0.4205	0.4060	0.0102	-99.68%	-100.00%	-99.67%	NA	-100.00%	NA	-0.4186***	0.0000							
Event - 4 Year	117	0.0036	0.0000	0.0010	89.47%	NA	33.33%	NA	NA	121	0.4246	0.4326	0.0099	21.74%	NA	-99.61%	NA	-99.79%	NA	-0.4218***	-0.0017							
Event - 3 Year	114	0.0027	0.0000	0.0009	-25.00%	NA	77.78%	NA	NA	121	0.4251	0.4286	0.0100	21.43%	152.94%	47.83%	NA	NA	NA	-0.4224***	-0.0043							
Event - 2 Year	118	0.0036	0.0000	0.0010	33.33%	NA	33.33%	NA	NA	121	0.4454	0.4469	0.0100	11.76%	44.19%	35.71%	264.71%	NA	-0.4418***	-0.0062								
Event - 1 Year	120	0.0036	0.0000	0.0011	0.00%	NA	33.33%	NA	NA	121	0.4378	0.4369	0.0101	13.16%	27.42%	26.47%	83.72%	NA	-0.4342***	-0.0079								
Event	116	0.0048	0.0000	0.0012	33.33%	NA	NA	NA	NA	121	0.4419	0.4501	0.0107	6.98%	6.33%	21.05%	35.48%	NA	-0.4371***	-0.0054								
Event + 1 Year	105	0.0039	0.0000	0.0011	-18.75%	NA	-18.75%	NA	NA	121	0.4378	0.4369	0.0101	-15.22%	-45.24%	-9.30%	-41.77%	NA	-0.4339***	-0.0046								
Event + 2 Year	108	0.0046	0.0000	0.0012	17.95%	NA	-4.17%	NA	NA	121	0.4454	0.4469	0.0100	-15.38%	-30.45%	-28.26%	-61.90%	NA	-0.4408***	-0.0032								
Event + 3 Year	107	0.0036	0.0000	0.0011	-21.74%	NA	-25.00%	NA	NA	121	0.4251	0.4286	0.0100	-9.09%	-43.75%	-23.08%	-42.15***	NA	-0.4425***	-0.0018								
Event + 4 Year	111	0.0028	0.0000	0.0009	-22.22%	NA	-41.67%	NA	NA	121	0.4246	0.4326	0.0099	-15.00%	-100.00%	-22.73%	-100.00%	NA	-0.4218***	0.0000								
Event + 5 Year	109	0.0015	0.0000	0.0007	-46.43%	NA	-68.75%	NA	NA	121	0.4205	0.4060	0.0102	-21.57%	NA	-33.33%	-100.00%	NA	-0.4199***	0.0000								

Table G-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.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ 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	NA	57	0.4737	0.0000	0.0667	NA	NA	-10.34%	NA	NA	-0.0191	0.0000										
Event - 4 Year	63	0.4444	0.0000	0.0631	-2.22%	NA	46.76%	NA	NA	62	0.3710	0.0000	0.0618	-21.68%	NA	14.47%	NA	NA	0.0735	0.0000										
Event - 3 Year	60	0.4167	0.0000	0.0642	-6.23%	NA	56.52%	NA	NA	59	0.5583	0.0000	0.0652	50.75%	NA	-24.07%	-100.00%	-0.1427	-1.0000	0.0000										
Event - 2 Year	66	0.3333	0.0000	0.0585	-20.01%	NA	95.68%	NA	NA	67	0.3582	0.0000	0.0590	-35.96%	-100.00%	18.57%	NA	-0.0249	0.0000	0.0000										
Event - 1 Year	67	0.5075	1.0000	0.0615	52.27%	NA	28.51%	0.00%	NA	66	0.3636	0.0000	0.0507	1.51%	NA	16.80%	NA	0.1438*	1.0000	0.0000										
Event	69	0.6522	1.0000	0.0578	28.51%	0.00%	NA	NA	NA	73	0.4247	0.0000	0.0583	16.80%	NA	NA	NA	0.2275**	1.0000	0.0000										
Event + 1 Year	65	0.4462	0.0000	0.0621	-31.59%	-100.00%	-31.59%	-100.00%	-100.00%	71	0.4507	0.0000	0.0595	6.12%	NA	6.12%	NA	-0.0046	0.0000	0.0000										
Event + 2 Year	54	0.4444	0.0000	0.0683	-0.40%	NA	-31.86%	NA	NA	66	0.5758	1.0000	0.0613	27.76%	NA	35.58%	NA	-0.1313	-1.0000	0.0000										
Event + 3 Year	54	0.5000	0.5000	0.0687	12.51%	NA	-23.34%	-50.00%	NA	69	0.5072	1.0000	0.0606	-11.91%	0.00%	19.43%	NA	-0.0072	-0.5000	0.0000										
Event + 4 Year	58	0.4310	0.0000	0.0656	-13.80%	-100.00%	-33.92%	-100.00%	-100.00%	68	0.4412	0.0000	0.0607	-13.01%	-100.00%	3.89%	NA	-0.0101	0.0000	0.0000										
Event + 5 Year	59	0.4915	0.0000	0.0656	14.04%	NA	-24.64%	-100.00%	-100.00%	64	0.4063	0.0000	0.0619	-7.91%	NA	-4.33%	NA	0.0853	0.0000	0.0000										
Analyst Sell Recommendation																														
Event - 5 Year	121	0.3058	0.0000	0.0421	NA	NA	2.68%	NA	NA	121	0.2066	0.0000	0.0370	NA	NA	63.99%	NA	0.0992*	0.0000	0.0000										
Event - 4 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	NA	121	0.2397	0.0000	0.0390	16.02%	NA	41.34%	NA	0.0496	0.0000	0.0000										
Event - 3 Year	121	0.2975	0.0000	0.0417	2.83%	NA	5.55%	NA	NA	121	0.2810	0.0000	0.0410	17.23%	NA	20.57%	NA	0.0165	0.0000	0.0000										
Event - 2 Year	121	0.3058	0.0000	0.0421	2.79%	NA	2.68%	NA	NA	121	0.2975	0.0000	0.0421	5.87%	NA	13.88%	NA	0.0083	0.0000	0.0000										
Event - 1 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	NA	121	0.3140	0.0000	0.0424	5.55%	NA	7.90%	NA	-0.0248	0.0000	0.0000										
Event	121	0.3140	0.0000	0.0424	8.54%	NA	NA	NA	NA	121	0.3388	0.0000	0.0432	7.90%	NA	NA	NA	-0.0248	0.0000	0.0000										
Event + 1 Year	121	0.2562	0.0000	0.0398	-18.41%	NA	-18.41%	NA	NA	121	0.3223	0.0000	0.0427	-4.87%	NA	-4.87%	NA	-0.0661	0.0000	0.0000										
Event + 2 Year	121	0.2666	0.0000	0.0370	-19.36%	NA	-34.20%	NA	NA	121	0.3223	0.0000	0.0427	-4.87%	NA	-4.87%	NA	-0.1157**	0.0000	0.0000										
Event + 3 Year	121	0.1736	0.0000	0.0346	-15.97%	NA	-44.71%	NA	NA	121	0.2149	0.0000	0.0375	-33.32%	NA	-36.57%	NA	-0.0413	0.0000	0.0000										
Event + 4 Year	121	0.1653	0.0000	0.0339	-4.78%	NA	-47.36%	NA	NA	121	0.2231	0.0000	0.0380	3.82%	NA	-34.15%	NA	-0.0579	0.0000	0.0000										
Event + 5 Year	121	0.1488	0.0000	0.0325	-9.98%	NA	-52.61%	-100.00%	-100.00%	121	0.2066	0.0000	0.0370	-7.40%	NA	-39.02%	NA	-0.0579	0.0000	0.0000										
Industry Adjusted																														
Event - 5 Year	121	0.2866	0.2983	0.0130	10412.50%	NA	43.50%	NA	NA	121	0.2866	0.2983	0.0130	10412.50%	NA	81.45.10%	NA	0.1679***	-0.4060	-0.4060										
Event - 4 Year	121	0.2931	0.3118	0.0121	46.76%	NA	46.76%	NA	NA	121	0.2931	0.3118	0.0121	46.76%	NA	10515.00%	NA	0.1513***	-0.4326	-0.4326										
Event - 3 Year	121	0.3122	0.3154	0.0122	56.52%	NA	56.52%	NA	NA	121	0.3122	0.3154	0.0122	56.52%	NA	4.90%	NA	0.1045**	-0.4286	-0.4286										
Event - 2 Year	121	0.3214	0.3252	0.0125	95.68%	NA	95.68%	NA	NA	121	0.3214	0.3252	0.0125	4.78%	NA	4.97%	NA	0.0119	-0.4469	-0.4469										
Event - 1 Year	121	0.3292	0.3228	0.0124	28.51%	0.00%	28.51%	0.00%	NA	121	0.3292	0.3228	0.0124	-1.71%	-2.24%	2.99%	1.94%	0.1783***	0.5631	0.5631										
Event	121	0.3351	0.3231	0.0126	31.59%	0.00%	31.59%	0.00%	NA	121	0.3351	0.3231	0.0126	0.94%	0.94%	-0.79%	0.72%	0.3151***	0.5499	0.5499										
Event + 1 Year	121	0.2935	0.2953	0.0143	-31.59%	-100.00%	-31.59%	-100.00%	-100.00%	121	0.2935	0.2953	0.0143	-2.93%	-2.93%	0.00%	0.00%	0.1527***	-0.4389	-0.4389										
Event + 2 Year	121	0.2641	0.2784	0.0152	-2.29%	NA	-2.29%	NA	NA	121	0.2641	0.2784	0.0152	1.74%	1.74%	-0.79%	-0.71%	0.1803***	-0.4469	-0.4469										
Event + 3 Year	121	0.2507	0.2534	0.0155	-23.34%	NA	-23.34%	-50.00%	NA	121	0.2507	0.2534	0.0155	-4.56%	-4.09%	-2.90%	-1.90%	0.2403***	0.0714	0.0714										
Event + 4 Year	121	0.2312	0.2273	0.0156	-33.92%	-100.00%	-33.92%	-100.00%	-100.00%	121	0.2312	0.2273	0.0156	-0.12%	-0.12%	-0.67%	-3.20%	0.1988***	-0.4326	-0.4326										
Event + 5 Year	121	0.2293	0.2405	0.0147	-24.64%	-100.00%	-24.64%	-100.00%	-100.00%	121	0.2293	0.2405	0.0147	-0.97%	-6.15%	-1.08%	-5.27%	0.2622***	-0.4060	-0.4060										
Analyst Sell Recommendation																														
Event - 5 Year	121	0.3058	0.0000	0.0421	NA	NA	2.68%	NA	NA	121	0.1455	0.1355	0.0097	-31.84%	-26.53%	-32.50%	NA	0.1603***	-0.2983	-0.2983										
Event - 4 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	NA	121	0.1471	0.1342	0.0098	2.27%	4.53%	-30.30%	NA	0.1422***	-0.3118	-0.3118										
Event - 3 Year	121	0.2975	0.0000	0.0417	2.83%	NA	5.55%	NA	NA	121	0.1509	0.1341	0.0099	6.92%	1.15%	8.93%	NA	0.1466***	-0.3154	-0.3154										
Event - 2 Year	121	0.3058	0.0000	0.0421	2.79%	NA	2.68%	NA	NA	121	0.1541	0.1407	0.0100	2.95%	3.11%	9.66%	4.30%	0.1517***	-0.3252	-0.3252										
Event - 1 Year	121	0.2893	0.0000	0.0414	-5.40%	NA	8.54%	NA	NA	121	0.1579	0.1442	0.0100	2.43%	-0.74%	5.45%	2.35%	0.1314***	-0.3228	-0.3228										
Event	121	0.3140	0.0000	0.0424	8.54%	NA	NA	NA	NA	121	0.1531	0.1378	0.0100	2.40%	0.09%	4.88%	-0.65%	0.1609***	-0.3231	-0.3231										
Event + 1 Year	121	0.2562	0.0000	0.0398	-18.41%	NA	-18.41%	NA	NA	121	0.1348	0.1154	0.0098	-12.93%	-8.60%	-10.84%	-8.92%	0.1214***	-0.2963	-0.2963										
Event + 2 Year	121	0.2066	0.0000	0.0370	-19.36%	NA	-34.20%	NA	NA	121	0.1289	0.1059	0.0094	-10.92%	-5.72%	-12.66%	-13.83%	0.0927**	-0.2784	-0.2784										
Event + 3 Year	121	0.1736	0.0000	0.0346	-15.97%	NA	-44.71%	NA	NA	121	0.1107	0.0941	0.0089	-5.07%	-5.07%	-21.66%	-14.19%	0.0629**	-0.2534	-0.2534										
Event + 4 Year	121	0.1653	0.0000	0.0339	-4.78%	NA	-47.36%	NA	NA	121	0.1066	0.0835	0.0087	-7.78%	-10.30%	-12.46%	-18.35%	0.0587	-0.2573	-0.2573										
Event + 5 Year	121	0.1488	0.0000	0.0325	-9.98%	NA	-52.61%	-100.00%	-100.00%	121	0.1025	0.0833	0.0087	-0.82%	5.81%	-8.54%	-5.09%	0.0463	-0.2405	-0.2405										

Table G.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 5% level and * at the 10% level.

	Target Firms										Matched Firms										Differences between Target and Match			
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Event vs Year	Diff (Mean)	Diff (Median)	
Multiple Segments																								
Event - 5 Year	121	0.1736	0.0000	0.0346	NA	NA	33.29%	NA	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	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	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	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	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	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	0.1405	0.0000	0.0339	-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	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	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	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	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%	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%	0.0533	0.0500	0.0030	-23.42%	5.04%	28.71%	-2.06%	0.0067	-0.0015							
Event - 3 Year	121	0.0548	0.0476	0.0043	-8.67%	-1.86%	25.18%	2.94%	0.0466	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%	0.0573	0.0481	0.0058	8.32%	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%	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	0.0686	0.0490	0.0115	7.69%	-2.00%	NA	0.0000	0.0000								
Event + 1 Year	121	0.0761	0.0519	0.0137	10.93%	5.92%	10.93%	5.92%	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%	0.0879	0.0546	0.0156	6.03%	4.60%	28.13%	11.45%	-0.0038	-0.0013							
Event + 3 Year	121	0.0907	0.0529	0.0158	7.85%	-0.75%	32.22%	7.96%	0.0854	0.0510	0.0155	-2.84%	-6.59%	24.69%	4.08%	0.0054	0.0019							
Event + 4 Year	121	0.0956	0.0500	0.0177	5.40%	-5.48%	39.36%	2.04%	0.0824	0.0498	0.0141	-2.35%	-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%	0.0804	0.0512	0.0117	-2.43%	2.81%	17.30%	4.49%	0.0050	-0.0003							
Multiple Segments																								
Event - 5 Year	121	0.1736	0.0000	0.0346	NA	NA	33.29%	NA	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	0.0937	0.0523	0.0159	1.10%	-0.96%	-44.20%	-35.85%	0.0064***	-0.1342							
Event - 3 Year	121	0.1983	0.0000	0.0364	4.31%	NA	16.69%	NA	0.0837	0.0546	0.0135	2.54%	-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	0.0846	0.0552	0.0142	4.92%	4.92%	4.76%	4.8%	0.1303***	-0.1407							
Event - 1 Year	121	0.2231	0.0000	0.0380	3.82%	NA	NA	NA	0.0759	0.0519	0.0129	2.12%	2.49%	4.64%	7.53%	0.1472***	-0.1442							
Event	121	0.2314	0.0000	0.0385	3.72%	NA	NA	NA	0.0716	0.0495	0.0118	-3.04%	-4.44%	-6.65%	-2.06%	0.1598***	-0.1378							
Event + 1 Year	121	0.1653	0.0000	0.0339	-28.57%	NA	-28.57%	NA	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	0.0846	0.0546	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	0.0837	0.0546	0.0135	-10.65%	-11.14%	-17.84%	-18.46%	0.0072	-0.0941							
Event + 4 Year	121	0.0909	0.0000	0.0262	0.00%	NA	-60.72%	NA	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	0.0835	0.0523	0.0125	-3.85%	-2.04%	-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%	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%	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%	0.0198	0.0172	0.0013	-10.47%	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%	0.0184	0.0173	0.0011	1.08%	1.08%	-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%	0.0204	0.0197	0.0013	-10.28%	-5.98%	-9.32%	-5.98%	0.0431***	-0.0016							
Event	121	0.0686	0.0490	0.0115	8.03%	-2.58%	NA	NA	0.0246	0.0238	0.0012	-5.67%	-6.62%	-15.37%	-10.33%	0.0444***	-0.0005							
Event + 1 Year	121	0.0761	0.0519	0.0137	10.93%	5.92%	10.93%	5.92%	0.0199	0.0191	0.0014	4.85%	6.01%	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%	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%	0.0156	0.0109	0.0014	-1.06%	-1.06%	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%	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%	0.0134	0.0077	0.0014	-10.89%	0.00%	-0.24%	-4.21%	0.0724***	-0.0014							

Table G.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 its 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 ***, **, and * are significant at the 1% level, ** at the 5% level and * at the 10% level.

Matched Firms													Differences between Target and Match					
Target Firms													Differences between Target Firms and Industry					
13D Filing													Differences between Target Firms and Industry					
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)
Event - 5 Year	121	0.0413	0.0000	0.0182	NA	NA	760.53%	NA	121	0.0248	0.0000	0.0142	NA	NA	-83.47%	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	NA	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	NA	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
13D Filing													Differences between Target Firms and Industry					
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	0.0075	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%	-30.58%	-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 G.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 event 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			△ Median			N	Mean	Median	Std. Err.	△ Mean			△ Median			Diff (Mean)	Diff (Median)		
					YoY	YoY	Event vs Year	YoY	YoY	Event vs Year					YoY	YoY	Event vs Year	Event vs Year	Event vs Year	Event vs Year			Event vs Year	
Classified Board																								
Event - 5 Year	121	0.0661	0.0000	0.0227	NA	625.11%	NA	121	0.0992	0.0000	0.0273	NA	0.00%	NA	0.00%	NA	0.00%	NA	-0.0331	0.0000				
Event - 4 Year	121	0.0744	0.0000	0.0240	12.56%	544.22%	NA	121	0.1074	0.0000	0.0283	8.27%	-7.64%	NA	-7.64%	NA	0.0283	NA	-0.0331	0.0000				
Event - 3 Year	121	0.0744	0.0000	0.0240	0.00%	544.22%	NA	121	0.0992	0.0000	0.0273	-7.64%	0.00%	NA	0.00%	NA	0.0283	NA	-0.0248	0.0000				
Event - 2 Year	121	0.0744	0.0000	0.0240	0.00%	544.22%	NA	121	0.0909	0.0000	0.0262	-5.37%	9.13%	NA	9.13%	NA	0.0262	NA	-0.0165	0.0000				
Event - 1 Year	121	0.0744	0.0000	0.0240	0.00%	544.22%	NA	121	0.0826	0.0000	0.0251	-9.13%	20.10%	NA	20.10%	NA	0.0251	NA	-0.0083	0.0000				
Event	121	0.4793	0.0000	0.0456	544.22%	NA	NA	121	0.0992	0.0000	0.0273	20.10%	NA	NA	NA	NA	0.0273	NA	0.3802***	0.0000				
Event + 1 Year	121	0.0744	0.0000	0.0240	-84.48%	NA	NA	121	0.1074	0.0000	0.0283	8.27%	NA	NA	8.27%	NA	0.0283	NA	-0.0331	0.0000				
Event + 2 Year	121	0.0496	0.0000	0.0198	-33.35%	NA	NA	121	0.0992	0.0000	0.0273	-7.64%	NA	NA	0.00%	NA	0.0273	NA	-0.0496	0.0000				
Event + 3 Year	121	0.0413	0.0000	0.0182	-16.73%	NA	NA	121	0.1157	0.0000	0.0292	16.63%	NA	NA	16.63%	NA	0.0292	NA	-0.0744**	0.0000				
Event + 4 Year	121	0.0496	0.0000	0.0198	20.10%	NA	NA	121	0.0992	0.0000	0.0273	-14.26%	NA	NA	0.00%	NA	0.0273	NA	-0.0496	0.0000				
Event + 5 Year	121	0.0661	0.0000	0.0227	33.27%	NA	NA	121	0.0909	0.0000	0.0262	-8.37%	NA	NA	-8.37%	NA	0.0262	NA	-0.0248	0.0000				
Poison Pill																								
Event - 5 Year	121	0.2231	0.0000	0.0380	NA	14.84%	NA	121	0.1074	0.0000	0.0283	NA	0.00%	NA	0.00%	NA	0.0283	NA	0.1157**	0.0000				
Event - 4 Year	121	0.2149	0.0000	0.0375	-3.68%	19.22%	NA	121	0.1322	0.0000	0.0309	23.09%	NA	NA	-18.76%	NA	0.0309	NA	0.0826*	0.0000				
Event - 3 Year	121	0.2067	0.0000	0.0370	-3.86%	24.01%	NA	121	0.1488	0.0000	0.0325	12.56%	NA	NA	-27.82%	NA	0.0325	NA	0.0579	0.0000				
Event - 2 Year	121	0.2397	0.0000	0.0390	16.02%	6.88%	NA	121	0.1322	0.0000	0.0309	-11.16%	NA	NA	-18.76%	NA	0.0309	NA	0.1074**	0.0000				
Event - 1 Year	121	0.2592	0.0000	0.0398	6.88%	0.00%	NA	121	0.1240	0.0000	0.0301	-6.20%	NA	NA	-13.39%	NA	0.0301	NA	0.1322***	0.0000				
Event	121	0.2562	0.0000	0.0398	0.00%	NA	NA	121	0.1074	0.0000	0.0283	-13.39%	NA	NA	NA	NA	0.0283	NA	0.1488***	0.0000				
Event + 1 Year	121	0.2149	0.0000	0.0375	-16.12%	NA	NA	121	0.1240	0.0000	0.0301	15.46%	NA	NA	15.46%	NA	0.0301	NA	0.0909*	0.0000				
Event + 2 Year	121	0.1240	0.0000	0.0301	-42.30%	NA	NA	121	0.1157	0.0000	0.0292	-6.69%	NA	NA	7.73%	NA	0.0292	NA	0.0083	0.0000				
Event + 3 Year	121	0.1157	0.0000	0.0292	-6.69%	NA	NA	121	0.1074	0.0000	0.0283	-7.17%	NA	NA	0.00%	NA	0.0283	NA	0.0083	0.0000				
Event + 4 Year	121	0.0992	0.0000	0.0273	-14.26%	NA	NA	121	0.0909	0.0000	0.0262	-15.36%	NA	NA	-15.36%	NA	0.0262	NA	0.0083	0.0000				
Event + 5 Year	121	0.1074	0.0000	0.0283	8.27%	-58.08%	NA	121	0.0909	0.0000	0.0262	0.00%	NA	NA	-15.36%	NA	0.0262	NA	0.0165	0.0000				
Industry Adjusted																								
Differences between Target Firms and Industry																								
Diff (Mean) Diff (Median)																								
Event - 5 Year	121	0.0661	0.0000	0.0227	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%	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%	544.22%	NA	121	0.1201	0.1000	0.0079	7.81%	10.80%	14.71%	27.06%	-0.0633**	-0.1000							
Event - 2 Year	121	0.0744	0.0000	0.0240	0.00%	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%	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	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	NA	121	0.1194	0.1111	0.0079	-11.39%	-12.66%	-9.68%	-7.72%	-0.041	-0.1111							
Event + 2 Year	121	0.0496	0.0000	0.0198	-33.33%	NA	NA	121	0.1070	0.0966	0.0076	-10.39%	-13.09%	-21.09%	-24.06%	-0.0545***	-0.0966							
Event + 3 Year	121	0.0413	0.0000	0.0182	-16.73%	NA	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	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	NA	121	0.0823	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	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%	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%	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%	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	0.2592	0.0000	0.0398	6.88%	0.00%	NA	121	0.1367	0.1299	0.0075	-1.87%	-5.80%	-0.73%	-1.269	0.2592***	-0.1299							
Event	121	0.2562	0.0000	0.0398	0.00%	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	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	NA	121	0.1041	0.1023	0.0078	-9.79%	-9.15%	-20.94%	-20.94%	0.1240***	-0.1023							
Event + 3 Year	121	0.1157	0.0000	0.0292	-6.69%	NA	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	NA	121	0.0793	0.0624	0.0074	-12.38%	-25.09%	-23.82%	-30.00%	0.0992***	-0.0624							
Event + 5 Year	121	0.1074	0.0000	0.0283	8.27%	-58.08%	NA	121	0.0770	0.0474	0.0073	-2.90%	-24.04%	-14.92%	-43.10%	0.1074***	-0.0474							

Table G.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.	Δ Mean	YoY	Δ Median	YoY	Δ Mean	YoY	Δ Median	YoY	Δ Mean	YoY	Δ Median	YoY	Δ Mean	YoY	Δ Median	YoY	Event vs Year	Event vs Year	Event vs Year	Diff (Mean)	Diff (Median)	
Revenue Growth																										
Event - 5 Year	90	0.0280	0.0093	0.0200	NA	NA	NA	NA	-0.8666%	-72.14%	-0.8666%	88	0.0604	0.0373	0.0188	0.0188	NA	NA	NA	NA	-36.09%	-25.74%	-0.0324	-0.0280		
Event - 4 Year	91	0.0534	0.0388	0.0252	90.71%	317.20%	NA	NA	-85.39%	-85.39%	-85.39%	84	0.0359	0.0261	0.0215	0.0215	-40.56%	7.90%	7.90%	7.90%	7.52%	6.13%	0.0175	0.0127		
Event - 3 Year	89	0.0485	0.0189	0.0209	-9.18%	-51.29%	-9.18%	-9.18%	-83.92%	-83.92%	-83.92%	88	0.0437	0.0184	0.0213	0.0213	21.73%	NA	NA	NA	-11.67%	50.54%	0.0048	0.0005		
Event - 2 Year	89	0.0364	0.0310	0.0174	-24.95%	-64.02%	-24.95%	-24.95%	-78.57%	-78.57%	-78.57%	87	0.0687	0.0373	0.0224	0.0224	57.21%	NA	NA	NA	-43.81%	-15.44%	-0.0323	-0.0063		
Event - 1 Year	88	0.0083	0.0109	0.0146	-77.20%	-64.84%	-77.20%	-64.84%	-6.02%	-6.02%	-6.02%	91	0.0353	0.0320	0.0172	0.0172	9.35%	NA	NA	NA	9.35%	NA	-0.0270	-0.0211		
Event	85	0.0078	0.0055	0.0153	-49.54%	NA	NA	NA	NA	NA	NA	90	0.0386	0.0277	0.0172	0.0172	9.35%	NA	NA	NA	-13.44%	-0.0307	-0.0222	-0.0307		
Event + 1 Year	80	0.0037	0.0032	0.0184	-52.56%	-41.82%	-52.56%	-41.82%	-52.56%	-52.56%	-52.56%	79	0.0328	0.0271	0.0194	0.0194	-15.03%	-2.17%	-2.17%	-2.17%	-15.03%	-2.17%	-0.0292	-0.0229		
Event + 2 Year	81	0.0180	0.0000	0.0199	386.49%	-100.00%	386.49%	-100.00%	130.77%	130.77%	130.77%	81	0.0334	0.0130	0.0226	0.0226	1.83%	NA	NA	NA	-13.47%	-53.07%	-0.0154	-0.0130		
Event + 3 Year	79	0.0035	-0.0001	0.0233	-80.56%	NA	-80.56%	NA	-58.15%	-58.15%	-58.15%	86	0.0436	0.0145	0.0234	0.0234	30.54%	-6.15%	-6.15%	-6.15%	12.95%	-55.96%	-0.0401	-0.0123		
Event + 4 Year	81	0.0454	0.0055	0.0233	1197.14%	NA	1197.14%	NA	482.05%	482.05%	482.05%	88	0.0188	0.0145	0.0218	0.0218	-56.88%	NA	NA	NA	-51.30%	-47.65%	0.0266	-0.0090		
Event + 5 Year	84	0.0432	0.0007	0.0257	-4.85%	-87.27%	-4.85%	-87.27%	453.85%	453.85%	453.85%	88	0.0327	0.0147	0.0208	0.0208	73.94%	1.38%	1.38%	1.38%	-15.28%	-46.93%	0.0105	-0.0140		
Operating Margin																										
Event - 5 Year	87	-0.0124	0.1060	0.0636	NA	NA	NA	NA	-388.71%	-388.71%	-388.71%	84	0.0125	0.1354	0.0731	0.0731	NA	NA	NA	NA	620.80%	13.00%	-0.0249	-0.0294		
Event - 4 Year	89	0.0682	0.1262	0.0474	-650.00%	-19.06%	-650.00%	-19.06%	-47.51%	-47.51%	-47.51%	89	0.0415	0.1461	0.0711	0.0711	232.00%	7.90%	7.90%	7.90%	117.11%	4.72%	0.0267	-0.0199		
Event - 3 Year	85	0.0805	0.1237	0.0475	18.04%	-1.98%	18.04%	-1.98%	-55.53%	-55.53%	-55.53%	85	-0.0139	0.1464	0.0816	0.0816	-13.49%	0.21%	0.21%	0.21%	-74.80%	4.51%	0.0944	-0.0227		
Event - 2 Year	86	0.1127	0.1269	0.0427	40.00%	2.59%	40.00%	2.59%	-68.23%	-68.23%	-68.23%	85	0.0251	0.1605	0.0791	0.0791	NA	9.63%	9.63%	9.63%	258.96%	-4.67%	0.0876	-0.0336		
Event - 1 Year	86	0.0635	0.1240	0.0540	-43.66%	-2.29%	-43.66%	-2.29%	-43.62%	-43.62%	-43.62%	86	0.1240	0.1506	0.0471	0.0471	394.02%	NA	NA	NA	-27.34%	-4.14%	-0.0605	-0.0356		
Event	84	0.0358	0.1064	0.0640	-43.62%	-14.19%	-43.62%	-14.19%	NA	NA	NA	84	0.0901	0.1530	0.0458	0.0458	-27.34%	-4.14%	-4.14%	-4.14%	NA	NA	-0.0542	-0.0406		
Event + 1 Year	85	0.0236	0.1133	0.0627	-34.08%	6.48%	-34.08%	6.48%	35.08%	35.08%	35.08%	82	0.0232	0.1575	0.0714	0.0714	-74.25%	2.94%	2.94%	2.94%	-74.25%	2.94%	0.0003	-0.0442		
Event + 2 Year	85	0.0484	0.1120	0.0574	105.08%	-1.15%	105.08%	-1.15%	35.20%	35.20%	35.20%	85	-0.0091	0.1309	0.0918	0.0918	-139.22%	NA	NA	NA	-110.10%	-14.44%	0.0576	-0.0189		
Event + 3 Year	81	-0.0227	0.1055	0.0784	-146.90%	-5.80%	-146.90%	-5.80%	-163.41%	-163.41%	-163.41%	81	-0.0171	0.1235	0.0799	0.0799	87.91%	NA	NA	NA	-118.98%	-19.28%	-0.0056	-0.0180		
Event + 4 Year	81	0.0436	0.1366	0.0622	-292.07%	29.48%	-292.07%	29.48%	21.79%	21.79%	21.79%	81	-0.0483	0.1034	0.0528	0.0528	188.30%	NA	NA	NA	-154.72%	-32.42%	0.0928	0.0332		
Event + 5 Year	80	-0.0273	0.1283	0.0805	-162.61%	-6.08%	-162.61%	-6.08%	-176.26%	-176.26%	-176.26%	80	0.0061	0.0861	0.0559	0.0559	-112.37%	NA	NA	NA	-93.23%	-43.73%	-0.0334	0.0422		
Industry Adjusted																										
Revenue Growth																										
Event - 5 Year	90	0.0280	0.0093	0.0200	NA	NA	NA	NA	-72.14%	-72.14%	-72.14%	115	0.1146	0.0545	0.0377	0.0377	NA	NA	NA	NA	77.05%	-13.94%	-0.0866**	-0.0452		
Event - 4 Year	91	0.0534	0.0388	0.0252	90.71%	317.20%	NA	NA	-85.39%	-85.39%	-85.39%	115	0.1871	0.0523	0.0354	0.0354	63.26%	NA	NA	NA	8.44%	-10.33%	-0.1337**	-0.0135		
Event - 3 Year	89	0.0485	0.0189	0.0209	-9.18%	-51.29%	-9.18%	-51.29%	-83.92%	-83.92%	-83.92%	115	0.2405	0.0529	0.0614	0.0614	28.54%	1.15%	1.15%	1.15%	-15.63%	-11.34%	-0.192**	-0.0340		
Event - 2 Year	89	0.0364	0.0310	0.0174	-24.95%	-64.02%	-24.95%	-64.02%	-78.57%	-78.57%	-78.57%	115	0.1811	0.0543	0.0473	0.0473	-24.70%	2.65%	2.65%	2.65%	12.04%	-13.63%	-0.1447***	-0.0233		
Event - 1 Year	88	0.0083	0.0109	0.0146	-77.20%	-64.84%	-77.20%	-64.84%	-6.02%	-6.02%	-6.02%	115	0.1777	0.0456	0.0514	0.0514	-1.88%	NA	NA	NA	14.18%	2.85%	-0.1694***	-0.0347		
Event	85	0.0078	0.0055	0.0153	-49.54%	NA	NA	NA	NA	NA	NA	115	0.2029	0.0469	0.0594	0.0594	14.18%	2.85%	2.85%	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%	-52.56%	-52.56%	-52.56%	113	0.2529	0.0415	0.0697	0.0697	24.64%	NA	NA	NA	24.64%	-11.51%	-0.2499***	-0.0883		
Event + 2 Year	81	0.0180	0.0000	0.0199	386.49%	-100.00%	386.49%	-100.00%	130.77%	130.77%	130.77%	114	0.1797	0.0501	0.0501	0.0501	-28.94%	NA	NA	NA	-11.43%	6.82%	-0.1617***	-0.0501		
Event + 3 Year	79	0.0035	-0.0001	0.0233	-80.56%	NA	-80.56%	NA	-55.13%	-55.13%	-55.13%	114	0.2634	0.0599	0.0657	0.0657	46.58%	NA	NA	NA	29.82%	27.72%	-0.2599***	-0.0600		
Event + 4 Year	81	0.0454	0.0055	0.0233	1197.14%	NA	1197.14%	NA	482.05%	482.05%	482.05%	115	0.2379	0.0543	0.0617	0.0617	-9.68%	NA	NA	NA	17.25%	15.78%	-0.1925***	-0.0488		
Event + 5 Year	84	0.0432	0.0007	0.0257	-4.85%	-87.27%	-4.85%	-87.27%	453.85%	453.85%	453.85%	115	0.2861	0.0541	0.0680	0.0680	20.26%	NA	NA	NA	41.01%	15.35%	-0.2429***	-0.0534		
Operating Margin																										
Event - 5 Year	87	-0.0124	0.1060	0.0636	NA	NA	NA	NA	-388.71%	-388.71%	-388.71%	115	-1.7781	0.0706	0.5184	0.5184	NA	NA	NA	NA	-29.86%	50.14%	1.7657***	0.0354		
Event - 4 Year	89	0.0682	0.1262	0.0474	-650.00%	-19.06%	-650.00%	-19.06%	-47.51%	-47.51%	-47.51%	115	-1.3333	0.0620	0.4967	0.4967	-25.02%	NA	NA	NA	6.47%	70.97%	1.4015***	0.0642		
Event - 3 Year	85	0.0805	0.1237	0.0475	18.04%	-1.98%	18.04%	-1.98%	-55.53%	-55.53%	-55.53%	115	-1.2028	0.0945	0.4697	0.4697	-9.79%	NA	NA	NA	3.68%	12.17%	1.2833***	0.0292		
Event - 2 Year	86	0.1127	0.1269	0.0427	40.00%	2.59%	40.00%	2.59%	-68.23%	-68.23%	-68.23%	115	-1.5297	0.1083	0.5116	0.5116	27.18%	NA	NA	NA	-18.47%	-3.02%	1.6424***	0.0176		
Event - 1 Year	86	0.0635	0.1240	0.0540	-43.66%	-2.29%	-43.66%	-2.29%	-43.62%	-43.62%	-43.62%	115	-1.5663	0.1106	0.4992	0.4992	-2.39%	1.19%	1.19%	1.19%	-20.38%	-4.16%	1.6298***	0.0134		
Event	84	0.0358	0.1064	0.0640	-43.62%	-14.19%	-43.62%	-14.19%	NA	NA	NA	115	-1.2471	0.1060	0.4720	0.4720	-20.38%	-4.16%	-4.16%	-4.16%	NA	NA	1.2829***	0.0004		
Event + 1 Year	85	0.0236	0.1133	0.0627	-34.08%	6.48%	-34.08%	6.48%	35.08%	35.08%	35.08%	115	-1.4408	0.0848	0.4696	0.4696	15.53%	NA	NA	NA	15.53%	-20.00%	1.4644***	0.0285		
Event + 2 Year	82	0.0484	0.1120	0.0574	105.08%	-1.15%	105.08%	-1.15%	35.20%	35.20%	35.20%	115	-1.1355	0.0734	0.4069	0.4069	-21.19%	NA	NA	NA	-8.95%	-30.75%	1.1839***	0.0386		
Event + 3 Year	81	-0.0227	0.1055	0.0784	-146.90%	-5.80%	-146.90%	-5.80%	-163.41%	-163.41%	-163.41%	115	-1.1784	0.0804	0.3910	0.3910	3.78%	9.54%	9.54%	9.54%	-5.51%	-24.15%	1.1557***	0.0251		
Event + 4 Year	81	0.0436	0.1366	0.0622	-292.07%	29.48%	-292.07%	29.48%	21.79%	21.79%	21.79%	115	-0.9704	0.0869	0.3379	0.3379	-17.65%	0.62%	0.62%	0.62%	-2					

Table G.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.

Matched Firms															Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean		Event vs Year	Δ Median	Event vs Year	Δ Mean	Event vs Year	Δ Median	Event vs Year	Δ Mean	Event vs Year	Diff (Mean)	Diff (Median)
					YoY	YoY											
ROE																	
Event - 5 Year	92	-0.0850	0.0398	0.0516	NA	NA	31.66%	-53.06%	-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%	-6.09%	260.13%	-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%	-9.50%	75.62%	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%	-39.49%	-238.11%	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%	-33.50%	-201.07%	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	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%	21.8%	-91.74%	-91.74%	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%	54.39%	-77.68%	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%	-36.03%	0.0414	0.0996	0.0336	-3.11%	NA	-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%	0.0015	0.0845	0.0397	-96.38%	NA	-97.27%	-27.22%	0.0156	0.0166
Event + 5 Year	89	0.0400	0.0662	0.0350	-59.47%	-33.87%	-170.30%	-170.30%	-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	4.39%	40.00%	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%	-33.73%	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%	-7.88%	-48.27%	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%	-60.70%	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%	-48.15%	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	0.0459	0.0592	0.0160	-14.04%	NA	NA	NA	-0.0235	-0.0136
Event + 1 Year	77	0.0354	0.0417	0.0135	133.93%	-8.55%	-8.55%	133.93%	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%	6.80%	130.80%	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%	-3.13%	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%	122.77%	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%	-1.10%	-30.80%	0.0191	0.0479	0.0155	-30.55%	NA	-58.39%	-19.09%	0.0102	-0.0028
Industry Adjusted																	
	N	Mean	Median	Std. Err.	Δ Mean		Event vs Year	Δ Median	Event vs Year	Δ Mean	Event vs Year	Δ Median	Event vs Year	Δ Mean	Event vs Year	Diff (Mean)	Diff (Median)
					YoY	YoY											
ROE																	
Event - 5 Year	92	-0.0850	0.0398	0.0516	NA	NA	-33.06%	-33.06%	-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%	-6.09%	260.13%	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%	-9.50%	75.62%	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%	-39.49%	-238.11%	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%	-33.50%	-201.07%	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	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%	21.8%	-91.74%	-91.74%	0.0320	0.0208	0.0086	102.53%	6.12%	102.53%	6.12%	-0.1037***	0.0246
Event + 2 Year	84	-0.0127	0.0809	0.0478	170.21%	27.40%	-36.03%	-36.03%	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%	-36.03%	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%	0.0241	0.0232	0.0086	-33.20%	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%	-170.30%	0.0161	0.0181	0.0085	-62.20%	NA	1.90%	-7.65%	-0.0422***	0.0553
ROIC																	
Event - 5 Year	91	0.0160	0.0436	0.0154	NA	NA	4.39%	40.00%	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%	-33.73%	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%	-7.88%	-48.27%	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%	-60.70%	0.0257	0.0496	0.0140	21.25%	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%	-48.15%	0.0052	0.0413	0.0118	-79.77%	NA	348.08%	7.99%	0.038**	0.0005
Event	87	0.0224	0.0456	0.0138	-48.15%	-10.24%	NA	NA	0.0233	0.0446	0.0148	348.08%	NA	NA	NA	-0.0009	0.0010
Event + 1 Year	77	0.0354	0.0417	0.0135	133.93%	-8.55%	-8.55%	133.93%	0.0158	0.0284	0.0128	-42.92%	NA	-36.32%	0.0391**	0.0133	
Event + 2 Year	82	0.0517	0.0487	0.0129	-1.34%	16.79%	6.80%	130.80%	0.0491	0.0347	0.0175	269.17%	NA	110.73%	0.0026	0.0140	
Event + 3 Year	81	0.0231	0.0454	0.0185	-55.32%	-6.78%	3.13%	-3.13%	0.0509	0.0406	0.0159	3.67%	NA	118.45%	-8.97%	0.0048	
Event + 4 Year	81	0.0499	0.0714	0.0149	116.02%	57.27%	122.77%	122.77%	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%	-1.10%	-30.80%	0.0419	0.0483	0.0151	-40.40%	1.26%	-79.83%	8.30%	-0.0126	-0.0032

Table G.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		
textBEV / LTM EBITDA	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)		
																					Event vs Year	Event vs Year
Event - 5 Year	86	6.4012	7.6399	1.7767	NA	NA	6.51%	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%	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%	-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	9.6548	1.8340	44.21%	8.71%	-51.52%	-23.79%	-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%	-32.81%	-12.54%	79	9.1291	7.5181	1.3077	-9.4%	-3.18%	-21.19%	-0.41%	1.0176	0.8932			
Event	80	6.8178	7.3568	1.9528	-32.81%	-12.54%	NA	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%	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%	-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%	-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%	-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%	8.68%	76	3.7886	6.6854	1.6336	-50.43%	-8.87%	-47.34%	-10.71%	3.7465	1.3098			

Industry Adjusted															Differences between Target Firms and Industry					
EV / LTM EBITDA	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)
Event - 5 Year	86	6.4012	7.6399	1.7767	NA	NA	6.51%	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%	3.03%	2.83%	115	6.5491	7.0138	0.8877	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%	-17.15%	115	6.3998	7.0258	0.8988	-2.28%	0.17%	-0.04%	0.20%	0.5593**	0.3734	
Event - 2 Year	83	14.0626	9.6548	1.8340	44.21%	8.71%	-51.52%	-23.79%	-23.79%	115	6.2856	6.9458	0.9906	-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%	-32.81%	-12.54%	115	6.3030	7.0355	0.9949	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	NA	115	6.3972	7.0397	0.9934	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%	51.46%	29.98%	115	6.1662	6.7689	0.9917	-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%	-13.02%	115	5.9542	6.6791	0.8986	-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%	-11.48%	115	5.8874	6.6527	0.9912	-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%	-6.61%	115	5.8200	6.6263	0.9912	-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%	8.68%	115	5.8784	6.5416	0.9901	1.00%	-1.28%	-8.11%	-7.08%	0.5143**	0.2794	

Table G.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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ 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	83	0.2809	0.1645	0.0365	17.29%	16.42%	-5.95%	-5.53%	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%	1.58%	-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%	0.0175	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%	-25.35%	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%	6.40%	-0.0546	-0.0487							
Cash / Assets																									
Event - 5 Year	93	0.1647	0.0826	0.0212	NA	NA	-2.00%	-5.23%	91	0.1780	0.0842	0.0231	NA	NA	-10.96%	21.75%	-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%	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%	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%	21.45%	-0.0667	-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	-0.0297							
Event + 1 Year	90	0.1557	0.0656	0.0217	-3.53%	-13.46%	-5.93%	-13.46%	89	0.1725	0.0741	0.0227	-8.33%	NA	8.83%	-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%	-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%	-0.0113	-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%	-0.0086	-0.0359								
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%	-0.4298**	-0.2378							
Event - 4 Year	93	0.2809	0.1645	0.0365	17.29%	16.42%	-5.95%	-5.53%	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%	-0.4065***	-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%	-25.35%	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	9.27%	NA	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%	-0.4353***	-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	0.5982	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%	-5.23%	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	0.1328	0.0146	1.62%	NA	3.98%	2.02%	-0.401*	-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%	0.065**	-0.065***								
Event + 1 Year	90	0.1557	0.0656	0.0217	-3.53%	-13.46%	-5.93%	-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%	-0.0607	-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%	2.78%	-0.0182	-0.0657								
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	-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 G.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.

Debt / EBITDA	Target Firms													Matched Firms													Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	Event vs Year			N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	Event vs Year			Diff (Mean)	Diff (Median)							
								Δ Mean	Event vs Year	Δ Median								Event vs Year	Δ Mean	Event vs Year			Δ Median	Event vs Year					
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	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%	NA	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%	NA	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	-4.35%	0.00%	NA	12.48%	NA	0.0609	0.0000										
Event - 1 Year	115	0.0383	0.0020	0.0046	NA	NA	47.26%	NA	115	0.0384	0.0037	0.0048	NA	NA	NA	18.23%	483.78%	-0.0001	-0.0017										
Event + 1 Year	115	0.0409	0.0217	0.0045	6.79%	0.0045	37.90%	115.21%	115	0.0391	0.0055	0.0046	1.82%	NA	NA	16.11%	292.73%	0.0017	0.0162										
Event + 2 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	NA	-0.87%	204.23%	-0.0016	0.0299										
Event + 3 Year	115	0.0489	0.0389	0.0049	10.63%	1.43%	15.34%	20.65%	115	0.0457	0.0079	0.0053	-0.22%	11.27%	NA	-0.66%	173.42%	0.0032	0.0310										
Event + 4 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	NA	-1.30%	25.58%	0.0072	0.0190										
Event + 5 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	NA	0.0111	0.0251										
Leverage (net)	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	NA	-12.56%	-57.87%	0.0105	0.0134										
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	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	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	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%	NA	46.91%	-1.22%	0.3355	0.1230										
Event - 1 Year	91	0.7886	0.2352	0.1765	-6.82%	-6.82%	-3.36%	34.65%	92	0.6227	0.1513	0.1492	21.91%	NA	NA	20.51%	-30.27%	0.1659	0.0839										
Event + 1 Year	91	0.7621	0.3167	0.1688	-3.36%	34.65%	NA	NA	93	0.7504	0.1055	0.1645	-20.46%	6.64%	NA	NA	0.0117	0.2112											
Event + 2 Year	85	0.7271	0.3795	0.1719	-4.59%	-50.14%	-4.59%	19.83%	87	0.5969	0.1125	0.1539	-20.46%	6.64%	NA	-20.46%	6.64%	0.1302	0.2670										
Event + 3 Year	89	0.6703	0.1892	0.1759	-7.81%	-50.14%	-12.05%	-40.26%	85	0.5458	0.0815	0.1370	-8.96%	NA	NA	-27.27%	-22.75%	0.1245	0.1077										
Event + 4 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	NA	-33.22%	-73.08%	-0.1030	0.0551										
Event + 5 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	NA	-68.72%	-74.79%	-0.0672	0.0227										
	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	NA	-57.32%	-113.36%	-0.0989	0.0917										

Debt / EBITDA	Target Firms													Industry Adjusted													Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	Event vs Year			N	Mean	Median	Std. Err.	Δ Mean	YoY	Δ Median	Event vs Year			Diff (Mean)	Diff (Median)							
								Δ Mean	Event vs Year	Δ Median								Event vs Year	Δ Mean	Event vs Year			Δ Median	Event vs Year					
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	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	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	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	NA	7.29%	-13.96%	2.0334***	0.5979										
Event - 1 Year	115	0.0383	0.0020	0.0046	NA	NA	47.26%	NA	115	1.8311	1.2970	0.3536	-19.09%	NA	NA	32.61%	14.66%	1.8904***	0.5258										
Event + 1 Year	115	0.0489	0.0217	0.0045	6.79%	985.00%	37.90%	115.21%	115	2.4282	1.4872	0.4054	32.61%	NA	NA	NA	NA	0.5487	0.1089										
Event + 2 Year	115	0.0442	0.0370	0.0044	8.07%	70.51%	27.60%	26.22%	115	2.0652	1.1517	0.4084	-6.71%	NA	NA	-6.71%	-22.56%	0.9492	0.4618										
Event + 3 Year	115	0.0532	0.0362	0.0055	5.14%	-50.14%	15.34%	20.05%	115	2.2632	1.3107	0.3827	-9.36%	13.81%	NA	-15.44%	-11.87%	-0.1366	-0.1622										
Event + 4 Year	115	0.0564	0.0467	0.0057	6.02%	-6.94%	6.02%	29.01%	115	1.5765	1.1601	0.3740	-23.22%	NA	NA	-35.08%	-21.99%	0.5964	-0.1327										
Event + 5 Year	115	0.0501	0.0225	0.0054	-11.17%	-51.82%	-11.17%	-51.82%	115	1.8672	1.5219	0.3732	18.44%	31.19%	NA	23.10%	2.33%	0.3329	-0.5244										
Leverage (net)	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%	NA	-7.28%	-2.29%	0.0173	-0.0037										
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	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	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	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	NA	45.83%	54.10%	0.2919	-0.0301										
Event - 1 Year	91	0.7886	0.2352	0.1765	-6.82%	-6.82%	-3.36%	34.65%	115	0.6968	0.3554	0.1444	25.69%	NA	NA	16.03%	12.69%	0.0918	-0.1202										
Event + 1 Year	91	0.7621	0.3167	0.1688	-3.36%	34.65%	NA	NA	115	0.8085	0.4005	0.1541	16.03%	NA	NA	-28.29%	-52.16%	-0.0464	-0.0838										
Event + 2 Year	85	0.7271	0.3795	0.1719	-4.59%	-50.14%	-4.59%	19.83%	115	0.5798	0.1916	0.1661	-28.29%	NA	NA	-4.61%	-5.02%	-0.1009	-0.1912										
Event + 3 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	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	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	NA	-46.70%	-67.04%	-0.2994	-0.0544										

Table G.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 its 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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)					
Capital Expenditures	84	0.0158	0.0082	0.0021	NA	NA	-19.62%	-32.03%	76	0.0204	0.0106	0.0027	NA	NA	-31.86%	-35.85%	-0.0045	-0.0024					
Event - 5 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 - 4 Year	81	0.0128	0.0067	0.0017	-21.95%	6.35%	-0.78%	-17.91%	76	0.0167	0.0082	0.0023	11.35%	3.80%	-16.77%	-17.07%	-0.0038	-0.0015					
Event - 3 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 - 2 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 - 1 Year	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	-3.57%	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.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)					
Capital Expenditures	84	0.0158	0.0082	0.0021	NA	NA	-19.62%	-32.03%	113	2.1306	0.9831	0.2345	#VALUE!	NA	#VALUE!	#VALUE!	-0.0003	-0.0054					
Event - 5 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 - 4 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 - 3 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 - 2 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 - 1 Year	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%	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	-11.63%	-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%	-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%	0.0015	-0.0062						

Table G.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 its 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																					
Event - Year	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	YoY	YoY	Δ Mean	Δ Median	Event vs Year	Δ Median	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	YoY	YoY	Δ Mean	Δ Median	Event vs Year	Δ Median	Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	YoY	YoY	Δ Mean	Δ Median	Event vs Year	Δ Median	Event vs Year	Diff (Mean)	Diff (Median)						
																																										Event vs Year	Event vs Year	Event vs Year	Event vs Year	Event vs Year	Event vs Year
Dividend Yield																																															
Event - 5 Year	82	2.0066	0.1700	0.3396	NA	NA	NA	11.64%	611.76%	83	2.1089	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%	NA	10.31%	505.00%	85	2.4173	0.8200	0.3380	NA	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%	31.52%	86	1.9733	0.6400	0.2980	NA	NA	16.27%	25.78%	0.1072	0.2800																												
Event - 2 Year	84	2.0815	0.8150	0.3279	0.04%	-11.41%	7.63%	48.47%	48.47%	85	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%	NA	53.16%	85	2.4555	1.3000	0.3250	NA	NA	-6.56%	-38.08%	-0.4132	-0.5100																												
Event + 1 Year	83	2.2402	1.2100	0.3150	9.69%	53.16%	NA	16.19%	32.23%	82	2.2944	0.8050	0.3279	NA	NA	NA	NA	-0.0542	0.4050																												
Event + 2 Year	83	2.6028	1.6000	0.3379	16.19%	32.23%	NA	12.19%	22.73%	82	2.4180	0.9500	0.3214	5.39%	18.01%	5.39%	18.01%	0.1847	0.6500																												
Event + 3 Year	76	2.3132	1.4850	0.3565	-3.44%	-7.19%	NA	-2.09%	-97.52%	75	2.2843	1.4700	0.3632	15.15%	NA	21.35%	82.61%	-0.2711	0.0150																												
Event + 4 Year	77	2.1934	0.0300	0.3459	-12.72%	-97.98%	NA	-2.09%	-97.52%	77	2.3455	1.1600	0.3370	NA	NA	2.23%	44.10%	-0.1521	-1.1300																												
Event + 5 Year	76	2.2342	0.0200	0.3635	1.86%	-33.33%	NA	-0.27%	-98.35%	75	2.2228	0.7900	0.3268	-5.23%	NA	-3.12%	-1.86%	0.0114	-0.7700																												
	72	2.1267	0.6200	0.3474	-4.81%	NA##	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	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	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	NA	109	0.0050	0.0000	0.0013	47.06%	NA	98.00%	NA	-0.0005	0.0000																												
Event - 2 Year	112	0.0046	0.0000	0.0012	2.22%	NA	4.35%	NA	NA	107	0.0048	0.0000	0.0012	-4.00%	NA	106.25%	NA	-0.0002	0.0000																												
Event - 1 Year	113	0.0045	0.0000	0.0010	-2.17%	NA	6.67%	NA	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	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	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	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	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	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	NA	109	0.0036	0.0000	0.0010	2.86%	NA	-63.64%	NA	-0.0008	0.0000																												
Dividend Yield																																															
Event - 5 Year	82	2.0066	0.1700	0.3396	NA	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%	NA	10.31%	505.00%	115	0.0056	0.0000	0.0007	3.67%	NA	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%	31.52%	115	0.0060	0.0008	0.0007	6.42%	NA	16689.29%	7148.85%	-0.27	-0.0296																												
Event - 2 Year	84	2.0815	0.8150	0.3279	0.04%	-11.41%	7.63%	48.47%	48.47%	115	0.0067	0.0037	0.0007	3.96%	NA	16190.67%	7547.41%	-0.3623	-0.2174																												
Event - 1 Year	82	2.0423	0.7900	0.3176	-1.87%	-3.07%	9.69%	NA	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	16.19%	32.23%	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%	NA	12.19%	22.73%	115	0.0080	0.0058	0.0008	-5.89%	NA	10.12%	55.83%	0.1704	0.1170																												
Event + 2 Year	76	2.3132	1.4850	0.3565	-3.44%	-7.19%	NA	-2.09%	-97.52%	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%	NA	-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%	NA	-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	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	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	NA	115	0.4245	0.4231	0.0106	1.82%	NA	-90.74%	-100.00%	-0.0024**	0.0000																												
Event - 3 Year	112	0.0045	0.0000	0.0012	40.63%	NA	6.67%	NA	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	NA	115	0.4378	0.4280	0.0121	11.67%	NA	-99.48%	-99.48%	-0.0021	-0.0037																												
Event - 1 Year	111	0.0048	0.0000	0.0012	6.67%	NA	6.67%	NA	NA	115	0.4202	0.4125	0.0108	11.94%	NA	-99.57%	-99.43%	-0.0048	-0.0048																												
Event	112	0.0048	0.0000	0.0012	6.67%	NA	6.67%	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	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	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	NA	115	0.4332	0.4323	0.0105	-1.49%	NA	-100.00%	-100.00%	-0.0016	0.0000																												
Event + 4 Year	107	0.0045	0.0000	0.0012	-10.00%	NA	-6.25%	NA	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	NA	115	0.4395	0.4337	0.0106	-7.14%	NA	-35.00%	-100.00%	-0.0024**	0.0000																												

Table G.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 its 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.	Δ Mean	Δ Median	Δ Event vs Year	YoY	Δ Median	YoY	Δ Mean	Δ Median	Δ Event vs Year	Event vs Year	Δ 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%	0.00%	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	NA	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%	0.00%	0.4364	0.0000	0.0675	NA	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%	0.00%	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%	0.00%	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	NA	0.4464	0.0000	0.0670	11.60%	NA	NA	0.0974	1.0000	0.0000			
Event + 1 Year	56	0.3750	0.0000	0.0653	-31.05%	-100.00%	-31.05%	-100.00%	-100.00%	0.3878	0.0000	0.0708	-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%	0.00%	0.4038	0.0000	0.0687	4.13%	NA	9.34%	NA	0.1433	1.0000			
Event + 3 Year	50	0.3200	0.0000	0.0666	-41.52%	-100.00%	-41.17%	-100.00%	-100.00%	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%	0.00%	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%	-100.00%	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	NA	0.2896	0.0000	0.0416	NA	NA	22.85%	NA	-0.0348	0.0000			
Event - 4 Year	115	0.2783	0.0000	0.0420	18.53%	NA	28.10%	NA	NA	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	NA	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	NA	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	NA	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	NA	0.3304	0.0000	0.0441	5.56%	NA	NA	0.0261	0.0000	0.0000			
Event + 1 Year	115	0.2957	0.0000	0.0427	-17.05%	NA	-17.05%	NA	NA	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	NA	0.2896	0.0000	0.0416	21.01%	NA	-18.40%	NA	-0.0348	0.0000			
Event + 3 Year	115	0.1652	0.0000	0.0348	-29.64%	NA	-53.66%	NA	NA	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	NA	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	NA	0.1652	0.0000	0.0348	0.00%	NA	-50.00%	NA	-0.0087	0.0000			
Industry Adjusted																					
EPS Estimate Miss																					
Event - 5 Year	58	0.5345	1.0000	0.0661	NA	NA	1.76%	0.00%	0.00%	0.2525	0.2502	0.0155	NA#	NA	5393.75%	7377.59%	0.9563	0.9563			
Event - 4 Year	58	0.4310	0.0000	0.0656	-19.36%	-100.00%	26.19%	NA	NA	0.2767	0.3060	0.0156	-3.41%	NA	5342.31%	11084.21%	0.0065	-0.4231			
Event - 3 Year	57	0.5439	1.0000	0.0666	26.19%	NA	0.00%	0.00%	0.00%	0.2824	0.3071	0.0160	2.17%	NA	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%	0.00%	0.2765	0.2912	0.0152	1.06%	NA	7717.86%	NA	0.0805*	0.5720			
Event - 1 Year	58	0.5690	1.0000	0.0656	7.91%	0.00%	-4.41%	0.00%	0.00%	0.2894	0.2767	0.0152	-4.02%	NA	7980.77%	NA	0.1488**	0.3875			
Event	57	0.5439	1.0000	0.0666	-4.41%	0.00%	NA	NA	NA	0.2977	0.3126	0.0153	-2.48%	NA	-6.76%	NA	0.1341***	0.6004			
Event + 1 Year	56	0.3750	0.0000	0.0653	-31.05%	-100.00%	-31.05%	-100.00%	-100.00%	0.2832	0.2908	0.0167	2.54%	NA	-3.23%	-7.86%	0.1415	0.6004			
Event + 2 Year	53	0.5472	1.0000	0.0690	45.92%	NA	0.61%	0.00%	0.00%	0.2638	0.2698	0.0176	4.19%	NA	1.06%	-1.01%	-0.452	-0.4125			
Event + 3 Year	50	0.3200	0.0000	0.0666	-41.52%	-100.00%	-41.17%	-100.00%	-100.00%	0.4815	0.0000	0.0686	-19.36%	NA	1.06%	1.06%	0.1094**	0.5720			
Event + 4 Year	50	0.5400	1.0000	0.0712	68.75%	NA	-0.72%	0.00%	0.00%	0.2137	0.2221	0.0171	-1.05%	NA	-1.05%	1.00%	-0.1322**	-0.4323			
Event + 5 Year	45	0.4667	0.0000	0.0752	-13.57%	-100.00%	-14.19%	-100.00%	-100.00%	0.2911	0.1797	0.0163	3.53%	NA	7.25%	8.53%	0.1155**	0.5769			
Analyst Sell Recommendation																					
Event - 5 Year	115	0.2348	0.0000	0.0397	NA	NA	51.83%	NA	NA	0.1171	0.1073	0.0103	-42.55%	NA	-39.91%	NA	-0.0177	-0.2502			
Event - 4 Year	115	0.2783	0.0000	0.0420	18.53%	NA	28.10%	NA	NA	0.1180	0.0938	0.0106	9.58%	NA	-36.50%	NA	0.0016	-0.3060			
Event - 3 Year	115	0.2783	0.0000	0.0420	0.00%	NA	28.10%	NA	NA	0.1221	0.1013	0.0111	2.06%	NA	-34.81%	NA	-0.0041	-0.3071			
Event - 2 Year	115	0.2696	0.0000	0.0416	-3.13%	NA	32.23%	NA	NA	0.1251	0.1007	0.0114	-2.09%	NA	-34.86%	NA	-0.0069	-0.2912			
Event - 1 Year	115	0.3565	0.0000	0.0449	32.23%	NA	0.00%	NA	NA	0.1275	0.0975	0.0120	4.67%	NA	-34.15%	NA	0.0671	-0.2767			
Event	115	0.3565	0.0000	0.0449	0.00%	NA	NA	NA	NA	0.1267	0.0835	0.0124	2.87%	NA	17.90%	NA	0.0588	-0.3208			
Event + 1 Year	115	0.2957	0.0000	0.0427	-17.05%	NA	-17.05%	NA	NA	0.1193	0.0835	0.0119	-4.87%	NA	2.35%	NA	0.0125	-0.2908			
Event + 2 Year	115	0.2348	0.0000	0.0397	-20.60%	NA	-34.14%	NA	NA	0.1096	0.0837	0.0108	-6.85%	NA	-6.59%	NA	-0.029	-0.2698			
Event + 3 Year	115	0.1652	0.0000	0.0348	-29.64%	NA	-53.66%	NA	NA	0.0998	0.0800	0.0095	-12.77%	NA	-12.15%	NA	-0.0649*	-0.2221			
Event + 4 Year	115	0.1478	0.0000	0.0332	-10.53%	NA	-58.54%	NA	NA	0.1049	0.0905	0.0104	-7.13%	NA	-26.16%	NA	-0.0659*	-0.2000			
Event + 5 Year	115	0.1565	0.0000	0.0340	5.89%	NA	-56.10%	NA	NA	0.1018	0.0703	0.0102	-4.49%	NA	-31.44%	NA	-0.0476	-0.1797			

Table G.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.

Matched Firms															Differences between Target and Match								
	N	Mean	Median	Std. Err.	Target Firms			Industry Adjusted			Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)	
					Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean YoY	Δ Median YoY													Δ Mean Event vs Year
Multiple Segments																							
Event - 5 Year	115	0.1565	0.0000	0.0340	NA	11.12%	NA	NA	NA	NA	115	0.1043	0.0000	0.0286	NA	NA	NA	33.37%	NA	0.0522	0.0000		
Event - 4 Year	115	0.1478	0.0000	0.0332	-5.56%	17.66%	NA	NA	NA	NA	115	0.1043	0.0000	0.0286	0.00%	NA	NA	33.37%	NA	0.0435	0.0000		
Event - 3 Year	115	0.1565	0.0000	0.0340	5.89%	11.12%	NA	NA	NA	NA	115	0.1043	0.0000	0.0286	0.00%	NA	NA	33.37%	NA	0.0522	0.0000		
Event - 2 Year	115	0.1565	0.0000	0.0340	0.00%	11.12%	NA	NA	NA	NA	115	0.1130	0.0000	0.0297	8.34%	NA	NA	23.10%	NA	0.0435	0.0000		
Event - 1 Year	115	0.1739	0.0000	0.0355	11.12%	0.00%	NA	NA	NA	NA	115	0.1217	0.0000	0.0306	7.70%	NA	NA	14.30%	NA	0.0522	0.0000		
Event	115	0.1739	0.0000	0.0355	0.00%	NA	NA	NA	NA	NA	115	0.1391	0.0000	0.0324	14.30%	NA	NA	0.00%	NA	0.0348	0.0000		
Event + 1 Year	115	0.1565	0.0000	0.0340	-10.01%	-10.01%	NA	NA	NA	NA	115	0.1391	0.0000	0.0324	0.00%	NA	NA	0.00%	NA	0.0174	0.0000		
Event + 2 Year	115	0.1130	0.0000	0.0297	-27.80%	-35.02%	NA	NA	NA	NA	115	0.1130	0.0000	0.0297	-18.76%	NA	NA	-18.76%	NA	0.0000	0.0000		
Event + 3 Year	115	0.0870	0.0000	0.0264	-25.01%	-49.97%	NA	NA	NA	NA	115	0.0696	0.0000	0.0275	-15.31%	NA	NA	-31.20%	NA	-0.0087	0.0000		
Event + 4 Year	115	0.0870	0.0000	0.0264	0.00%	-49.97%	NA	NA	NA	NA	115	0.0696	0.0000	0.0275	-27.27%	NA	NA	-49.96%	NA	0.0174	0.0000		
Event + 5 Year	115	0.1130	0.0000	0.0297	29.89%	-35.02%	NA	NA	NA	NA	115	0.0783	0.0000	0.0252	12.50%	NA	NA	-43.71%	NA	0.0348	0.0000		
Herfindahl-Hirschman Index																							
Event - 5 Year	115	0.1285	0.0528	0.0210	NA	50.58%	-4.36%	NA	NA	NA	115	0.1705	0.0549	0.0272	NA	NA	NA	13.49%	-8.01%	-0.0419	-0.0021		
Event - 4 Year	115	0.1269	0.0560	0.0203	-1.25%	52.48%	-9.82%	NA	NA	NA	115	0.1397	0.0528	0.0232	-18.06%	NA	NA	38.51%	-4.36%	-0.0129	0.0032		
Event - 3 Year	115	0.1475	0.0526	0.0236	16.23%	-6.07%	-3.99%	NA	NA	NA	115	0.1563	0.0520	0.0248	11.88%	-1.52%	NA	23.80%	-2.88%	-0.0088	0.0006		
Event - 2 Year	115	0.1505	0.0503	0.0241	2.03%	-4.37%	0.40%	NA	NA	NA	115	0.1731	0.0526	0.0270	10.75%	1.15%	NA	11.79%	-3.99%	-0.0226	-0.0023		
Event - 1 Year	115	0.1637	0.0504	0.0268	10.10%	0.20%	0.20%	NA	NA	NA	115	0.1630	0.0499	0.0268	-5.83%	-1.93%	NA	18.71%	1.20%	0.0027	0.0005		
Event	115	0.1935	0.0505	0.0307	16.78%	0.20%	NA	NA	NA	NA	115	0.1935	0.0505	0.0307	18.71%	1.20%	NA	NA	NA	0.0000	0.0000		
Event + 1 Year	115	0.1937	0.0531	0.0303	0.10%	5.15%	5.15%	NA	NA	NA	115	0.1870	0.0520	0.0300	-3.36%	2.97%	NA	-3.36%	0.0067	0.0011			
Event + 2 Year	115	0.1567	0.0531	0.0257	-19.10%	0.00%	-19.02%	NA	NA	NA	115	0.1904	0.0537	0.0295	1.82%	3.27%	NA	-1.60%	-0.0338	-0.0006			
Event + 3 Year	115	0.1425	0.0545	0.0236	-9.06%	2.64%	-26.36%	NA	NA	NA	115	0.1732	0.0528	0.0283	-9.03%	-1.68%	NA	-10.49%	4.55%	-0.0307	0.0017		
Event + 4 Year	115	0.1595	0.0554	0.0261	11.93%	1.65%	9.70%	NA	NA	NA	115	0.1909	0.0550	0.0286	10.22%	4.17%	NA	-10.49%	8.91%	-0.0314	0.0004		
Event + 5 Year	115	0.1440	0.0572	0.0226	-9.72%	3.25%	-25.58%	NA	NA	NA	115	0.1712	0.0549	0.0254	-10.32%	-0.18%	NA	-11.52%	-0.0271	-0.0023			
Target Firms																							
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Δ Mean Event vs Year	Δ 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	NA	NA	115	0.1540	0.0578	0.0237	-42.63%	NA	NA	-58.65%	-63.10%	0.0394	-0.1073		
Event - 4 Year	115	0.1478	0.0000	0.0332	-5.56%	0.0332	17.66%	NA	NA	NA	115	0.1518	0.0567	0.0236	0.77%	NA	NA	-55.27%	-65.23%	0.0298	-0.0938		
Event - 3 Year	115	0.1565	0.0000	0.0340	5.89%	0.00%	11.12%	NA	NA	NA	115	0.1486	0.0578	0.0232	3.47%	8.00%	NA	-46.94%	-54.39%	0.0344	-0.1013		
Event - 2 Year	115	0.1565	0.0000	0.0340	0.00%	NA	11.12%	NA	NA	NA	115	0.1646	0.0577	0.0252	2.46%	NA	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	NA	NA	115	0.1969	0.0548	0.0285	1.92%	-3.18%	NA	-37.53%	-45.74%	0.0464	-0.0975		
Event	115	0.1739	0.0000	0.0355	0.00%	NA	NA	NA	NA	NA	115	0.1796	0.0526	0.0277	-0.63%	0.00%	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	NA	NA	115	0.1969	0.0548	0.0285	-5.84%	0.00%	NA	1.10%	-10.98%	0.0372	-0.0835		
Event + 2 Year	115	0.1130	0.0000	0.0297	-27.80%	-35.02%	-35.02%	NA	NA	NA	115	0.1646	0.0577	0.0252	-8.13%	0.24%	NA	-10.24%	-17.37%	0.0034	-0.0837		
Event + 3 Year	115	0.0870	0.0000	0.0264	-23.01%	NA	-49.97%	NA	NA	NA	115	0.1486	0.0578	0.0232	-8.94%	NA	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	NA	NA	115	0.1518	0.0567	0.0236	5.11%	13.13%	NA	-17.73%	-7.18%	-0.0179	-0.0905		
Event + 5 Year	115	0.1130	0.0000	0.0297	29.89%	NA	-35.02%	NA	NA	NA	115	0.1540	0.0578	0.0237	-2.96%	NA	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%	NA	NA	115	0.0144	0.0103	0.0013	51.28%	NA	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%	NA	NA	115	0.0166	0.0124	0.0014	-1.43%	-1.90%	NA	38.50%	-32.26%	-0.0249	-0.0007		
Event - 3 Year	115	0.1475	0.0526	0.0236	16.23%	-6.07%	-3.99%	NA	NA	NA	115	0.0152	0.0109	0.0012	-2.11%	1.94%	NA	48.90%	-27.75%	-0.0052	-0.0011		
Event - 2 Year	115	0.1505	0.0503	0.0241	2.03%	-4.37%	0.40%	NA	NA	NA	115	0.0176	0.0154	0.0013	-0.17%	-0.17%	NA	56.91%	-36.24%	-0.0141	-0.0074		
Event - 1 Year	115	0.1637	0.0504	0.0268	10.10%	0.20%	0.20%	NA	NA	NA	115	0.0161	0.0117	0.0013	19.62%	NA	NA	93.42%	-22.05%	-0.0312	-0.0044		
Event	115	0.1935	0.0505	0.0307	16.78%	0.20%	NA	NA	NA	NA	115	0.0193	0.0160	0.0014	-7.79%	-4.01%	NA	16.62%	-9.00%	0.0139	-0.0021		
Event + 1 Year	115	0.1937	0.0531	0.0303	0.10%	5.15%	5.15%	NA	NA	NA	115	0.0178	0.0150	0.0013	5.84%	4.18%	NA	29.71%	-3.35%	0.0017	-0.0017		
Event + 2 Year	115	0.1567	0.0531	0.0257	-19.10%	0.00%	-19.02%	NA	NA	NA	115	0.0157	0.0111	0.0014	-16.40%	5.29%	NA	10.77%	-0.0079	-0.0046			
Event + 3 Year	115	0.1425	0.0545	0.0236	-9.06%	2.64%	-26.36%	NA	NA	NA	115	0.0156	0.0110	0.0014	-9.72%	0.17%	NA	-9.72%	-0.0061	-0.0033			
Event + 4 Year	115	0.1595	0.0554	0.0261	11.93%	1.65%	9.70%	NA	NA	NA	115	0.0123	0.0066	0.0013	2.15%	-1.90%	NA	-22.91%	3.47%	0.0077	-0.0013		
Event + 5 Year	115	0.1440	0.0572	0.0226	-9.72%	3.25%	-25.58%	NA	NA	NA	115	0.0135	0.0094	0.0013	1.45%	1.94%	NA	-14.25%	9.89%	-0.0101	-0.0006		

Table G.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 its 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.

13D Filing	Target Firms										Matched Firms										Differences between Target and Match		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)					
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					

13D Filing	Target Firms										Industry Adjusted										Differences between Target Firms and Industry		
	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	N	Mean	Median	Std. Err.	Δ Mean YoY	Δ Median YoY	Δ Mean Event vs Year	Δ Median Event vs Year	Diff (Mean)	Diff (Median)					
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	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	7.23%	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%	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%	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%	0.0126	-0.0094						

Table G.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 event 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.	Δ Mean	Δ Median	Δ Event vs Year	N	Mean	Median	Std. Err.	Δ Mean	Δ Median	Δ Event vs Year	Δ Mean	Δ Median	Δ Event vs Year	Diff (Mean)	Diff (Median)
Classified Board																			
Event - 5 Year	115	0.0957	0.0000	0.0275	NA	NA	445.14%	NA	0.0870	0.0000	0.0264	NA	NA	19.89%	NA	0.0087	0.0000	0.0000	
Event - 4 Year	115	0.1043	0.0000	0.0286	8.99%	NA	400.19%	NA	0.1043	0.0000	0.0286	19.89%	NA	0.00%	NA	0.0000	0.0000	0.0000	
Event - 3 Year	115	0.1130	0.0000	0.0297	8.34%	NA	361.68%	NA	0.0957	0.0000	0.0275	-8.25%	NA	8.99%	NA	0.0174	0.0000	0.0000	
Event - 2 Year	115	0.1217	0.0000	0.0306	7.70%	NA	328.68%	NA	0.0957	0.0000	0.0275	0.00%	NA	8.99%	NA	0.0261	0.0000	0.0000	
Event - 1 Year	115	0.1130	0.0000	0.0297	-7.15%	NA	361.68%	NA	0.1043	0.0000	0.0286	8.99%	NA	0.00%	NA	0.0087	0.0000	0.0000	
Event + 1 Year	115	0.1217	0.0000	0.0306	-76.67%	-100.00%	-76.67%	-100.00%	0.1043	0.0000	0.0286	8.99%	NA	0.00%	NA	0.4174***	1.0000	0.0000	
Event + 2 Year	115	0.0696	0.0000	0.0238	-42.81%	NA	-86.66%	-100.00%	0.0783	0.0000	0.0252	-24.93%	NA	-24.93%	NA	0.0435	0.0000	0.0000	
Event + 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	-86.66%	-100.00%	0.0699	0.0000	0.0224	-11.11%	NA	-33.27%	NA	0.0000	0.0000	0.0000	
Event + 4 Year	115	0.0609	0.0000	0.0224	-12.50%	NA	-88.33%	-100.00%	0.0435	0.0000	0.0191	-28.57%	NA	-58.28%	NA	0.0174	0.0000	0.0000	
Event + 5 Year	115	0.0348	0.0000	0.0172	-42.86%	NA	-93.33%	-100.00%	0.0435	0.0000	0.0191	0.00%	NA	-58.28%	NA	-0.0087	0.0000	0.0000	
Poison Pill																			
Event - 5 Year	115	0.0609	0.0000	0.0224	NA	NA	114.12%	NA	0.0609	0.0000	0.0224	NA	NA	57.14%	NA	0.0000	0.0000	0.0000	
Event - 4 Year	115	0.0696	0.0000	0.0238	14.29%	NA	87.36%	NA	0.1130	0.0000	0.0297	88.55%	NA	-15.31%	NA	-0.0435	0.0000	0.0000	
Event - 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	87.36%	NA	0.1043	0.0000	0.0286	-7.70%	NA	-8.25%	NA	-0.0248	0.0000	0.0000	
Event - 2 Year	115	0.0783	0.0000	0.0252	12.50%	NA	66.54%	NA	0.0957	0.0000	0.0275	-8.25%	NA	0.00%	NA	-0.0174	0.0000	0.0000	
Event - 1 Year	115	0.1043	0.0000	0.0286	33.21%	NA	25.02%	NA	0.1043	0.0000	0.0286	8.99%	NA	-8.25%	NA	0.0000	0.0000	0.0000	
Event + 1 Year	115	0.1304	0.0000	0.0315	25.02%	NA	NA	NA	0.0957	0.0000	0.0275	-8.25%	NA	0.00%	NA	0.0348	0.0000	0.0000	
Event + 2 Year	115	0.1478	0.0000	0.0332	13.34%	NA	13.34%	NA	0.0957	0.0000	0.0275	0.00%	NA	0.00%	NA	0.0522	0.0000	0.0000	
Event + 3 Year	115	0.1217	0.0000	0.0306	-17.66%	NA	-6.67%	NA	0.0783	0.0000	0.0252	-18.18%	NA	-18.18%	NA	0.0435	0.0000	0.0000	
Event + 4 Year	115	0.0870	0.0000	0.0264	-28.51%	NA	-33.28%	NA	0.0609	0.0000	0.0224	-22.22%	NA	-36.36%	NA	0.0261	0.0000	0.0000	
Event + 5 Year	115	0.0435	0.0000	0.0212	19.89%	NA	-20.02%	NA	0.0174	0.0000	0.0122	-71.43%	NA	-81.82%	NA	0.0870***	0.0000	0.0000	
Event + 5 Year	115	0.0783	0.0000	0.0252	-24.93%	NA	-39.95%	NA	0.0348	0.0000	0.0172	100.00%	NA	-63.64%	NA	0.0435	0.0000	0.0000	
Industry Adjusted																			
Event - 5 Year	115	0.0957	0.0000	0.0275	NA	NA	445.14%	NA	0.1011	0.0857	0.0086	648.89%	NA	467.98%	NA	-0.0054	-0.0857	-0.0857	
Event - 4 Year	115	0.1043	0.0000	0.0286	8.99%	NA	400.19%	NA	0.1023	0.0766	0.0089	1.19%	NA	551.59%	NA	0.002	-0.0766	-0.0766	
Event - 3 Year	115	0.1130	0.0000	0.0297	8.34%	NA	361.68%	NA	0.1066	0.0771	0.0093	4.20%	NA	583.33%	NA	0.0064	-0.0771	-0.0771	
Event - 2 Year	115	0.1217	0.0000	0.0306	7.70%	NA	328.68%	NA	0.1085	0.0771	0.0092	1.78%	NA	782.11%	NA	0.0132	-0.0771	-0.0771	
Event - 1 Year	115	0.1130	0.0000	0.0297	-7.15%	NA	361.68%	NA	0.1064	0.0858	0.0090	-1.94%	NA	688.15%	NA	0.0066	-0.0858	-0.0858	
Event + 1 Year	115	0.1217	0.0000	0.0306	-76.67%	-100.00%	-76.67%	-100.00%	0.1068	0.0896	0.0088	0.38%	NA	5.64%	NA	0.4149***	0.9104	0.9104	
Event + 2 Year	115	0.0696	0.0000	0.0238	-42.81%	NA	-86.66%	-100.00%	0.0989	0.0766	0.0083	-7.40%	NA	-3.32%	NA	0.0028	-0.0766	-0.0766	
Event + 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	-86.66%	-100.00%	0.0997	0.0853	0.0082	0.81%	NA	-6.47%	NA	-0.0301	-0.0853	-0.0853	
Event + 4 Year	115	0.0609	0.0000	0.0224	-12.50%	NA	-86.66%	-100.00%	0.0965	0.0855	0.0083	-3.21%	NA	-11.06%	NA	-0.0269	-0.0855	-0.0855	
Event + 5 Year	115	0.0348	0.0000	0.0172	-42.86%	NA	-93.33%	-100.00%	0.0824	0.0814	0.0082	-3.01%	NA	-12.08%	NA	-0.0327	-0.0814	-0.0814	
Poison Pill																			
Event - 5 Year	115	0.0609	0.0000	0.0224	NA	NA	114.12%	NA	0.0893	0.0795	0.0071	8.37%	NA	-9.71%	NA	-0.0284	-0.0795	-0.0795	
Event - 4 Year	115	0.0696	0.0000	0.0238	14.29%	NA	87.36%	NA	0.0931	0.0851	0.0074	4.26%	NA	-6.62%	NA	-0.0235	-0.0851	-0.0851	
Event - 3 Year	115	0.0696	0.0000	0.0238	0.00%	NA	87.36%	NA	0.0947	0.0839	0.0075	1.72%	NA	-1.87%	NA	-0.0251	-0.0839	-0.0839	
Event - 2 Year	115	0.0783	0.0000	0.0252	12.50%	NA	66.54%	NA	0.0974	0.0886	0.0075	2.85%	NA	4.06%	NA	-0.0191	-0.0886	-0.0886	
Event - 1 Year	115	0.1043	0.0000	0.0286	33.21%	NA	25.02%	NA	0.0954	0.0839	0.0075	-2.05%	NA	15.78%	NA	0.0089	-0.0839	-0.0839	
Event + 1 Year	115	0.1304	0.0000	0.0315	25.02%	NA	NA	NA	0.0943	0.0927	0.0074	-1.15%	NA	5.60%	NA	0.0361	-0.0927	-0.0927	
Event + 2 Year	115	0.1478	0.0000	0.0332	13.34%	NA	13.34%	NA	0.0932	0.0927	0.0073	-1.17%	NA	4.82%	NA	0.0546	-0.0927	-0.0927	
Event + 3 Year	115	0.1217	0.0000	0.0306	-17.66%	NA	-6.67%	NA	0.0851	0.0677	0.0072	-8.69%	NA	-10.14%	NA	0.0366	-0.0677	-0.0677	
Event + 4 Year	115	0.0870	0.0000	0.0264	-28.51%	NA	-33.28%	NA	0.0727	0.0517	0.0069	-14.57%	NA	-25.36%	NA	0.0143	-0.0517	-0.0517	
Event + 5 Year	115	0.0435	0.0000	0.0212	19.89%	NA	-20.02%	NA	0.0624	0.0442	0.0065	-14.17%	NA	-34.59%	NA	0.0419	-0.0442	-0.0442	
Event + 5 Year	115	0.0783	0.0000	0.0252	-24.93%	NA	-39.95%	NA	0.0568	0.0347	0.0066	-8.97%	NA	-39.77%	NA	0.0215	-0.0347	-0.0347	

VITA

Shane Goodwin

Candidate for the Degree of

Doctor of Philosophy

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Biographical:

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Completed the requirements for the Doctor of Philosophy in Business Administration (Finance) at Oklahoma State University, Stillwater, Oklahoma in December 2015.

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Argus Capital Partners
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