INVESTOR ACTIVISM

AND

MERGERS AND ACQUISTIONS (M&A)

By

AKSHAY SINGH GEHLOT

Bachelor of Science
Jodhpur University
Jodhpur, Rajasthan, India
1990

Master of Computer Applications
J. N. V. University
Jodhpur, Rajasthan, India
1994

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Dissertation Approved:

Dr. Ramesh Rao

Dissertation Chair

Dr. Margaret White

Dissertation Adviser

Dr. Dursun Delen

Dr. Ramesh Sharda

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Abstract:

This study analyzed activism that leads to a merger or acquisition (M&A) of a firm to see its benefits for the shareholders at the target firm as well as its acquirer. It used over thirty years of data to understand the impact of the activists' demands of strategic significance for the firms. It examined the premium fetched at acquisition announcement, bid counts and cash versus stock offers to see the benefits of activism to the target firm and its shareholders. It checked the performance reflected in the premium fetched to compare activists based on their overall experience, industry specialization and ownership stake. Most importantly, it analyzed the long-term post-acquisition performance of firms for cases that involved the activists versus others. It noted that the involvement of activists led to above 30% premium for the target firms benefitting its shareholders, as compared to about 15-20% for the non-activism related M&A. It also observed a 30% increase in the post-acquisition performance of the acquirer or the merged firm up to five years after the effective date of the M&A transaction for an activism related M&A, as compared to others. The results provide strong evidence that activism leads to positive value creation for the shareholders of a target firm at the time of acquisition. It challenged the popular perception that activists are near-term focused investors and corporate raiders. It found that activists bring lasting gains to the acquirer and its shareholders. The strategic changes brought in by the activist continue to influence the performance of the target and its acquirer for the long-term. It concluded that activists help discipline a target firm in the short as well as the long terms. Investor activism can steer M&A to successful outcomes for the target and the acquirer. It also observed the positive spillover effects of activism on comparable firms in the M&A context.

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CHAPTER I

INTRODUCTION

"I hold it that a little rebellion now and then is a good thing, and as necessary in the political world as storms in the physical… It is a medicine necessary for the sound health of government."

- Thomas Jefferson to James Madison, Paris, January 30, 1787

Most of us would concur that Mr. Jefferson's quote fits well for governance in the corporate world too. The word activism signifies drive and action, as if in a rebellion or the occasional storm that washes the yard clean. It continues to fascinate researchers far and wide. In this section, we shall start with a brief discussion of shareholder activism to develop a general understanding of the terminologies. Next we shall delve into the role of activists when their targets also become the targets for mergers and acquisitions by other firms. It is amongst the first of activism research that makes the leap from opportunistic immediate event studies to recognizing the role of activism in the strategic management considerations related to the mergers and acquisitions of firms. Contrary to public perception, we believe that activism brings in considerable change inside a target firm that gets reflected in the higher premium that an acquirer is willing to pay. Our most important contribution shall be the finding that despite paying a seemingly higher premium, the impact of the lasting changes that are attributable to activist intervention, also get reflected in the longer term value of the acquiring firm.

We shall consolidate the questions that we hope to find the answers to as we proceed on our quest for knowledge in the subsequent chapters. Lastly, we shall discuss the significance of this research to the society and its contribution to knowledge.

1.1. The story in brief

To explain the context of our research, we shall start with a very short description of the three main characters in our research: the activists, the target firm and the acquiring firm. The *activists* are savvy and action oriented investors whose business model is to grab value seeking opportunities by investing in underperforming businesses, with a hope to turn them around into better performing companies and then increasing the value through retention or harvesting their investments by selling the firm to another higher premium paying acquirer firm or merging with them. The *target firm* is initially a target of the activists. The activists engage the management at their target firm to bring improvements and make it look appealing to other investors. This better performing firm now becomes the target of potential acquirers who may be willing to pay a higher price for it. At this stage the activists may choose to retain their stakes in the higher valued firm or harvest their investment by getting the firm sold at a premium to the *acquiring firm*.

Investor activism studies in general have been primarily short-term focused and have observed mixed performance results in the post-activism performance outcome for the shareholders at a target firm (Goodwin, Singh, Slipetz and Rao 2014). Similarly, the mergers and acquisition (M&A) literature also shows mixed outcomes, and commonly concludes that half of all M&A deals are a

failure (Moeller 2004). Despite the uncertainty of the outcome, both activism and M&A topics continue to grab headlines, and it shows in the rising count of the cases related to activism as well as M&A. There seems to be an unexplained anomaly in the research that defies general understanding and interest. So through this research we shall study an almost virgin context where we see a convergence of activism and M&A to answer the question whether activism driven acquisitions are good for the activists, the shareholders at the target firm or its acquirers. Our core argument in the rest of the study is that the momentum effect of the positive changes brought in by the activists at a firm, as well as the self-realization of its own potential by the target firm, shall keep it performing better for a long time.

To help develop a better understanding of this phenomenon, we propose the following carrot and stick model. Activists create an environment of challenge and change at the target firm. They use threats and action to reduce underperformance and reward the target with suitable actionable intelligence by steering the strategy of the firm. Thus activist intervention helps the target firm realize its untapped or underutilized potential; it further leads to the development of sustained motivation to perform. The improvements brought in by the activists create a momentum for longer lasting performance that appeals to the potential acquirers too.

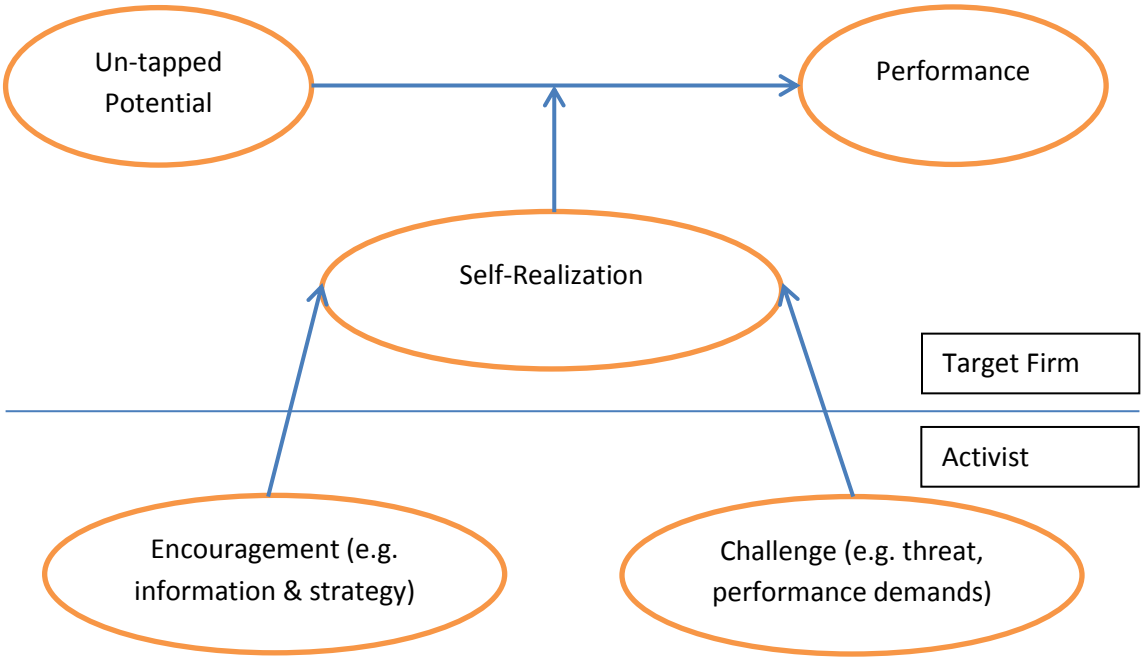

Figure 1: Model of Activist influence on Firm Performance

1.2. Activism is an engaged citizenry

(Title Courtesy: http://en.wikipedia.org/wiki/Activism)

Most people in the world go about their lives in a normal manner and tend to shy away from their problems rather than confront them. They are like a gently flowing stream that tries to ignore a hurdle that comes in its way, and changes its course by going around it or finds a new way. On the contrary, activists are action minded people who campaign to achieve an objective that usually benefits more people than the activists themselves. We can classify activism based upon the context, the targeted objectives of the activists and the means used by them to bring attention to their agenda. An internet search on the word activism brings more attention to the social activists, perhaps because they bring in change to the society in general and hence could have a broader appeal due to their focus on social causes. A focus on social or political objectives, when conducted using political means, can lead to those activists being considered as political activists. When certain individuals or a group campaign for achieving an environmental cause, they are considered as environmental activists (for example Greenpeace).

Similarly, when some shareholder investors at a firm become dissatisfied by the performance of the firm or feel that their interests are being ignored by the management of the firm, they seek activist agendas to bring about changes that can enhance the value of their investments. We call such a group of investors as the activist investors or the shareholder activists. Aligned with the context of this study, we shall focus on investor activism by hedge funds where the outcome is an acquisition of the target.

1.3. Investor Activism

Management is hired by corporations to execute effectively on its mission and be the guardians of the shareholders interest in the firm. An underlying assumption is that the shareholders have the power and means to influence the decisions and control the actions of the management. Another implicit assumption is that choices made by the management are a reflection of the shareholder's interests and are approved by the shareholders. Since ownership of stock does not lead to direct control, at times the shareholders believe that their dialogue with the management is either incomplete or nonexistent (Burnett, Xu, Morris, Rodriguez Jr. 2012). The dissatisfaction of some shareholders with the firm's performance or its management may lead them to consider active and aggressive means to safeguard their interests in the firm and they may become an activist. Activism is a costly affair (Gantchev 2013), and activists weigh their outcomes before committing their resources to a target firm. Unlike the popular image, the observation by some researchers shows that most activists use peaceful means like a dialogue with the board or management at the target firm rather than get confrontational with them.

When the results seem unsatisfactory a common individual or passive investor may simply consider moving his or her investment from a firm to another. Most individuals, mutual funds and institutional investors fall in this category because it is not cost effective for them to take on an engagement role. They would rather 'exit' their holdings than 'engage' with the board, the management or other shareholders to improve performance at the firm. However, hedge funds primarily are a category of the investors that has found it advantageous to improve firm performance by engaging the management and holding them to task. These investors research

to examine the strengths and vulnerabilities of a firm before selecting it as a target for investment. Activists demand change for the improvement in the performance, management and strategy of the firm. Savvy investing interests, easy information access, faster means of communication, supportive legal system and political climate create a good combination of conditions that support shareholder activism. The environment and considerable costs favor larger activist shareholders or mutual funds or those who can group and act as block holders.

Firms targeted by hedge funds have common characteristics that demonstrate an opportunity to generate better returns for its shareholders: 7% or higher returns in a 40 to 60 day event study window around activist announcement date as observed by Boyson and Mooradian (2011), Brav et al. (2008), and Klein and Zur (2009). Recent research has found evidence that the longer term performance of target firms also improves following activist interventions (Boyson and Mooradian 2011; Bebchuk, Brav and Jiang 2013; Goodwin, Singh, Slipetz and Rao 2014). Brav, Jiang and Kim (2015) observe that beyond short term shareholder benefits, activism leads to long term (three years window) improvement in operating performance at the target firm, and its level is significantly higher than that observed during the year of intervention or the year prior to intervention. Shareholder activism is becoming a global phenomenon and has been successful in creating shareholder value across countries (Becht, Franks, Grant and Wagner 2015). In an international study of activism covering both public and private (362) events from 2000 to 2008, it was noted that the returns from hostile activist interventions showed to be more profitable than co-operative ones, and returns for specialist activist funds were substantially larger than for other investors. Separate legal jurisdictions also could not explain

differences in returns across countries; and the success rate of activism across countries looks similar (Becht, Franks and Grant 2010).

Activists bring shareholder proposals to a firm. They work to engage or change the board of directors or the management at a firm, to alter the policy and practice at a firm, or to even consider the sale, merger or acquisition of firms. Thus, by engaging with the target firm, activist hedge funds attempt to pressure the firm into making corporate governance, investment, management, financial structure and other strategic changes including the sale of the company itself.

The role of the activists has not been without criticism and they are also viewed as nuisance creating self-seekers who cause disarray and plunder their target firms to achieve short term profits. For some, activism is the doctrine of shareholder value taken to an absurd extreme. They are raiders who stifle innovation by discouraging employee trainings and stopping strategic value creating research and development efforts. In the name of saving costs they force firms to sell assets, layoff experienced valuable resources making the firm vulnerable to competition; and by reducing bench strength they render the firm incapable of grabbing fast market opportunities. A significant proportion of target firms end up getting acquired, implying that it may have been an outcome of a pre-planned strategy of the activists, for better or for worse. Hence, the focus of my dissertation is on the eventual acquisition of the activist's target firm as it has been very controversial.

1.4. Mergers and Acquisitions (M&A)

Like activist events, mergers and acquisitions news also invokes public curiosity. In 2000, the dollar value of completed mergers, acquisitions and divestitures was in excess of US$1.7 trillion which represented an increase of 25% on the previous year (Cartwright & Price, 2003). By 2006, the world-wide acquisition activity had hit $3.79 trillion (Barkema and Schijven 2008). It rose to $4.17 trillion in 2007 before the financial crisis of 2008 and fell to $2.08 trillion in 2009 (Bevins, Feeney and Jones 2010). It has since surged back during the recovery to reach $3.5 trillion in 2014, up 47% from the prior year (Primack 2015). A Corporate Board Member/FTI Consulting survey found mergers and acquisitions as one (#3) of the top ten concerns of public company directors (Monks and Minow 2011). An average 33.8 percent premium gets exchanged above the market value of the target firm in general (Mueller and Sirower 2003). The average abnormal announcement returns for target firms is 19.45% (median is 16.2%), while mean abnormal return of acquirers is 0.2% (median is -0.6%) and the average combined announcement returns (measured as Total Value of Acquisition or TVA) is a significant 4.5% (median is 4.4%) (Yaghoubi, Locke and Gibb 2013). Shareholders of target companies earn sizable positive market-returns, bidders in general earned zero adjusted returns and jointly the bidders and targets earned positive adjusted returns (Bruner 2002). So, for smart investors, like the activists, who study their targets well and approach them strategically, M&A returns appear lucrative too!

Despite the interest garnered by mergers and acquisitions (M&A) announcement by firms, researchers have also noted that more than half of the M&A outcomes are considered unsuccessful (Price 2013). There is little doubt that M&A is one of the most aggressive change-

agents in the business: volatile and disruptive (Bruner 2004). Just like popular press, academic literature too is awed and confused in its understanding of the drivers of success in mergers and acquisitions. We shall examine the role of activism in determining the premium paid by the acquiring firm in a mergers and acquisitions context and understand the reasons that lead to a better (or worse) post-acquisition performance as compared to an M&A case where an activist was not involved.

1.5. Activism and M&A jointly

Shareholder activism significantly affects takeover outcomes (El-Khatib 2012). A common belief about the outcome of an activist campaign is that the target firm gets merged or acquired. It is reflected in the researchers' observation of an increasing count of activism related shareholder proposals that are being associated with mergers and acquisitions (Burnett, Zu, Morris and Rodriguez 2011). Firms receiving shareholder proposals are 30% more likely to become a target of a subsequent completed acquisition (El-Khatib 2012).

Unlike passive shareholders, the activists are serious about their ownership and engage in corporate governance to bring about strategically targeted performance improvements at their target firm. Evidence based on the performance of over 500 acquisitions in the U.K., suggests that hostile takeovers tend to outperform friendly acquisitions (Sudarshan and Mahate 2004; Cartwright 2005). In a study of 1740 activism cases from 23 countries, Becht, Franks, Grant and Wagner (2015) observed that takeovers accounted for 22% of all outcomes or 16% of all deals, while other forms of restructuring like divestitures and sale of non-core assets accounted for

20% of all outcomes or 14% of all deals. Another international study of activism covering both public and private (362) events from 2000 to 2008, noted that the largest outcome gains were attributable to restructuring announcements (8.4% cases); where 40% of the restructurings were takeover announcements and had associated abnormal returns of 15% compared with 3.7% for the remaining restructurings (Becht, Franks and Grant 2010).

Greenwood and Schor (2009) were among the first to note that the best returns in investor activism are achieved only when the outcome of activism is a merger or acquisition. Evidence from an international study by Becht, Franks, Grant and Wagner (2015) confirms that the expectation of a favorable takeover outcome may be a key parameter for the activist business model. The contrarians may argue that M&A may not be in the best interest of the firm and a significant proportion of its shareholder's interest, because the target firm may lose its identity and mission after it gets acquired. Greenwood and Schor (2009) as well as Becht et al (2015) did not measure the post-acquisition performance to explain if the effect of activism lasted farther beyond the acquisition announcements. We hope to address this gap in knowledge through this research.

The selective choices of firms by the activists shows that they study their target firms and collect sufficient information beyond what is popular or easily known to others. The information they collect gives them the competitive learning advantage that motivates them to obtain sufficient stock of a target firm and give credence to their intentions presented to the shareholders of the target firm. The information advantage and negotiation skills also enable the activists to seek better acquisition premiums for the target firm. Similar to Robert F. Bruner (2002), we are also

tempted to conclude that on balance, M&A does pay! However, we cannot ignore the 50-50 split chances of success observed by other researchers in the general M&A context. In this research, we shall go a step further and examine the post-acquisition performance to see if an activist influenced M&A pays overall better than an M&A that is unrelated to an activist.

Price paid by a customer for a product reflects the utility in terms of the value that the product brings to the customer. Determining the right premium to pay is a challenge for the acquiring firm because it should reflect the expected value addition that the M&A of a target firm shall bring to the acquiring firm in the future. Unavailability of information about a target firm after it has been acquired complicates the ability to measure the outcome of a merger or an acquisition for the target. Measuring post-acquisition performance is not easy, there is a dearth of good acquisition performance measures and the need for evolution of innovative means to do so (Schoenberg 2006). Brav, Jiang and Kim (2015) drilled down to gather plant level performance data to measure the effect of activism on target firms post-acquisition. The motivation for this research lies in the outcome of the little researched subject of activist driven M&A and its effects on the various stakeholders – the activists, the target firm and the acquirer. Measuring post-acquisition performance in the absence of any readily available data or standard measurement methods shall be an added challenge.

1.6. Expected Contribution of this Research

1.6.1. Contribution to Knowledge

Research in isolation shows sufficient controversy on the outcome of activism or the outcome of M&A. It is not surprising that the literature review showed very limited research in the

performance of acquisition related gains to the firms targeted by activists. We found three studies that discussed this subject: Greenwood and Schor (2009), Brav, Jiang and Kim (2013) and Guo, Paudyal, Utham and Xing (2015).

In a related research, Greenwood and Schor (2009) made a key observation that the best returns in activism are observed only when the target gets acquired. Greenwood and Schor (2009) have focused primarily on returns generated for bigger target firms (greater than 100 million dollars) and did not examine the post-acquisition performance for the acquirer. They questioned the argument of a forced change at a firm by the activists. In support of activists' ability to extract higher premiums, they suggested an alternate hypothesis that hedge funds are effective at identifying undervalued companies, locating potential partners for them and removing opposition to a takeover. We concur with their argument in general and the observation that activists play a role in securing a target. Differentiating from the prior studies, and as shown in the earlier presented model of activism (figure 1), we attribute the skill of activists to their insightfulness that helps a target firm realize its weakness, their action orientation and ability to motivate its management to perform and improve the target firm from its core.

By observing short-term returns around activist intervention and acquisition announcement dates, Guo, Paudyal, Utham and Xing (2015) have barely touched the subject of value creation in acquisitions that can be attributable to hedge fund activism. They note that activists take better advantage of firms affected by hubris to extract higher premiums. Other than their observation in the short-term event returns post-acquisition, they have missed to build a theoretical

rationale for their observations and fail to explain the reasons that can lead to develop a new understanding. Their contribution leaves many unanswered questions and gaps in knowledge.

Since only half of mergers and acquisitions are considered successful, there is a controversy on the real reasons that define success during a merger or acquisition. Firms receiving shareholder proposals are associated with approximately 30% relatively higher chance of becoming a target of a subsequent completed acquisition. The best related work has been by Brav, Jiang and Kim (2013) who overcame the challenge of measuring performance of the acquired entity after it gets acquired from popular databases (e.g. Compustat) by drilling deeper to measure the performance at the plant level. Comparing to a controlled sample unaffected by activism, they found evidence of longer term gains that can be attributed to the activists' impact on the firm's operating abilities. We view it as a support of our belief that activists shake the firm to its core and force a top-to-bottom rethink about how to get stronger.

As a direct effect we hope to see performance gains for a target firm in the longer term (similar to Goodwin, Singh, Slipetz and Rao 2014). We expect potential acquirers willing to pay a higher premium for a lean, mean and revitalized target firm that has reduced its agency costs and has embarked on a path to progress. As a contagion effect of good practices adopted by the target firm, we also expect to find better performance at the acquirer firm after the merger or acquisition than others where no activists were involved. In fact, our beliefs and findings shall indirectly add to the knowledge created by researchers who observed improved performance of peer firms (spillover effect) even when they were not directly affected by activism (Lee and Park 2009; Gantchev, Gredil and Jotikasthira 2013). We believe that activism can become the new

standard in corporate governance and thus create a lasting value for its target firms, the acquirer and the industry too.

This research joins the leaders in activism research that make the leap from the activism to the M&A context, by looking beyond opportunistic portrayal of activists in near-term event studies alone. This paper is amongst the pioneers that examines activism as an antecedent to favorable merger and acquisition outcomes. Thus, we are amongst the first to recognize the activists for their role in strategic management considerations as it relates to the mergers and acquisitions of firms.

1.6.2. Research Questions

There are three main research questions that we address through this study:

- First Research Question (RQ1): ***Is activist led acquisition better than others for the target firm?***

  This question looks at how hedge fund target firm shareholders benefit from being acquired using quantitative and qualitative measures.

  - Do they receive a higher premium?
  - Do they receive more bids?
  - Does mode of payment (Cash or Stock) matter?

- Second Research Question (RQ2): ***Are activist hedge funds equally good in generating merger or acquisition related value for target firm shareholders?***

To develop a better understanding of the skills of activists, we examined:

- EXPERIENCE - TOTAL:
    - *Number of M&A engagements (Prior overall experience): Does an activist with prior overall experience across industries of target firm fetch a better premium?*
- EXPERIENCE - INDUSTRY:
    - *Prior industry experience: Does an activist with prior experience in the industry of target firm fetch a better premium?*
- OWNERSHIP:
    - *Ownership percentage in the target firm: Does a higher ownership stake by an activist in its target fetch a better premium?*

- Third Research Question (RQ3): ***Does an activist involvement in a merger or acquisition lead to better post-acquisition performance for the acquirer?***

In the following section, we shall review the literature as it relates to our research interests. Next, we shall discuss the data and the methods. Subsequent sections shall uncover our research findings and conclusions.

CHAPTER II

REVIEW OF LITERATURE

This chapter is primarily comprised of two sections: first we shall discuss the existing research in the Activism area; second we shall discuss the relevant research in the Mergers and Acquisitions (M&A) area. We start these sections with a table summarizing the relevant research (refer Appendix 1-3). Within the following sections we have tried to organize the discussion as it leads to the research questions that we want to seek the answers for. It shall provide the theoretical rationale for the development of our hypotheses that shall be described in a subsequent section after a review of the literature.

2.1. Investor Activism Research

2.1.1. Influence of Agency Theory

Berle and Means (1932) highlighted the concerns caused by the separation of ownership and control at firms. Agency theory (Jensen and Meckling 1976; Eisenhardt 1989) followed later to help explain the conflict of interests between those of the principal and the agent. The theoretical framework of activism can be associated with the theory of corporate governance, agency theory and the theory of the entrenchment of managers (Sahut, Lantz and Montandrau 2010).

We can view the shareholders or investors as the principal; and the management as the agent at a firm. Agency theory (Jensen and Meckling 1976) explains that self-serving interests of the managers (agents) could lead to loss of value for the firm and its shareholders (principal). Even though the firm and its management may be fully informed about its condition, the shareholder and others are less informed. It can be well represented by the classic model of asymmetry in the quality of information that leads to the tension between parties. Other practical challenges also make it difficult for a general shareholder to understand the complexities of the management and discipline them. It creates an opportunity and incentive for a shareholder with a substantial interest, and who wants to put in the extra effort to bring about a change at the firm to see better returns on his/her investment in the firm, to step in and get the management to listen and act. Such a shareholder may be considered as an activist investor. Investor Activism studies, to a significant extent, have followed the Agency theory in trying to explain that they are better guardians of shareholder interests. However, the results of these studies are mixed.

2.1.2. Many definitions of Activism

We consider an activist investor shareholder as one who enters into a substantial position (say 5% or more of all shares of the firm), with an active agenda and one who acts on his/her beliefs, to the extent of challenging the management at the firm or driving a change in the corporate governance, strategy and performance of the firm. Sahut, Lantz and Montandrau (2010) define activism as an involvement by institutional investors to influence the management of companies in their investment portfolio, following a conflict between the shareholders and the company's management. Burnett et al (2012) consider shareholder activism as no more than a relationship investing process that focuses on pressuring management to improve performance along some given path that will work to enhance shareholder value. Differentiating from the hedge fund

activists, Klein and Zur (2006) defined an entrepreneurial activist as an investor who buys a large stake in a publicly held corporation with an intention to bring about change and thereby realize a profit on the investment.

The studies paint a different picture based on the color of the lens of the researcher and the prevailing climate of perceptions at the respective time. Some earlier researchers viewed the rise in voice of the shareholder as noise at the shareholder meetings (Vogel 1983; Cane 1985; Goranova and Ryan 2014); a few people have also called them corporate raiders. Recent researchers have gained good attention by shedding light on the celebrity investor activists (Venkiteshwaran, Iyer and Rao 2010) and have even called the newly found popularity as 'Shareholder Spring' (Farrell 2012; Morphy 2012; Goranova and Ryan 2014).

2.1.3. Mixed outcomes of Activism

Many studies have found evidence of generation of fair returns around the announcement of activism events (Bessler et al 2015; Boyson and Mooradian 2007; Brav, Jiang, Partnoy and Thomas 2008; Brav, Jiang and Kim 2013; Gantchev 2013; Kahan and Rock 2007; Klein and Zur 2009; Frank et al 2006; Greenwood and Schor 2009; Goodwin, Singh, Slipetz and Rao 2014). On the contrary, some researchers cite lack of evidence to support a claim of improvement in value at a target firm by institutional investors (Karpoff 2001; Greenwood and Schor 2009). There are others who claim that investor activism as a whole has no influence on the target company's market value (Filatotchev and Dotsenko 2013).

The detractors of activism consider them as 'myopic' investors who create noise and disarray at firms. They derail a company from its strategic path. They may sell it in parts, causing stress to employees and wipe-out the long term interests of other shareholders (Goodwin, Singh, Slipetz and Rao 2014). According to this claim, activist shareholders with short investment horizon, especially activist hedge funds, push for actions that are profitable in the short term but are detrimental to the long-term interests of companies and their long-term shareholders (Bebchuck et al 2013).

The good returns observed around the activist events in the short as well as the long term (Bebchuck et al 2013; Brav et al 2015; Goodwin et al 2014) can also explain the growing interest in activism. A recent research claims evidence that hedge fund intervention has a real and long-term effect on the fundamental values of target firms as measured in its return on assets (ROA) measured three years prior to the activist intervention and three years after the activism event (Brav, Jiang and Kim 2015). Hedge fund activism is successful in creating value for shareholders of target companies.

Bebchuck, Brav and Jiang (2013) found that activist interventions are followed by improved operating performance of the target company during the five-year period following these interventions. Performance at the target firms improves relative to that of peer companies with similar performance at the time of the intervention. Evidence of abnormal long-term negative returns at exit by activists (pump and dump the stock) has not been observed. We hypothesize that potential acquirers of a firm could be willing to pay a higher premium for an activist's target with a hope to see longer term performance.

2.1.4. Activism around the World

80% of all activist interventions in the world happen in America, where the culture and legal system are better suited to shareholder revolts than those in Europe or Asia (The Economist 2015). An international study of activism covering both public and private (362) events from 2000 to 2008, noted that the returns from hostile activist interventions showed to be more profitable than co-operative ones. It also observed a focus on expertise and noted that returns for specialist activist funds were substantially larger than for other investors. It observed that different legal jurisdiction could not explain differences in returns across countries (Becht, Franks and Grant 2010).

2.1.5. Many Types of Activist Investors

The studies have tried to differentiate their focus based upon characteristics of the activists themselves, their size or the size of their targets, their motives, the type of changes they want to bring to the target firm, the time window to observe the effects. Klein and Zur (2006) highlighted the differences in terms of the choice of target firm and focus areas between hedge fund and other entrepreneurial activists. Bessler et al. (2015) observed that hedge funds tend to acquire stakes in firms that suffer from weak corporate governance and are less profitable than their industry-matched peers. Interestingly, Klein and Zur (2006) observed that hedge funds targeted more profitable firms than other activists. They also noted that the differences in the post-13D filing strategies of the activists: hedge funds address cash flow agency costs whereas other private investors change the target's investment strategies.

Zhu (2013) focused on the effect of activism on corporate policy and observed that when likelihood of hedge fund activism increases, firms responded by returning more dividends to

shareholders, reduced CEO pay, reduced stocking cash, leveraged more and invested into research and development while reducing capital expenses.

Armour and Cheffins (2012) use the terms defensive and offensive to describe activism. Defensive activism is ex-poste (reactive) in orientation: happens when an existing shareholder becomes dissatisfied with corporate performance or governance and lobbies to change it. In offensive (proactive) investor activism, the investor intends ex-ante to agitate for change to maximize shareholder returns. Institutional investors usually have a significant investment in a target and so use defensive activism by exercising control.

Hedge funds are notorious for using offensive activism to make strategic changes at the target firm and try to seek control. However, the statistics show that most activism is conducted through peaceful means where the activists engage the target firm in a dialogue and negotiate their way to bring changes at the firm. It is only rarely that activists use proxy contests to push their agenda.

2.1.6. Public versus Private Activism

Becht et al (2010) helped analyze public versus private activism too. They note that private activism usually occurs behind closed doors and so is able to achieve better returns compared to public activism. They found that the abnormal annualized returns over the holding period were 11.4% for the public activist engagements in comparison to 6% for the private engagements. The holding period was 2.2 years for public activist engagements and 2.5 years for the private

engagements. The largest outcome gains were attributable to restructuring announcements (8.4% cases) where 40% of the restructurings were takeover announcements and had associated abnormal returns of 15% compared with 3.7% for the remaining restructurings. Significantly, these returns include the global financial crisis year 2008 when activist funds suffered large abnormal losses (Becht, Franks and Grant 2010). We shall limit our research to study of public activism due to a lack of data related to private activism cases.

2.1.7. Activism outcomes leading to M&A

The researchers have focused on various types of activist demands. Goodwin, Singh, Slipetz and Rao (2014) observed that within two years of a dissident shareholder joining the board of a target firm, the CEO resigned approximately 60% of the time and over the course of the five years 40% of the target firms were sold or merged. The Economist (2015) analyzed 50 largest activist positions taken since 2009 and noted that in most cases profits, capital investment and R&D had risen. It shows that activists work in the longer-term interest of the firm that can make it stronger and unleash its potential to perform – a quality of a target that could also appeal to possible acquirers! We are focused on the activism outcome that leads to a merger or acquisition of a target firm and hence shall try to keep the discussion related to our context.

Lilienfeld-Total and Schnitzler (2014) highlight three common determinants of abnormal returns observed around activism announcement events: high ownership, an active plan and the anticipation of a future merger and acquisition. From a large international sample, Becht, Franks, Grant and Wagner (2015) observed that takeovers continue to be the most popular activist outcome. Greenwood and Schor (2009) also specifically noted that from amongst all

possible activist outcomes, it is the ability of the hedge fund activists to force the target firm to get acquired that creates the maximum value for the shareholders of the target firm.

2.1.8. What can explain success of activists

Gantchev (2013) had observed higher returns with certain activists than others. The reasons for success of activism cases could be due to many factors and their combinations – activist, firm, market or others. Greenwood and Schor (2009) believe that unique tax structures and incentive structure at Hedge Funds enables them to successfully use activism and monitor management. Waldron, Navis and Fisher (2012) adopted a socio-cognitive perspective to account for differences in the reaction of managers of firms in an industry to activism, even when subject to common campaigns and strategies.

We have been able to figure out a few attributes of the hedge funds that help define the success for the investor activists: Ability to identify targets, Structure, Proximity, Industry focus, Prior overall experience, Prior activism experience, Specialization, Focused approach, Aggressiveness, Ability to turn hostile, Ability to collaborate and Negotiate.

2.1.8.1. Ability to identify targets

Nain and Yao (2013) attribute the commonly observed correlation between institutional investor ownership and their successful outcomes to their superior active stock picking skills. Greenwood and Schor (2009) stated that activists create value to acquirers by identifying targets that are performing poorly under the current management, or they identify companies for which acquirers might overpay. Commenting on the target identification, Boyson and

Mooradian (2011) observe that targets of high frequency hedge funds and their managers have considerable overall experience in activism or experience in the industry of focus for the hedge fund. They attribute these results to the managerial skills gained through prior activism related experience. They note that poor stock performance, high working capital and high research and development (R&D) observed at targets of high frequency hedge funds suggests that these target firms have a greater potential for improvement.

Bessler, Drobetz and Holler (2015), attributed the superior performance of the longer term Buy and Hold Abnormal Returns (BHAR) of non-aggressive hedge funds to their security selection skills. Identification of valuable targets requires a significant amount of research by the activists. Informed stock picking could be the key differentiator skill between the successful activist investor and those who try to imitate them as a herd. It is difficult to say whether the activists are good at identifying a target firm; or the action oriented approach of the activists is the key to their success; or they are better at finding the right acquirers for the target firm's assets; or they are good at all of these skills and more. It seems that the activists may be good at taking advantage of the information asymmetry through superior intelligence to identify and engage a suitable target before supplementing their investment with other value enhancing action.

2.1.8.2. Proximity

In an international study sample of 1,740 activist engagements between 2000-2010 period, across 23 countries in Asia, Europe and North America; Becht, Franks, Mayer and Rossi (2015) observed striking differences in the outcomes of the activist engagements across countries. Interestingly, they also observed that even though the U.S. model of activism has been copied

across countries by foreign activists, the non-U.S. activists performed better than the U.S. activists in their domestic markets. It is perhaps a reflection that the non-U.S. activists know their closer targets better than the U.S. activists through superior intelligence owing to closer proximity and regional experience. It shows that skills gained through regional proximity, knowledge about local culture and customs, relevant experience, industry focus, market knowledge and informational advantage matters for success in activism, similar to its role in strategic management at firms.

2.1.8.3. Industry Focus and Overall Experience

Overall experience and also a focus on the drivers of the target bring in better results to the activists and add to their skillset. Hedge funds that have considerable prior experience and that seem to hire managers with prior activist experience (high frequency hedge funds) showed 31.1% returns in three years post-activist intervention start date compared to -12.6% returns for low-frequency hedge funds. Also, displaying a superior ability to avoid bad outcomes, the targets of high frequency hedge funds filed fewer bankruptcies and faced lesser liquidation (6%) compared to (16%) targets of low frequency hedge funds. Thus both the target firm shareholders as well as hedge fund investors both gain from more experienced and skilled hedge funds (Boyson and Mooradian 2011).

High frequency hedge funds and their managers have considerable overall experience in activism or experience in the industry of focus for the hedge fund. Experience of the activist fund and its fund managers helps the activist hedge fund pick better targets. Further, high frequency activists follow a focused approach, they put their target firms “on notice” – they

issue a threat of intense action, and follow it with hostile action if the firm fails to show expected improvements quick enough. Experienced activists become more aggressive and hostile when target firms fail to meet their performance expectations (Boyson and Mooradian 2011).

It shows that prior related experience with activists and their industry focus helps successful activists research their target's potential well in advance and follow it with a swift action business model with clearly defined stricter corrective maneuvers to achieve their results.

2.1.8.4. Specialization

Becht, Frank and Grant (2010) classified funds based on their activism focus. They observed that specialist funds are exclusively activism focused. Non-specialist funds are typically multi-strategy hedge funds and did not necessarily engage as part of their investment philosophy. They observed an outcome of 6.9% for specialist funds and 0.57% for non-specialist funds, using a public database where the mean abnormal returns from the announcement of the stake funds were 4.4% around the block disclosure date. It shows the importance of focus and strategy by the activist hedge funds, and helps them target the right firms to achieve their desired outcome.

An international study of activism covering both public and private (362) events from 2000 to 2008, observed a focus on expertise and noted that returns for specialist activist funds were substantially larger than for other investors. It observed that different legal jurisdiction could not explain differences in returns across countries. The abnormal annualized returns over the

holding period were 11.4% for the public activist engagements in comparison to 6% for the private engagements. The holding period was 2.2 years for public activist engagements and 2.5 years for the private engagements. The largest outcome gains were attributable to restructuring announcements (8.4% cases) where 40% of the restructurings were takeover announcements and had associated abnormal returns of 15% compared with 3.7% for the remaining restructurings. Significantly, these returns include the global financial crisis year 2008 when activist funds suffered large abnormal losses (Becht, Franks and Grant 2010). Boyson and Mooradian also noted the presence of specialization in the approach taken by 'frequent activists' that tends to take a consistent, rather predictable approach to their target firms, and exhibits persistence in the long-term stock performance of the target firm.

2.1.8.5. Aggressive and Hostile approach

Popular press states that a call from the activist is one of the most dreaded communication that a firm's CEO can receive (The Economist 2015) at a firm. It is usually followed by some level of acceptance of the activists' demands. The international study of activism by Becht, Franks and Grant (2010), noted that the returns from hostile activist interventions showed to be more profitable than co-operative ones.

Conflicting results were observed in another study comprising 231 events involving 81 target firms and 111 hedge funds using hand collected samples between 2000 and 2006, from Germany by Bessler, Drobetz and Holler (2015). They found that more aggressive hedge funds (37%) generated higher returns in the short term before and after the event date. They note that the outperformance of the aggressive hedge funds quickly reversed and the non-aggressive

hedge funds (63%) ultimately out-performed their aggressive peers. They also noted that aggressive hedge funds attempt to expropriate the target firm's log-term shareholders and term debt holders and try to temporarily increase share prices so that they can sell and exit at the temporarily higher prices. They observed that when multiple hedge-funds buy into the same target firm, a coordinated a wolf-pack like attack on a target firm was observed during a quarter (23%) of all cases, however they observed that three-quarter (77%) cases showed no wolf-pack like coordination. It shows that activists are smart enough to use hostile technique to their advantage for short term gains or drum-up support for their cause, yet they are intelligent enough to negotiate their way through to achieve lasting goals.

2.1.8.6. Networking, Collaboration and Negotiation

The activists get involved with their targets to achieve their objectives. They network with the directors and the management at the firm. They discuss their ideas with the institutional investors whose support is crucial, in case the activists face resistance from the firm (Briggs 2007). In surveys, asset fund managers claim to routinely analyze the information related to the companies they invest in and have meetings with the company managers (Martin and Nisar 2007). Briggs (2007) undertook a legal, empirical, and theoretical study in an effort to understand the implications of hedge fund activism. He observed that hedge funds are not-normal institutional investors because they launch proxy fights for corporate control and are successful. He observed that the activist tactics (like wolf-pack) and the influence of activist proxy advisory firms (the recommendations of which many institutional investors follow automatically) had made hedge fund activists a real power in corporate governance. Like many other researchers, and contrary to conventional beliefs, he found that hedge funds did not hold short positions primarily. Subjecting his survey results to theoretical analysis using current nexus

of contracts, shareholder primacy, director primacy, team production, connected contracts, and other theories, he found none to be completely satisfactory. He concluded that an almost unprincipled balance-of-power political model best explains the hedge fund activism phenomenon; and if these activities cause managements to review and reassess their strategies, corporate governance improves at the target firm.

2.1.8.7. Expertise and Type of Investment

Focusing on investment vehicle used, Boyson and Mooradian (2011) note that experienced activist hedge funds mostly bought common stock of target firms (for 87% activist cases) primarily from the open market (for 93% cases). Instead, low frequency or lesser experienced funds bought debt, preferred stock, and warrants, besides common stock. Common stock allows experienced hedge fund managers to more efficiently exit their positions. Experience of managers at high frequency activist funds is evident in their consistent approach to their target firms which in turn gets reflected in long term stock performance of the target firm. The better results also show that the specialist activists engage more frequently with the target firm to achieve better target firm results (Becht, Franks and Grant 2010; Boyson and Mooradian 2011).

While many have tried to imitate successful activist investors, the performance varies among the activists. Considering monitoring costs and the net returns to shareholder activism, Gantchev (2013) found that the mean net activist return is close to zero but the top quartile of activists earn higher returns on their activist holdings than on their non-activist investments. Since knowledge and consistent focus lead to development of experience, one wonders about a focus on the characteristics of the target or activists with other forms of special expertise.

Would those focused in their respective specializations also perform better on their turf than others! Whatever be the means, the activists know how to engage their target and channel its energies to extract favorable results.

2.1.8.8. Target firm characteristics that appeal to Activists

We observe some common characteristics of the firms targeted by activists. These firms are usually low-performing firms, low-sales, with low profits, are cash rich, have low debt, have a good cashflow, return little or no cash to their shareholders and seem to be unable to figure out a way to unlock the secret to a higher performance. The target firms also are known to have corporate governance issues like high CEO payments, dual-role of a chairman of the board and the CEO being held by the same person, or a board that is unable to monitor effectively. The size of the target firm has also been observed to play a significant role (Gomes et al 2013).

Boyson and Mooradian (2011) note that target firm can be best described as cash cows with poor growth prospects hampered by the agency costs of free cash flow. The target firms are value stocks, with a smaller size, higher book to market ratio, lower Tobin's Q. The target firms have poor stock performance but good operating performance, with better return on assets (ROA) and cash flows as a percentage of assets as compared to their matched samples. This makes the firms as excellent targets of activism for changes aimed at reducing the agency costs of free cash flow.

Bessler, Drobetz and Holler (2015) note that hedge funds tend to acquire stakes in firms that suffer from weak corporate governance and are less profitable than their industry-matched peers. They reject the notion that hedge funds are pure value investors without deeper knowledge about their target firms. They believed that governance rather than operational issues seem to be the reason for being targeted by hedge fund activism. They consider that hedge funds do not simply target undervalued stocks, but their investment strategies may be driven by other objectives like market timing or capturing price and earnings momentum as well. They observe good support for their hypothesis that hedge funds target firms with excessive free cashflow (and related agency problems), the event returns are significantly higher if target firm uses lower leverage or generates higher operating cashflows.

Brav et al (2008) note that hedge funds seem to like simple business models and shied away from complicated business models such as those with high research and development (R&D) type activities. Hedge funds tend to be comfortable dealing with issues that are generalizable to all firms, such as changes to governance and payout policies, rather than issues that are specific to individual target firms (example a sales slump). Targeted firms are typically profitable and enjoy sound cash flows but could be affected by the agency problem of free cash flows, such as relatively low dividend payout and diversifying investments that might not be in the best interest of shareholders. Klein and Zur (2009) also observe that hedge fund targets are normally healthier firms, with higher earnings and hold more cash than other comparable firms.

Firm size helps determines the amount that an activist would have to invest to gain a significant position to submit a shareholder proposal or make their voice heard. Since smaller firms tend to

have greater informational asymmetry, size could be considered as a measure of information asymmetry (Bessler et al 2015). Hedge funds seem to favor smaller sized firms as targets (Greenwood and Schor 2009). While hedge fund targets also typically have poor stock performance, they are small in size and usually have good operational performance, making them potentially better candidates for improvement by activists (Boyson and Mooradian 2011). Low sales could also lead to dis-satisfied shareholders at a target firm and they may propose to bring in change at the firm. Hedge funds use different strategies of engagement based upon the size of a target firm and so size is an important parameter to consider during the analysis to develop a richer understanding.

2.1.8.9. Target Firm improvement post–acquisition

Brav, Jiang and Kim (2015) cite evidence suggesting that the presence of hedge funds is essential for the matching of plants to new owners who can operate the underperforming plants more efficiently. By focusing on the subsample of plants that were sold after hedge fund intervention, they found that these plants showed lower productivity than the other plants in the control sample prior to the sale, but experienced a significant improvement in their productivity under new ownership. They noted that the improvement is significantly greater than that of plants sold without the involvement of hedge funds. We predict that the changes brought in at a firm shall lead to long term performance improvements at the target firm and shall also help the acquirer firm reap the benefits post acquisition. It is perhaps the anticipated future gains owing to activists' involvement that encourages acquirers to pay a higher premium for activist targeted firms than others.

2.1.8.10. Target Firm – self-realization

Activists challenge the firm through threats and action (like removal of CEO or board members). Activists also provide guidance, acquired in the form of their intelligence about the target and provide encouragement by sharing their independently thought out strategy for the target firm. We believe that this leads to a self-realization at the target firm about its untapped potential that can be channeled into better performance. It forces introspection at the firm, its management and workforce, thus revitalizing the firm to its core. We hypothesize that the replenished energy at the firm, obtained via self-realization, shows in the overall performance improvements at the target firm.

We expect the management of the firm to focus better on performance after activist intervention. In fact, some studies have observed improved performance of peer firms even when they were not directly affected by activism (Lee and Park 2009; Gantchev, Gredil and Jotikasthira 2013). Thus we expect activism to create a lasting value for its target firms and the industry too. We can even hope to see future researchers show improvements in the performance of firms that did not get acquired, but faced activist action.

Irrespective of the root cause, whether it's the CEO's fear of activists, or choice of the board to bring in better corporate governance, or replenished motivation we believe that, in general, a brush with the activists revitalizes the desire to perform better at a firm and brings in significant strategic changes that can help the firm in the longer term.

2.2. Mergers and Acquisitions (M&A) Research

As described earlier, activism and M&A are both popular subjects by themselves. Yet, there is very limited research that makes the connection between activism and mergers and acquisitions. In this section, we shall start with a general discussion of the mergers and acquisitions followed by a review of the M&A literature that is primarily focused in two areas that are relevant to this dissertation. We shall examine the literature on target firm returns and premiums, followed with an examination of the post-acquisition performance.

Merger and Acquisition announcements get considerable media coverage. A flurry of news and stock market activity can be commonly observed around the announcement and the event studies seem to confirm it. Bruner (2004) noted that M&A is one of the most aggressive change-agents in the business: volatile and disruptive. Since change is not easy to manage or bear with, it is not surprising that more than half of the outcomes of M&A transactions are considered unsuccessful (Price 2013).

The complex phenomenon represented by M&A has attracted the interest and research attention of a broad range of management disciplines encompassing the financial, strategic, behavioral, operational and cross-cultural aspects of this challenging and high risk activity (Cartwright and Schoenberg 2006). Similarly, the reason for the attraction towards M&A news could also be owing to a mix of psychological, emotional, financial, social and political factors.

Companies engage in mergers and acquisitions for multiple reasons and often more than one reason at a time. The most common reasons cited by companies are economic gains from synergies and cost reduction; and access to new markets or technologies or customers. Macro factors like market deregulation, advent of new technology, or globalization also affect M&A (Virani 2007; Mensah 2011). Acquisitions provide faster access to technologies or speed of entry to new markets as compared to traditional growth channels (Carbonara and Caiazza 2009; Mensah 2011). From a strategic reasons perspective, cross-border mergers could provide access to new resources, markets, and customers (Hopkins 2008). These reasons indicate the role of informational asymmetry that could expose new opportunities.

Hubris at top management team (TMT) is also often noted as a reason for M&A (Gaughan 2011; Martynova and Renneboog 2008; Mensah 2011). Pursuit of self-seeking interests by the managers at the expense of their shareholders – the classic Agency Theory - also explains some of the motives quoted for acquisitions (Jensen 1986; Roll 1986; Tuch and O'Sullivan 2007). The ability of bidders to take on a governance role by acquiring firms that are not pursuing shareholder objectives and seek to extract greater wealth from the firm's assets for the benefit of acquiring shareholders, can also be considered as a motive for acquisition (Manne 1965; Marris 1963; Tuch and O'Sullivan 2007). However, it can be perceived as an aggressive posturing when taken by the acquirers alone. The culture and incentive structure at hedge funds demands agility to identify and act on new opportunities. Activists stay armed with superior intelligence and can engage a target firm before an acquirer. The firm-wide strategic changes at a target firm that are brought in by activists, could appeal even more to a potential acquirer. It could perhaps

explain to some extent a fall in hostile takeovers since the mid-1990s and the coincidental rise in activism.

2.2.1. M&A – Premium and Performance

M&A decision by the management is associated with a hope to gain from the synergies of the merger ('two and two make five') or the independence of the split ('sum of parts is more than the sum of the whole'). The premium reflects the hope, the knowledge level and the learning process that is related to the information about the firms and the uncertainties that could affect their future valuations. The post-acquisition performance reflects the reality of whether the hope associated with the high premium materializes into gains or not. Premium can be readily inferred from the price, measuring post-acquisition performance continues to be a challenge.

In an event study from 1990-1999 examining 473 M&A cases, Moeller (2005) found that acquirer (bidder) announcement returns averaged -2.9% (or a loss); Target firm acquisition announcement returns averaged 21.3% with a takeover premium average at 30.8%; while the combined market value of bidder and target increase averaged at 2%. Similarly in other studies too, we see good premium and higher returns to target firm shareholders at M&A announcement.

Longer term or overall M&A performance studies have observed mixed post-acquisition performance outcomes. King (2014) observed that M&A activity on average does not lead to superior financial performance, but a rather modest negative effect on the long-term financial

performance of acquiring firms! Qualitative studies based on interviews or surveys reflect attitudes of acquiring managers who want to claim victory irrespective of the true outcome. Quantitative measurement of post-acquisition performance is difficult because the target firm ceases to exist after the conclusion of the merger or acquisition as an independent entity and so respective data for the target firm is hard to find. Also, it is difficult to segregate the share of the acquired target from the rest of the acquirer to isolate the outcome performance of the M&A.

General market data and numerous research studies, frequently demonstrate that on average, acquirer firms pay substantial premiums over market values of the target firm. Ideally, from general finance theory of market efficiency, the market value of a firm is an unbiased estimate of the present value of the expected future dividends accruing to current outstanding shares. It leaves little room to explain the conditions under which an acquirer firm could be expected to pay a higher premium.

Varaiya (1987) attributes a premium during M&A to (a.) Increase in the value of gains from acquisition (in form of synergies, reduced operating expenses, lower taxation, increased leverage, lesser competition, better market power, access to a larger market share, etc.) created from the merged firm exceeds the standalone value of the target firm and the acquirer; and (b.) the acquired (target) firm's relative bargaining strength with the acquirer. There is quite a bit of commonality between the approach used by Activists in general and the model that Varaiya (1987) proposed to estimate the premium in M&A. They tend to rely on seeking targets that can provide the gains (from two sources: under-pricing and under-management) and using focused communication (bargaining) to achieve their goals.

Varaiya and Ferris (1987) found that acquirers performed worse when excessive acquisition premiums were paid. A considerable set of long-term return studies have found that acquirer shareholders suffer significant wealth-losses post-acquisition. This seems logical because, if takeover premiums paid to target shareholders are greater, the acquirer's cost for the acquisition shall also be more, and it may have a negative impact on the post-acquisition performance of the acquirer. Takeover targets that offer the potential to provide the acquirer with increased opportunity for wealth creation, could also offer the expectation that a significant portion of this could materialize in improved performance (as can be measured through better stock returns and accounting performance) for shareholders. However, it is not easy for the M&A studies to segregate the target firms based on their future profitability potential, but activists are a special group who possess the ability to pick targets wisely (Boyson and Mooradian 2011; Nain and Yao 2013).

Similar to the corporate governance and agency problem concerns usually raised by activists at target firms, Moeller (2005) sought to find if target managers trade takeover premiums in return for private benefits and thus hurt target shareholders' interests. Evidence suggests that powerful entrenched target CEOs reduce takeover premiums, possibly in return for bidder-provided incentives. Thus to maximize takeover premiums in the interest of all shareholders of the target firm, he hoped that large outside blockholders with board representation should exert influence on the target management. Here Moeller (2005) seems to be picking on the under-management factor that was also raised by Varaiya (1987). Interestingly, activists are known to play this role quite well – they discipline the management to take actions that enhance shareholder wealth. We can expect the activists to market the target firm well to get

and appropriate bidder representation and can expect better premiums in an activist led M&A than otherwise.

As noted earlier that the activists are savvy investors, who use thorough research and skills to pick an underpriced firm that offers a potential to perform better (Boyson and Mooradian 2011). They bring strategic changes to improve the performance of the target firm, and thus make it a suitable candidate for acquirers. The activists are also effective communicators and negotiators, so they can convincingly present the target firm to the acquirer to extract better premium (Briggs 2007). The depth of the changes that activists bring to the target firm and its momentum is sufficient to extract a continued better performance from the target firm assets and resources that help the acquirer post-acquisition (Brav, Jiang and Kim 2012). A crucial research question therefore is whether the expected efficiency gains from targets justify the increased premiums typically paid to target company shareholders in activism led M&A cases? Stated in simple terms, does activism led M&A benefit the acquirer?

2.2.2. M&A – Method of Payment

Research is divided even on the method of payment in an M&A. Some believe that friendly deals using Stock perform better than those using Cash (Gomes, Angwin, Weber and Tarba 2013). Others believe that hostile acquisitions paid using Cash tend to perform better than those paid with Stock (Tuch and O'Sullivan 2007; Gomes, Angwin, Weber and Tarba 2013). King et al (2004) observed that the 'conditions' most commonly studied in prior M&A research (conglomerate acquisitions, related acquisitions, method of payment [cash vs. equity], and prior acquisition experience) do not impact post acquisition performance.

This is in contrast with the findings of Datta, Pinches and Narayanan (1992), who employed a multivariate framework and regression analysis using observations from 41 studies to observe that target firm's shareholders gain significantly from mergers and acquisitions, while those of the acquirer (or bidding firm) do not. Their findings indicate that the use of stock financing has a significant impact on the wealth of both the target and bidding firms' shareholders. They also observe that presence of multiple bidders and the type of acquisition influences the bidders' return, while regulatory changes and tender offers influence the targets' returns.

2.2.3. M&A – A Success

Most companies undertake acquisitions with an eye toward fueling growth, the resulting infusion of new ideas, perspectives and processes can produce lasting benefits that are broader and deeper (Vermeulen 2005). An M&A is considered a success or failure depending on whether the originally expected benefits from the transaction are realized or are not realized by the acquirer. Checking the realized benefits against the premium paid is one of the easiest ways to determine the success or failure in economic terms. Reports of culture clashes, power struggles and people trying to maintain the status quo seem like common post-merger problems at firms.

A study that used world-wide M&A data from Global Mergers and Acquisitions database of Thompson Financial Securities Data (TFSD) for a period 1981 to 1998 to determine the effects of mergers on efficiency and market power (Agrawal, Jaffe and Mandelker 2003), observed that 56.7% of all mergers result in higher than projected profits, but almost the same fraction of mergers results in lower than projected sales after 5 years. It shows that profit increases and sales declines for mergers that increase market power. More than a fourth of all mergers exhibit

this pattern, and this helps to explain why mergers look more successful, when one examines post-merger profits than for post-merger sales. The study observed no significant differences between domestic and cross-border mergers.

In general, acquisitions create around 4% value on average (Yaghoubi, Locke and Gibb 2013). Robert F. Bruner (2002) observes that shareholders of target companies earn sizable positive market-returns, bidders in general earned zero adjusted returns and jointly the bidders and targets earned positive adjusted returns. It is in contrast with other researchers who found that M&A is successful in approximately about half the cases. Since activists are known to be shrewd and value seeking investors, their use of the M&A vehicle poses an interesting challenge. Activists seem to research their targets well to gain from the informational asymmetry challenge faced by others and bring in deep rooted changes to the core of a firm. We propose that post-acquisition performance for activist inspired M&A deals would be better than cases where no activist were involved.

2.2.4. M&A – A Failure

A disproportionate count of M&A transactions fail to meet their originally stated objectives (Bruner 2004; Cartwright and Schoenberg 2006; Mensah 2011). In a 1990-1999 study of M&A, Moeller (2005) observed that (acquirer) bidder announcement returns averaged -2.9%. The conventional belief is that on average firms overpay for target firms during acquisitions due to hubris at the top management team of the acquirer who mistakenly overestimate the benefits of synergy, market access or diversification. Other reasons for failure are attributed to lack of sufficient information about the target firm that leads to mispricing and overvaluation. Post-

acquisition failures are often blamed on cultural issues, inter-firm team dynamics, political influences and information hoarding. Other reasons to blame are a lack of clear focus, vision, implementation planning, change management and integration of resources, people and processes (Bruner 2004; Cartwright and Schoenberg 2006; Mensah 2011).

Rather than a superior financial performance, M&A activity could lead to a rather modest negative effect on the long-term financial performance of acquiring firms (King et al 2004). An analysis of 30 years of prior research observed by Cartwright and Schoenberg (2006) had found that the failure rate in M&A was about half of the total cases. These failures were attributed to three possible reasons: (1.) Executives undertook acquisitions driven by non-value maximizing motives; (2.) The prescriptions from academic research did not reach the practitioner community; and (3.) The research to date seems incomplete in some manner. Unfortunately, later researchers have observed a similar failure or success rate too. This makes us wonder if indeed a lack of understanding of the root causes of success or failures of M&A, as determined through impactful research is the root cause. Thus our study of M&A with an activist focus may aid to enhancing the related knowledge.

2.2.5. M&A - Target selection and Acquirer identification skills

Boyson and Mooradian (2011) had argued that in order to succeed, hedge fund activists need specialized skills that provide an ability to identify targets with strong upside stock potential, low monitoring costs, and sufficient liquidity for a timely exit. Nain and Yao (2013) note the largely unexplored possibility that some institutional investors like mutual funds, pick firms to subsequently engage in more value enhancing investments. Using a sample of 3,988 mergers and acquisitions between publicly traded acquirers and targets during the period from 1990 to

2006, they observed that several proxies for mutual fund stock selection skill could help predict the post-merger performance of portfolio companies. Indicative of active stock picking skills, they observe that several mutual fund stock selection skill measures strongly predict the post-merger performance of corporate acquirers.

Nain and Yao (2013) further note that firms held by funds with higher stock selection skills are more likely to subsequently become acquirers, suggesting that the mutual fund skill-set includes the ability to identify acquirers with value-enhancing acquisition opportunities. Also, from the other earlier discussions and the good investment returns and success rate of activism we can confidently say that the activist hedge funds are better at target selection. We believe that superior stock selection skills could help activist hedge funds to find a good target firm, bring improvements to it and then market it better to an acquirer too, thus enhancing their chance of gaining in the purchase as well as the sale of the target firm.

2.2.6. Target firm characteristics that appeal to Acquirers

Companies engage in mergers and acquisitions for multiple reasons and often could do so for multiple reasons simultaneously. The most commonly cited reasons by acquiring firms are economic gains from synergies, diversification, cost reduction, lower taxation, low operating expenses, and increased market power through access to new technologies or customers or market segments. Macro factors that could induce M&A are market deregulation, advent of new technology, or globalization (Virani 2007; Mensah 2011). Acquisitions provide increased market power through a faster access to technologies or speed of entry to new markets as compared to traditional growth channels (Carbonara and Caiazza 2009; Mensah 2011). From a strategic

reasons perspective, cross-border mergers could provide access to cheaper resources for lower costs or lower operating expenses, increased market share and customer base (Hopkins 2008). Hubris at top management team (TMT) is also often noted as a reason for M&A (Gaughan 2011; Martynova and Renneboog 2008; Mensah 2011; Tuch and O'Sullivan 2007). The characteristics of a target firm that are favored by an acquirer are smaller size (Moeller, Schlingemann and Stulz 2004), low debt, cash rich (low payout ratio), profitability and good corporate governance. The acquisition timings favor market timing to capture price and earnings momentum, or even opportunities exposed by changing geo-political and regulatory regimes.

Target firm characteristics seem to be of significance to acquirers and it has been observed by many researchers as can be seen in the following two literature reviews. The first literature review (Gomes et al 2013) differentiated the M&A process in terms of various interrelated sub-processes. Target firm characteristics show as factors in the pre-acquisition and post-acquisition stages. The pre-acquisition critical success factors considered are choice and evaluation of the strategic partners (due-diligence to ensure a good 'strategic fit' and 'organizational fit' between the parties). Paying the Right Price (over-priced premiums are often blamed for failures), Form of Payment (Stock versus Cash), Size Mismatches (size similarity is mostly favored), Overall Strategy and Accumulated Experience (continuous learning and merger process management helps), Courtship Period (helps reduce informational asymmetry and builds trust and confidence in partners), Communication (adequate levels help reduce uncertainty) and Future Compensation Policy (clear incentive structures aligned with M&A goals help). Some of the target firm characteristics also manifest as important post-acquisition success factors to ensure a proper management of the new organization.

The second fairly comprehensive literature review by Haleblian, Devers, McNamara, Carpenter and Davison (2009) also shows the significance of Target firm characteristics as antecedents and moderators. The related antecedents are Value Creation (Market Power, Efficiency, Resource redeployment, Market Discipline) and Firm Characteristics (Acquisition Experience, Firm strategy and position). The Moderators also included Firm Characteristics (Performance, Size, and Acquirer Experience). The M&A performance as well as the performance of activists in the M&A context can be tested with relation to the firm characteristics.

2.3. Closest related studies

There is sufficient market interest as well as confusion around the areas of activism and M&A, by themselves. The subject of activism in the context of M&A has not been widely researched. We observe three researches that come close to this study. First paper is by Greenwood and Schor (2009) who made a key observation that the best returns in activism are observed only when the target firm gets acquired. The second conference paper is by Guo, Paudyal, Utham and Xing (2015) where they attribute the high returns to ability of activists to seek higher premiums from acquirers affected by hubris. The third paper is by Brav, Jiang and Kim (2013) where they tracked plant level data to understand long term post-acquisition effect of activism.

Greenwood and Schor (2009) are amongst the first to observe that the best returns in activism are observed only when the target gets acquired. Their study was based on SEC filings data from the period 1996-2006 in the U.S. They questioned the argument of a forced change at a firm by the activists. In support of activists' ability to extract higher premiums, they suggested an alternate hypothesis that hedge funds are effective at identifying undervalued companies,

locating potential partners for them and removing opposition to a takeover. We concur with their argument and observations that activists play a role in securing a target. To add qualitative reasoning, we attribute the skill of activists to their insightfulness that helps the firm realize its weakness, their action orientation and ability to bring in a lasting change that shakes the target firm to its core and motivates its management to perform. Greenwood and Schor (2009) suggested future researchers to examine the post-acquisition performance for the acquirer.

We were excited when we stumbled upon a paper that was presented at the Midwest Finance Association 2015 conference in March 2015 by Guo, Paudyal, Utham and Xing (2015). However, unlike its title, the subject of value creation in acquisitions was barely touched upon. The paper had discussed short-term (3-day, 5-day, 11-day) returns around activist intervention and acquisition announcement dates. It noted that activists take better advantage of firms affected by hubris to extract higher premiums. Other than the observations in the post-acquisition short-term event returns, the paper missed to build a theoretical rationale for its hypothesis or empirical observations. It is difficult to conclude whether the hypotheses were originally targeted or whether it was a conclusion that was drawn later based on the observed results of the analysis. Considerable questions can be raised about the generalization of the data sample too. The study had a hand picked a sample of 42 activists from the website of 13DMonitor.com (that lists 71 activists presently) and has missed some prominent activist names. It observed that 64.29% of the deals were between the acquirer and the target from the same industry. The study missed to explain the impact of industry, experience, relationships or networking in its hypotheses. With a lack of good theoretical support or qualitative arguments besides hubris, the

study fails to explain the reasons that can lead to development of any new understanding; and so the study makes a limited contribution to knowledge.

Brav, Jiang and Kim (2015) observed that the current literature on hedge fund activism has not explicitly identified the underlying sources of value creation by hedge fund activists. So, in a unique study of its kind, they studied the long-term effect of hedge fund activism on the productivity of target firms using plant-level information from the U.S. Census Bureau. They matched the plant observations to hedge fund activism events from 1994 to 2007, to examine the dynamics of production efficiency for firms targeted by activists (measured by total factor productivity (TFP), and the gains in efficiency due to the reallocation of target firms' plants). By following plants that were sold after intervention by activists, they found that these results reveal that hedge fund activism leads to a significant improvement in the production efficiency and profitability for targeted firms, particularly in competitive industries. Their effort is praiseworthy because of their rigorous approach. They also showed that measuring performance using the Compustat data is likely to lead to a downward bias because target firms experiencing greater improvement post-intervention are also more likely to disappear from the Compustat database.

Brav, Jiang and Kim (2015) note that Target firms' productivity deteriorates during the two years leading to the activist intervention to a level similar to that of the control plants, but then rebounds to the pre-activism level two years post-activism. Their study is the first to observe a positive "spillover effect" of activism on the industry peers of targeted plants. Further, plants that operate in an industry repeatedly targeted by hedge fund activists also experience a

significant improvement in productivity even though they are not direct targets. Thus, they demonstrate that activism helps by facilitating efficient reallocation of corporate assets. They observe that sold plants exhibit falling productivity and profitability, prior to their sale. However, the sold plants experience greater improvement in the hands of the new owners, suggesting that hedge funds facilitate the matching to new owners who can operate the underperforming plants more efficiently.

2.4. Hypotheses

In the prior sections we noticed that the existing literature as well as prior research has been divided on the outcome of activism and M&A. We also articulated the theoretical rationale for the beliefs expressed in the story of activism. The present set of hypotheses is an extension of the beliefs as it leads to the outcomes for activism and M&A jointly.

We had observed from literature that activists are good at identifying firms that have an untapped potential (Boyson and Mooradian 2011; Nain and Yao 2013). We also observed from multiple studies that they are good at improving performance at the target firm (Goodwin, Singh, Slipetz, Rao 2014; Brav, Jiang, Kim 2012; Bebchuck et al 2013). The activists have been observed to be smart and who are good at using many tactics that can help them with their objectives. Quoting age old wisdom used in common parlance, the activists are good at *showing the carrot and the stick*, as needed, to the firm during their engagement with it, to obtain favorable returns. On one hand, the activists use their own thorough research and findings about the firm, its competitors and the market to encourage the firm towards achieving better performance – thus creating a picture of a well-positioned firm with returns that look promising

(*show the carrot*). On the other hand, the activists *challenge* the management through the use of threats followed with actions that forces the management to bring changes at the firm to achieve better performance (*use the stick*).

Thus using a hostile approach where needed (Boyson and Mooradian 2011), the activists add color to their portrayal of a well-positioned firm with returns that look promising. To help recollect, our first research Question is: *Is activist led acquisition better than others for the target firm?* This question looks at how hedge fund target firm shareholders benefit from being acquired using quantitative and qualitative measures. To simplify the understanding we decided to examine this question from three quantifiable factors: the price premium, the count of bids and the form of the payment.

We believe that the stock market has taken a note of the activists' abilities to bring in positive changes to their target firms (as shown in the short term and long term event studies around activist announcements of their engagement with a target firm). The changes to a target firm that activists help bring in, also leads to an improved marketability of the target firm. We believe that it shall get reflected in the price premium offered for the target firm by an acquirer as well as in the interest (count of bids) received by the target firm. We believe that the price premium as well as the interest in the firm shall be more for an M&A case where an activist was involved as compared to an M&A case where an activist was not involved. Hence the two hypotheses:

H1.a. Activist influenced M&A shall lead to higher premium for target firm shareholders, as compared to others.

H1.b. More bids shall be observed for the target firm in an activist influenced M&A deal, as compared to others.

Cash as a form of payment is considered more liquid in general. Cash also is favored by activists over dealing with stock when they show their activist intentions (Greenwood and Schor 2009). Cash has also shown better returns in the M&A studies. So from a general reciprocity perspective and the power of liquidity, we expect cash offers to be the favored vehicle for payment in the activist led M&A cases too. This led us to the hypothesis:

H1.c. We shall observe more cash offers than stock for the target by the acquirer in activist led M&A.

Our second research question is: *Are activist hedge funds equally good in generating merger or acquisition related value for target firm shareholders?* This question compares the abilities of hedge funds by classifying them based upon their prior overall experience, their experience in the industry of the target firm and the amount of the ownership interest that the activists have in the target firm.

Through the literature review we observed that prior knowledge gained through experience in an industry, total overall experience that offers the practice needed to improve the learning and self-performance of activists helped them extract better performance from their target firms (Boyson and Mooradian 2011). We expect that these attributes along with the proven ability of

the activists to improve firm performance shall help them seek better acquisition premium too. Hence the hypotheses:

H2.a. An activist with prior experience in the industry of target firm shall get better premium for the target.

H2.b. An activist with prior overall experience shall get better premium for the target than when a lesser experienced activist is involved.

It seems natural that as ownership interest of an investor increases it becomes more concerned about his or her investment in the firm and increases his or her engagement with the target firm. The increased engagement leads to higher expectations for a better performance and shall get reflected in the higher premium for the target firm. Hence the hypothesis:

H2.c. An activist with greater ownership in the target firm shall get a higher premium for the target.

Our third research question is: *Does an activist involvement in a merger or acquisition lead to better post-acquisition performance for the acquirer?* The smart activists through their use of skills of encouragement and threats shake the target firm to its core, leading to a self-realization of its un-tapped potential ability to perform better and execute on a superior strategy. The self-realization and the other firm-wide changes brought in due to the activist influence stick on like a momentum effect with the target firm, where it continues to perform better for a long time even after it gets acquired (Brav, Jiang and Kim 2012). The belief also finds support from studies that analyzed the performance improvement (*spill-over*) effects of activism on peer firms that

were not directly affected by activism (Lee and Park 2009; Gantchev, Gredil and Jotikasthira 2013). Thus we can expect that the target firm continues to perform better even after it gets acquired. Hence the hypothesis:

H3.a. Post-acquisition performance for the acquirer of an activist targeted firm shall be higher than acquirers of non-activist targeted firms.

CHAPTER III

METHODOLOGY

The rest of the chapter contains a discussion of the data sources and definitions used in this study before we move on to discuss the methods.

3.1. Data collection

This study involved pulling different types of data from multiple sources. We start the process by examining data related to activism and then follow it with data related to Mergers and Acquisitions (M&A). Subsequently we discuss the data used for measuring the stock and financial performance of the activism related M&A outcomes.

3.1.1. Activism data

Most of at the investor activism related studies have focused on the use of 13D filings as their source of data. In the USA, section 13(d) of the 1934 Securities and Exchange Act requires investors who are beneficial owners holding over 5% of shares with active interests to file Schedule 13D (and Schedule 13G for shareholders with passive interests), within 10 days of the date when their total holding reaches 5% or more of the total shares for a firm.

The shareholders are also required to inform the Securities and Exchange Commission (SEC) of any material change in their ownership in a timely manner. The SEC promotes electronic filing of information and the filings can be freely accessed by the public using the internet from the SEC's EDGAR database (or via S&P Capital IQ database via a paid subscription). The most important information that the Schedule 13D filing collects is the activist's intent, as captured in Item 4 "Purpose of Transaction". The filing also contains many other details about the activist firm, the target firm, the ownership, the purchase details, etc. that could be used for further analysis to develop a richer understanding. In the absence of a reliable centralized database for hedge fund activism events, the most reliable source for such events comes from the Schedule 13D filings (Brav, Jiang and Kim 2010).

A schedule 13D form does not have a simple check-box to indicate the filer's intentions. Instead, the schedule 13D form has a free-form text entry field (Item 4: 'Purpose of Transaction') where the filer can express his or her intent. One has to read through the filing documents to interpret the true intent of the filer. A variation of interpretations between individuals causes significant difficulties for research and poses considerable challenges for individuals and other smaller investors who lack the resources to scan through scores of filings to identify opportunities. Some commercially available 13D filing databases parse through item 4 ('Purpose of Transaction') of the 13D filings to extract the motives of the activist investor. One can raise quality concerns about the interpretation of an investor's motives and their categorization by the automated parsers. Since commercial databases are driven by financial gains primarily, some of these databases focus on events related to firms greater than $100 million worth only (for example 13Dinsights.com). This leaves a large gap in research about smaller firms and

makes it difficult to understand the role of other drivers, if any, that affects these investments. To add complexity, certain commercial databases store only the electronically filed Schedule 13D forms (example EDGAR), while others contain paper filings as well as electronic filings (example Thomson Reuters database). The databases also vary by the amount of content that is available. Irrespective of the concerns, the extent of effort involved and attention to detail that is exercised by the researchers to determine the intent of a 13D filing is commendable.

Our sample of activism cases comprises the hand collected activism cases by fellow researcher and cohort member Shane Goodwin (from Goodwin, Singh, Slipetz and Rao 2014). We are grateful to Shane for allowing use of his personal database that he has created and maintains using general intelligence from media and other specialist sources. This database is more comprehensive and contains activism cases that did not involve 13D filings alone. We randomly selected above 300 events from the activism database to cross-check the accuracy of the information from the SEC filings and were satisfied with the outcome.

We started with 5728 cases of activist events from our hand collected data (years 1984 through 2014) of USA based target firms. We divided it into two groups: A. the cases that led to an M&A subsequently within the next five years and B. the cases that did not lead to an M&A. Set A comprises a count of 1977 items; that is about 40% of all activist events and represents the activist events that are in-scope for this study. Set B comprises approximately 60% of the activist events, but is not M&A focused and so it shall be treated as out-of-scope for this study.

3.1.2. Mergers and Acquisition data

Mergers and Acquisitions data can be obtained from the Schedule 14A (DEFM14A) filings at the SEC and can be accessed using the SEC's EDGAR database (www.SECInfo.com). PREM14A filings are described by the SEC as a preliminary proxy statement relating to a merger, acquisition, or disposition. PREM14C filings are described by the SEC as a preliminary information statements relating to merger or acquisition. DEFM14A filings are described by the SEC as a definitive proxy statement relating to a merger, acquisition, or disposition. DEFM14C filings are described by the SEC as a definitive information statement relating to merger or acquisition. To save us the hassle of parsing through the various filings, at the SEC, we chose to obtain the Mergers and Acquisition data from the SDC Platinum commercial database.

3.1.3. Stock data

For the event studies, we used the database provided by The Center for Research in Security Prices (CRSP). It was accessed using the Eventus software (published by Cowan Research, LC) hosted at the Wharton Research Data Services (WRDS) system by the University of Pennsylvania.

3.1.4. Financial data

We used the Compustat database from Standard & Poor's (S&P) for obtaining the financial accounting performance measures data for the target and acquirer firms. Our databases did not contain the ownership information of activists in their target firms. So we scanned through the S&P Capital IQ database as well as the various filings at the SEC's EDGAR database to hand-collect the ownership details for over 300 cases that were picked randomly from the Activism

dataset. Further, we drew random samples from our datasets and checked them against other sources of similar information, the popular media or the internet and were satisfied with the overall level of data quality.

3.2. Data Organization

3.2.1. Datasets

We created four datasets to help organize the way we analyzed and reported our findings, namely: “Activism”, “NonActivism”, “CompNonActivism” and “CompActivism” respectively. We obtained details about the mergers and acquisitions (M&A) deals having an enterprise value exceeding 10 million dollars (USD) from the SDC Platinum database for period 1980 through middle of 2015. The “Activism” dataset was created by using the CUSIP of the firms targeted by Activists (group A above) to extract the M&A cases where the target of the acquirer was also the target of the activists. The “NonActivism” dataset contains the remaining M&A cases where the target of acquirers had not been targeted by the activists. We created a third sample dataset “ComparableNonActivism” comprising a control group extracted from the “NonActivism” dataset, by closely matching the characteristics (Timing of M&A announcement, Industry Group, Firm Size and Prior Performance) of the cases in the dataset “Activism”. Similarly, we created a fourth sample dataset “ComparableActivism” to represent another control group extracted from the “Activism” dataset, by closely matching the characteristics of the cases in the “ComparableNonActivism” dataset. A reverse lookup was used to confirm that the datasets were appropriately constructed.

Activism dataset: To create the "Activism" dataset we selected the M&A cases where the target firm also happened to have been the firm that was targeted by Activists during the 5 years prior to the announcement of the M&A deal or where the Activists targeted the firm after the M&A deal was announced but before the M&A became effective. The 6-digit CUSIP code was used to match the target firms between the Activism and M&A databases. Thus, we arrived at a sample of 1977 cases in the activism dataset. We observed that 60% of the activism cases did not lead to a merger or acquisition (M&A), while only 40% of Activism cases led to a subsequent M&A. This observation has been similar to the findings of earlier researchers who found acquisitions to be a high or increasing outcome of activism (Greenwood & Schor 2007; Burnett, Zu, Morris and Rodriguez 2011; Franks, Grant & Wagner 2015). In our observation of the activism cases that were followed by an M&A event; M&A announcement followed Activism campaign within the first year for half (50%) of the cases, followed by about 70%/80%/90%/100% cases during the second/third/fourth/fifth year respectively. We did not see any significant difference in the time taken between announcement of M&A and it becoming effective: all three datasets showed M&A becoming effective during the first year in about 80% cases and above 95% cases during the second year.

NonActivism dataset: Our "Non-Activism" dataset comprises 23357 cases where we found that the targets of M&A were either not targeted by activists or where the activists had also targeted the same M&A target firm more than 5 years prior to the announcement of the corresponding M&A deal or where the activism intent of the activists for the target firm of the M&A was announced or became known after the respective M&A deal became effective.

ComparableNonActivism dataset: Using prior research as a guiding light, the comparable non-activism dataset was created as a controlled group or subset of the non-activism dataset that could be considered as comparable to the cases in the activism dataset based on four key criteria: timing, size, financial performance and industry. We used 6 months around the M&A announcement date as the criteria to match for the timing. To obtain cases with a similar financial performance, we used a band of 50% around a ratio of the earnings before income tax and depreciation (EBITDA) to the total value of the assets from a year prior to the announcement date of the M&A at the target firm. To obtain target firms with similar size between the activism and M&A target firms, we selected firms based on a band of 50% around the enterprise value of the target firm from a year prior to the M&A announcement date. Similar to a considerable amount of prior research, and to ensure acceptable diversity among the comparable non-activism target firm samples, we used a match on the first two digits of the Standard Industry Classification (SIC) code that reflects the major industry group. Thus, we arrived at 1239 sample cases for the "comparable non-activism" dataset and used it here in the research as the control group.

ComparableActivism dataset: Using the "comparable non-activism" dataset, we identified the corresponding 770 matching cases from the "Activism" dataset to create the "Comparable Activism" dataset.

3.3. Variable Definitions

Premium: Premium usually reflects the gains (or losses) reflected in the change of a stock price of a firm between two points of time that its shareholder can benefit from. The higher is the premium, as seen in the higher price of the stock of a firm, the higher is the gain for the shareholders of that firm. A Premium is calculated with reference to a certain event or point in time. In this research we consider the premium with reference to the announcement of the M&A deal.

Premium related to announcement of Activism versus Premium related to announcement of M&A:

Please note that the premium observed in most activism studies relates to the increase in price of the target firm (of activism) as a result of the activism campaign and is with reference to the activism campaign announcement date (irrespective of whether the event is related to an M&A or not). Those studies do not enter the M&A context like we do here. This study does not refer the Premium related to the announcement of Activism.

In this research, we refer the premium with reference to the M&A announcement event (irrespective of whether it is related to an activism event or not).

Prem_4w_BefAnnDate: We consider that 4 weeks is a sufficient gap of time between the reference point used to compute the premium on the stock price of a target firm and its M&A announcement event date. We used the field representing the premium 4 weeks prior to the M&A announcement date from the SDC Platinum database as a measure of premium value

(expressed in percentage) for the shareholders of the target firm in a M&A transaction. Using randomly picked samples, we computed the value separately and cross-checked to validate that the value in the SDC database matched the relative change in the stock price of the target firm from the start of the 4 week time period and the M&A announcement date.

Num_Of_Bidders: We used the count of bidders as a proxy to obtain the count of bids that were made during a M&A transaction for a target firm. More bids or more bidders for a target indicate more interest from possible acquirers. More bids also reflect fair competition and chances to get a fair value for the target firm. In fact, some of the activism events occur to prevent a target firm from getting undersold quietly to a preferred acquirer or to prevent an under-the-table deal with an acquirer in exchange for private or limited benefits to the board or management of a target firm that could hurt the interest of the general shareholders. The count of bids values for the M&A transactions in this research were obtained from the count of bidders field present in the SDC Platinum database.

Cash Offer Vs. Stock Offer: Many forms of payment for a target firm could be used in a M&A transaction: Cash, Stock or others or any combination of these. Cash has the highest liquidity and is simple to understand from a value perspective. Cash settlement usually involves no conversions either (except may be for different currencies) and are also easy to settle. Hence, we believe that Activists would prefer cash offers over other forms of payment. SDC Platinum database provides three fields to reflect the form of payment used in a M&A transaction: percentage of cash, percentage of stock and percent of other. We created a dummy variable CashOnly with a value 1 if the percentage of cash was 100 and a value 0, if otherwise. Similarly,

we created a dummy variable StockOnly with a value 1 if the percentage of stock was 100 and a value 0 otherwise. We created a variable OtherOrMixed and assigned a value 1 if it was neither 100 percent cash or stock and 0 otherwise.

PriorExp_Act: We examined our activism dataset and created a dummy variable PriorExp_Act that was assigned a value based on the count of prior instances of activism with the various target firms that the activist had been involved with. The magnitude of this variable was used to determine the prior overall experience of the activist for the respective target firm.

PriorExp_Act_Ind: We examined our activism dataset and created a dummy variable PriorExp_Act_Ind that was assigned a value based on the count of prior instances of activism with firms that the activist had in the same industry. We considered a match on the first two digits of the Standard Industry Classification (SIC) code of the target firm as an indicator of firms from the same industry. The magnitude of this variable was used to determine the prior overall experience of the activist in the industry of the respective target firm.

3.4. Post-Acquisition Performance measures

A focus on short term abnormal market return around activism or M&A announcement event appears to be the most commonly used performance measure in finance and strategic management (Haleblian et al 2009). To determine the benefit of an M&A transaction to an acquirer firm and its shareholders we measure the outcome in terms of the financial performance of the acquirer firm as well as the performance of the stock price of the acquirer

for the long term (up to 5 years after the M&A transaction became effective). We use the return on assets (ROA) as a measure of the financial accounting performance for the acquirer. We compute Cumulative Abnormal Returns (CAR) using Market Model method, Market Adjusted returns method and the four-factor Fama French Momentum methods and use them as measures of stock price based performance. We also compute the Buy and Hold Abnormal returns (BHAR) using the Fama French Momentum method and use it as a measure of stock price based performance.

Return on Assets (ROA): Return on Assets (ROA) is one of the popular measures of financial analysis using the Du Pont Identity. As the name suggests, ROA represents the profitability of the assets in generating revenue for the firm. It provides a good indication of the capital intensity of the company. It is usually expressed as a simple numeric ratio (or percentage). ROA helps an investor assess the ability of a company to derive a unit (dollar) of earnings from every unit (dollar) of assets that it invests. ROA is used as a decision metric by the investors to compare the performance of firms and is watched closely by the management, existing shareholders and potential investors. Usually, the large scale infrastructure investment projects are known to have lower ROA, but could provide stable long term returns, and their ROA over 5% may be considered good. On the other hand, some service sector or high technology firms may have very low assets, but could provide very high ROA, even over a shorter term.

Using the Compustat database, we obtain the Earnings Before Income, Tax, Depreciation and Amortization (EBITDA) and the Total Assets values from the annual filings by the firms. We calculated the ROA as a ratio of the EBITDA to the Total Assets for the firm.

3.5. Event study measures

We used the Market Model (MM) method, the Market Adjusted Returns (MAR) method and the Fama French Momentum (FFM) methods to obtain cumulative abnormal returns (CAR). We also compute the Buy and Hold Abnormal Returns (BHAR) using the Fama French Momentum model. We used the Eventus software from WRDS for the CAR and BHAR computations used in this research; the equation and formulas used are explained well in the Eventus User Guide (Cowan 2007).

Market Model method

Event Studies continue to be one of the most popular methodology among researchers (Zollo and Degenhard 2007; Krishnakumar and Sethi 2012). It involves estimation of the normal returns for a firm with reference to the market using a simple linear regression as shown in the below equation representing a single factor market model (Cowan 2007).

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

Here,

R_{it} is the expected return on the i^{th} firm at time *t*.

R_{mt} is the rate of return of a market index at time *t*

α_i is the intercept term

β_i is a measure of the sensitivity of the return on the firm R_{it} to the returns from the market index R_{mt}

ϵ_{it} is the error term, representing a random variable that must have a zero expected value, and not be correlated to the market returns R_{mt}; not be correlated to returns

from other firms R_{kt} (where k is different from j); should not have auto-correlation; and be homoscedastic.

The Abnormal Return (AR) can thus defined to be

$$A_{it} = R_{it} - (\overline{A}_i + \bar{B}_i R_{mt})$$

Where, $\overline{A}_i$ and $\bar{B}_i$ are regression estimates of α_i and β_i. We used ordinary least squares (OLS) for estimation of the regression coefficients used in this research.

The Cumulative Abnormal Return (CAR) over a range of time, say between T1 and T2, shall compute the sum of the AR for the periods from T1 to T2, for the respective firm j. The Average Abnormal Return (AAR) is a simple arithmetic average of AR over the given time range (for example 180 days). The Cumulative Average Abnormal return (CAAR) over a range of time for N firms, say between T1 and T2, shall compute the average of CAR for the periods from T1 to T2, for the N firms by adding all CARs and dividing by N.

Market Adjusted Returns (MAR) model

A market adjusted return value represents the excess of the return from a firm over its corresponding market return. The MAR for a firm j is computed by subtracting the return for the market index at time t (R_{mt}) from the stock for firm j (R_{jt}).

$$A_{jt} = R_{jt} - R_{mt}$$

The other definitions for CAR, AAR and CAAR follow the same process as the market model.

Fama French Momentum (FFM) model

The Fama French Momentum (FFM) model combines the three factor Fama French model (1993) with the momentum factor suggested by Carhart (1997). A separate estimation period can be used for the parameters introduced in the below FFM equation, beyond those borrowed from the Market Model equation:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + s_j SMB_t + h_j HML_t + u_j UMD_t + \epsilon_{jt}$$

Here, SMB_t is the average return on small market-capitalization portfolio minus the average return on three large market-capitalization portfolios. Its coefficient s_{jt} measures the sensitivity of R_{jt} to the difference between small and large market-capitalization stock returns.

HML_t is the average return on two high book-to-market equity (growth) portfolios minus the average return on two low book-to-market equity (value) portfolios. Its coefficient h_{jt} measures the sensitivity of R_{jt} to the difference between the stock returns of the value and growth portfolios.

UMD_t is the average return on two high prior-return portfolios minus the average return on two low prior-return portfolios. Its coefficient u_{jt} measures the sensitivity of R_{jt} to the difference between the high prior-return stock returns and low prior-return stock returns.

The Abnormal Return (AR) for the FFM model can be estimated using the equation:

$$A_{jt} = R_{jt} - (\overline{A}_j + \bar{B}_j R_{mt} + \hat{s}_j SMB_t + \hat{h}_j HML_t + \bar{u}_j UMD_t)$$

Here the coefficient $\overline{A}_j$, $\bar{B}_j$, $\hat{s}_j$, $\hat{h}_j$, $\bar{u}_j$ cab be estimated using regression for α_j, β_j, s_j, h_j, u_j. We have used ordinary least squares (OLS) method for regression estimation in this research.

The other definitions for CAR, AAR, and CAAR follow the same process as described in the market model.

3.6. Statistical Tests

Basic Statistics: To understand the characteristics of a variable and its distribution we computed the mean, trimmed mean (1%), median, standard deviation and other general measures related to a univariate distribution. We use the Student's t-test (that compares a sample distribution to a normal distribution) to check if the mean of a distribution is different from the population mean (zero). We have used the symbols *, **, ***, **** to show the statistical significance of the mean determined using the Student's t-test at the 0.10, 0.05, 0.01 and 0.001 levels respectively. A symbol ~ indicates that the p-value for the t-test indicated that the mean value is not statistically significant and here, we advise to use the trimmed mean value if it was found to be significantly different than zero as well. We used the SAS software to compute the statistical results and have included the basic statistics tables in the appendix for all variables of significance that were used in this research.

Understanding the Distributions: We started with basic tests of normality to understand the type of the distribution and considered the results from the **Shapiro-Wilk test** (when sample had less than 2000 cases) and the **Kolmogorov-Smirnov test** (for datasets with above 2000 cases). We do not report the tests of normality. We also relied on understanding the distributions through visualization techniques (some plots are available in the Appendix sections later).

Comparing the distributions: We used parametric tests as well as non-parametric tests to compare the distributions of the samples/datasets. The **parametric tests** rely on the shape or form of the distribution (example normality) or its parameters (for example mean, standard deviation, etc.). The parametric tests used to compare the distributions are: the **Pooled t-Test**

and the **Satterthwaite t-Test**. They represent different methods for computing the standard error of the difference between the means of a variable that is drawn from the two samples. The Pooled t-Test assumes that the two sample populations have equal variances. The Satterthwaite t-Test does not assume that the populations have equal variances. We conducted the t-Tests for a 95% confidence level (Alpha = 0.05). These test scores are shown as a pair of t-Value & its significance or p-value that is shown in parentheses. The respective t-Test score (t Value) and its associated p-value (Pr > |t|) helps check and compare whether the mean for the first sample differs significantly from the mean for the corresponding other sample. The p-value is the two-tailed probability computed using the t distribution. It is the probability of observing a greater than or equal absolute t-value under the null hypothesis (H0: The two means are the same or that the difference between the means from the two samples is zero). For a one-tailed test, we can halve this probability (p-value). When interpreting the results, a p-value that is less than our pre-specified alpha level (here 0.05), shall help us conclude that the difference between the means of the two sample distributions is significantly different from zero (or that the distributions have different mean values). A p-value that is greater than or equal to alpha (here 0.05) indicates a non-highly significant p-value, and supports the conclusion of a non-significant difference between the means of the samples being tested. We examined (but not reported) the F-test score and its associated probability or p-value (Pr > F) from the **Folded-F test** that is used to compare the variance of the two samples. A p-value < Alpha (0.05) indicates that the variances are not equal and recommends use of the Satterthwaite test. A p-value >= Alpha (0.05) indicates that the difference in the variances is not statistically significant and recommends the use of the Pooled test for the comparison of the means.

Non-parametric tests seem enticing because they make no assumptions about the shape or parameters of distributions being compared. However, the generality of non-parametric tests comes at the cost of making them less accurate than parametric tests: for example where the shape of the distribution is normal and the tests may also require a comparatively larger sample size. The results from the non-parametric tests can also be difficult to interpret than the results from the parametric tests (for example the mean of ranks does not tell much about the data), thus making them useful in some cases but not universally applicable either. We used the non-parametric tests: Wilkoxon and Kruskal-Wallis; to compare pairs of samples and to check if the respective samples arise from different distributions, or not. In simple terms when comparing the distributions drawn from the two samples for a variable, these tests check whether the distribution of the variable is the same across the different groups, or is not the same. The **Wilkoxon (Rank Sum) test** is used primarily to indicate if the medians are different between the concerned sample and the activist target sample. The Wilcoxon test is used as an alternative to the t-test when the population cannot be assumed to be normally distributed. Even with normality assumptions, the efficiency of the Wilcoxon test results compares well (95%) with the t-test. In the results used here, the Normal Approximation Z statistic is quoted for the Wilcoxon test and it includes a continuity correction of 0.5. In the result tables, the Z-score is followed by its corresponding One-Sided p-value (Pr > Z) and the Two-Sided p-value (Pr > |Z|) respectively in parentheses. The **Kruskal-Wallis test** also compares the medians across the samples. Here, the null hypothesis (H0) is that the medians of all groups are equal; and the alternative hypothesis (H1) states that at least the population median of one group is different from the population median of at least one other group. The Kruskal-Wallis test score is reported here as the Chi-Square statistic and its significance or p-value (Pr > Chi-Square) as shown in the parentheses. The tests were conducted for 95% confidence level (Alpha = 0.05). A p-value that is less than

alpha (0.05) indicates a highly significant p-value, and supports the conclusion of a significant difference between the samples being tested. A p-value that is greater than or equal to alpha (0.05) indicates a non-highly significant p-value, and supports the conclusion of a non-significant difference between the samples being tested.

We have also used the **McNemar's test** to compare the binary outcomes of questions (for example here we checked for above or below the mean/median value) between two variables. The results get arranged in a two-way contingency table. The null hypothesis for the McNemar's test assumes that the two questions with binary outcomes get answered correctly or incorrectly at the same rate (or that the contingency table appears symmetric). Where relevant, we also analyzed the **Pearson's Correlation Coefficient** to understand the strength and direction of relationship between variables and reported its significance.

CHAPTER IV

FINDINGS

Results and Analysis

We shall use the earlier established order of the key research questions and the hypotheses to discuss the analysis and results in this section.

H1.a. Premium for target during M&A

H1.a. Activist influenced M&A shall lead to higher premium for target firm shareholders, as compared to others.

To ensure an appropriate balance between going out too far from or close to the event date, we chose the premium computed from a period four weeks prior to the M&A announcement date. We compared the premium percentages across the datasets: Activism, Comparable Activism, Comparable Non-Activism and All Non-Activism. We excluded premium values that were negative or above 500% to reduce the effect of outliers. We observed that premium earned by target firm shareholders during the 4 weeks that led to the M&A announcement, for activism cases averaged 34% (median 25% and 1%-trimmed-mean at 32%) from a sample of 1977 cases, as compared to an average 21% (median 3% and 1%-trimmed-mean at 18%) from a sample of 23357 cases for all of M&A that was not preceded by activism.

It is interesting to note that a sample of 1239 "comparable non-activism" related cases also stayed closer to the general "non-activism" cases and had an average premium value of 25% (median 15% and 1%-trimmed-mean at 23%). Similarly, the sample of 770 cases from the "comparable activism" dataset stayed closer to the general "Activism" dataset cases and had an average premium value of 29% (median 23% and 1%-trimmed-mean at 28%). These results were found to be statistically significant using parametric as well as non-parametric measures at the 99th percentile or higher (details are shown in the appendix section 6.4.1.1.). We observed very strong support for our hypothesis H1.a.

Prior research (usually with lesser data and from specific economic cycles) had observed that the best gains in activism, around the date of "Activists announcement" come from targets that get acquired subsequently (Greenwood and Schor 2009). Our research accepted the challenge to look beyond this stage to analyze the subsequent gains from the M&A announcement event, in the shorter term. We also used a much larger data sample that overlaps the data used in most research and spans multiple economic cycles. It could be argued that the media highlights the presence of activists and thus helps market the target firm to potential acquirers. Please note from the prior research that the price of targets of activism usually gets inflated initially when activists target them (the activism announcement event date) – irrespective of the subsequent M&A announcement or not. As we observe that about 40% of the activism cases lead to an M&A, it can be argued that the premium associated with the announcement of activism should have already captured some share of the subsequently anticipated M&A announcement too. This makes us believe that our results are conservative because the 4 week premium we observe does not include: (i) the activism related premium around the time of activist engagement with its target; (ii) the acquisition premiums discounted at the time of the initial acquisition of the target by the activists.

Please also note that the premium for the comparable non-activism related M&A cases is not very different from the general non-activism cases, so what is special about the activism related M&A cases that they seek such a high M&A premium? Activists are known to study their targets well and strike at opportune moments for example at times of institutional fire sales (Gantchev and Jotikasthira 2015; Zhu 2014) and it demonstrates their superior ability to utilize information and make the best out of the opportunity. Is being opportunistic about an investment decision and executing astutely with precision a bad call? Would a reader of this article not do so, if it was legal and did not hurt anyone? As more buyers converge to a stock, the increased interest drives the price up, thus increasing the firm's valuation and benefitting its existing shareholders. We believe that the presence of activists helps bring attention to a promising firm with an undervalued stock (Gantchev, Gredil and Jotikasthira 2015). It also benefits other comparable firms in an M&A context in two ways at least: A. it helps boost their stock and firm value; and B. it motivates the management and the board to make strategic decisions to improve firm performance that the activists advocate for in the interest of the firm and its shareholders.

However, besides seeking better stock prices, the activists take interest in their firms and use their superior intelligence gathering ability to demand changes of strategic significance that benefit the firm and its shareholders. For example, activists engage the management and the board to improve firm performance, curtail wasteful expenditure, limit CEO pay, bring better governance, consider divestiture or acquisition, strengthen stock value, return cash to shareholders, etc.

Acquisition decisions are well-thought out strategic choices made by the firms with a long term focus and should not be considered like short-term tactical moves to gain from higher stock prices. We conclude that the higher premiums observed at activism led M&A announcement

events shows that A. acquirers believe that they are investing in a lean and mean target firm (a quality that can be attributed primarily to investor activism alone, at that moment); B. that they believe that the target firm has the potential to perform well in the long term; C. they believe that the target is available for the right price; D. that the activists can help make it a smoother acquisition by removing the impediments to success, prior to the conclusion of the acquisition; E. that the activists help bring a faster closure to the M&A process; and F. activists use their superior intelligence about the capabilities of the target to market it well to more potential acquirers in a stealth yet firm manner to obtain a higher premium.

H1.b. Number of Bids

H1.b. More bids shall be observed for the target firm in an activist influenced M&A deal, as compared to others.

We chose the number of bidders in an M&A deal to check on the magnitude of the count of bids. We compared the bids across the three datasets: Activism, Comparable Non-Activism and All Non-Activism. We observed that the average number of Bidders for a target firm in an activist influenced M&A deal (Average 1.12, Trimmed-mean (at 1%) 1.10) is approximately 10% better than comparable non-activism related M&A deals (Average 1.02, Trimmed-mean (at 1%) 1.00) as well as all non-activism M&A deals not preceded by activism (Average 1.03, Trimmed-mean (at 1%) 1.01). The control groups from the activism and non-activism perspective also showed a similar pattern: the "comparable activism" cases showed an average 1.12 bids (Trimmed-mean (at 1%) 1.10) compared to 1.01 (Trimmed-mean (at 1%) 1.00) bids for the "comparable non-activism" cases. These results were found to be statistically significant using parametric as well as non-parametric measures at the 99th percentile or higher (details are shown in the appendix section 6.4.2.1.). These results show strong evidence in support for our hypothesis H1.b.

What is it that lures more bidders to an activism led M&A deal as compared to others? We observed a similar level of bids between our control group or the comparable non-activism related M&A deals as the general non-activism deals; and both cases were about 10% lower than the bids received for activism related M&A target firms. Does it indicate a higher interest in the expectations of future performance from activist targeted firms? As explained while analyzing the results of hypothesis H1.a. and in prior research that the activists help bring a sloppy or low performing firm back to its feet and they also help remove the impediments to its growth prospects (for example by shedding of under-performing and dissenting management). We believe that like general shareholders who like investing in activist targets, potential acquirers would also like to gain from such a re-invigorated firm where the management has bought into the arguments of the activists and are committed to a better performance and a brighter future for the firm.

We should also try to perform a qualitative examination of the reasons that lead to activism, to answer the prior question. For example, in general, a golden parachute may be available to a non-performing executive in an M&A event, but not necessarily during an activism event. We randomly examined the voluminous text found in the activism related M&A context from the SEC filings and related news articles to develop a richer understanding. We observed numerous examples where activists stepped in to prevent a firm from being undersold or being sold to a preferred acquirer or where we found accusations that the management or the board or both groups from the respective target firm had agreed to an under-the-table deal to an acquisition in exchange for private benefits to themselves; and where the interests of the general shareholders were being ignored. Hence, it is our belief that activists bring fairness to the bidding process by making it more open and honest. Being able to attract the interest of a higher count of potential bidder seems natural for the activist targeted firm when we combine these arguments of fairness

with those used for the hypothesis H1.a., that the activists are perceived to be armed with superior intelligence for the target and invite attention of potential acquirers to matters of strategic significance for the firm and its shareholders.

H1.c. Cash Offer: Mode of Payment

H1.c. We shall observe more cash offers than stock for the target by the acquirer in activist led M&A

We marked the M&A deals that had 100 percent cash form of payment as having an All Cash Offer. Similarly, we marked the deals with 100 percent stock form of payment as having an All Stock Offer. We grouped the remaining deals as having a Mixed or Other form of payment. It helped us compare the form of payment used in the Activism related M&A dataset. When considering the form of payment, we observed a much higher percentage of All Cash Offers for a target firm in Activist influenced M&A deals (Average 66%) than the All Stock Offers (8%) or Others (26%). Further, we also found more All Cash Offers for a target firm in Activist influenced M&A deals (Average 66%) in contrast to all non-activism (Average 50%) related M&A deals. The pattern of a higher All Cash Offer repeated for the control groups: "comparable activism" dataset (average 71%) and "comparable non-activism" (Average 55%) dataset. These results were found to be statistically significant using parametric as well as non-parametric measures at the 99th percentile (details are shown in the appendix section 6.4.3.1.). Thus, we observe strong support for our hypothesis H1.c.

Why do activists prefer Cash only deals above Stock or mixed forms of payment? Similar, to the reasoning provided for the prior hypotheses H1.a. and H1.b., here too we observe that the count of All Cash Offers for a target firm is similar at about half the total cases for the comparable non-

activism and all non-activism related M&A deals; while it is at two-thirds level for the activism related M&A cases and the related "comparable activism" control group. It is well known that a position in stock is subject to uncertainty owing to numerous factors. However, cash is known to holds it value well irrespective of the market. It brings liquidity, agility and a hassle free settlement in a transaction. Stock value is subject to market volatility and other regulations, making it considerably less liquid and difficult to exchange as compared to cash. So it is easier to convince general shareholders about the future gains from a cash transaction compared to a stock based transaction. Activists are known to be lean, mean, fast and action oriented. Presence of activists during an M&A gets reflected in the demand and expectation to settle the transaction in a quick and clean manner. Hence, we see more all cash offers than stock in activism led M&A deals.

H2.a. Prior Experience of Activist in Industry

H2.a. An activist with prior experience in the industry of target firm shall get better premium for the target.

We matched based on the first two digits of the SIC code (industry group), to measure the prior experience count for the respective activist in the industry of a specific target firm. We observed about 4% higher premium 4 weeks prior to the M&A announcement date for activists having prior experience in the industry of a target firm (Average 36%; trimmed mean 34% and median 28%) in contrast to those who did not have prior experience in the same industry as that of the target (Average 32%; trimmed mean 30% and median 23%). The sample data was filtered to exclude cases where premium was negative or above 500% to reduce the effect of outliers in the activism dataset sample. These results were found to be statistically significant using parametric as well as non-parametric measures (details are shown in the appendix section 6.4.4.1.). We also note a positive correlation (8.4%) between the count of prior experience in the industry of the

target firm and the premium observed four weeks prior to announcement of the M&A deal. Thus, we observe a fair support for our hypothesis H2.a.

The results confirm similar observations by prior researchers, who studied returns at target around activist intervention alone. We have moved the dialogue forward and created a new understanding into the returns around the M&A announcement stage after the firm had already been a target of the activists. Again, this is significant because the returns we observe do not include the returns observed at the M&A announcement date by the prior research. These results are not surprising from a qualitative perspective too. We can observe concentration of activism in specific industry groups when analyzing the premium four weeks prior to announcement date across the datasets. However, as we drill-down further and include the temporal dimension (observed based on yearly, 5-year or 10-year groups), we observed different patterns across industry groups. It requires significant intelligence gathering and study of the opportune moment for an activist to hone in on a specific target versus being interested in another. It leads us to believe that activists tend to develop a specialization or preference in certain sectors over others and we see it reflected in the higher premium concentration in their choice of industry group of their target firms. This could be a key criterion for consideration in strategic management research and also be a factor in predictive models of premium outcomes for investors and financial analysts.

H2.b. Prior Overall Experience of Activist w.r.t. Premium

H2.b. An activist with prior overall experience shall get better premium for the target than when a lesser experienced activist is involved.

Some well-known activists perform consistently well and they have done so irrespective of the industries of their target firms. This hypothesis was drafted to examine general experience alone as a skillset of activists, as compared to a specialized skill as examined in hypothesis H2.a. To examine this hypothesis, we computed the median value of the count of overall experiences of the activists, based on the events observed in our activism related M&A sample. We observed that the median value was 6 instances. We defined presence or absence of prior overall experience for an activist based upon the count of prior instance of activism falling above or below the median level. We observed that the average premium for activists with the higher overall experience sample (37%) was higher than those with lesser experience (28%). These counts had a fair support from the non-parametric (Wilcoxon and Kruskal-Wallis) tests for comparing distributions, but did not enjoy statistically significant scores from the parametric tests (Pooled and Satterthwaite T-Tests). We tried to reduce the effect of outliers by excluding cases where the premium was negative or above 500%. When comparing distributions using the parametric tests, we observed low statistical significance on the unfiltered datasets, as well. From a curiosity perspective, we also examined this hypothesis using different amounts of prior experience (1-7 instances) and observed similar statistical insignificance in the results that compared the distributions.

We also checked the Pearson's correlation coefficient and found that Prior Experience of the Activist (Prior_Exp_Act) had a positive correlation value 0.14606 (statistically significant at 99^{th} percentile; Prob > |r| under H0: Rho=0) to the premium four weeks prior to M&A announcement date for the activism cases. Thus prior experience of an activist could be a criterion for consideration in strategic management research and also be considered as a factor in predictive models of premium outcomes for investors and financial analysts.

Comparing the distributions and the size of the samples, we can notice that the percent of premium is more evenly distributed in the experienced sample, compared to that in the data sample of lesser overall experienced activists. Performing analysis from the data samples via cross-tab reports (not included) for various criteria we observe that overall experience of the activists could matter as it shows in the higher performance, especially for the well-known activists. Overall, an analysis using cross-tab reports between count of Prior overall Experience instances and Premium showed uneven levels, and also did not reveal any patterns or other significant details. The narrow spike for lesser experienced activists could indicate a matter of chance or insider tipping, that can be examined by future researchers. These results were found to be statistically insignificant using parametric measures at the 95th percentile but significant at the 90th percentile (details are shown in the appendix section 6.4.5. and its subsections). We conclude that we did not find very strong support for our hypothesis H2.b. We encourage future researchers to examine this hypothesis further from different perspectives.

H2.c. Ownership Interest of Activist w.r.t. Premium

H2.c. An activist with greater ownership in the target firm shall get better premium than activists with lower ownership.

Our databases did not contain a field that represented the ownership level of activists in their target firms. We manually scanned through SEC filings corresponding to randomly picked cases from our activism dataset and created another dataset of 326 samples containing activist ownership percentages in their target firms. It involved manually parsing through the SEC filings and was performed on a case by case basis. We found that the average ownership of activists in the target firm was 9.94% (Median 7.175%). We divided the ownership dataset into two groups based on the median value. The first group was the dataset where the activists had a percentage of

ownership at or above the median value. The second group was the dataset where the activists had a percentage of ownership below the median value.

In line with our hypothesis, we observed that the premium four weeks before announcement date had an average value 50% for the first group (At or above median ownership percent of the activist) and 45% for the second group (Below median ownership percent of the activist). These mean values by themselves seem to have a high statistical significance when using the Student's T-test. Comparison of the distributions between the samples revealed poor statistical significance using parametric as well as non-parametric methods. We also observed that the correlation between the Premium and the Ownership percentage value (10%) was statistically insignificant at the 95^{th} (it was significant at 90^{th}) percentile. We also created dummy variable to indicate the level of Premium four weeks prior to M&A announcement date as being 'Above Median' or 'Below Median' (based on Median = 34.575% premium four weeks prior to M&A announcement date). The McNemar's test statistic suggests that there is a statistically significant difference in the proportions of above / below median level for the premium and the corresponding above / below the median activist ownership percentage levels. The results are shown in the appendix section 6.4.6 and its subsections.

Overall, we conclude a lack of fair support for the hypothesis H2.c. The small dataset (approximately 300 cases) could be a possible reason to explain the low statistical significance. On the contrary, the percent ownership may not suffice by itself as being a significant factor. An equivalent amount at stake with a lower percent of ownership in a larger firm could be more important for an investor than the larger percentage of ownership in a smaller firm. Since it is natural to believe that the motivation and interest of an investor could be aligned with the amount

of one's own personal wealth at stake; a future researcher may alternately consider the percentage of the activist's wealth that the activist is investing in the target firm. Another scenario that needs to be considered is when multiple activists join hands in a transaction to seal the deal – we did not examine these "wolf-pack" style of scenarios even though we observed some similar patterns when we scanned thorough the database. Wolf-pack scenarios in activism context alone have been studied and higher returns have been attributed to it (Becht, Franks, Grant and Wagner 2015), however the analysis in a joint activism and M&A context like we do here has not come to light. The question of ownership of activist in a M&A context is an interesting one from strategic management considerations as well as financial modeling perspective. We encourage future researchers to continue to examine it further.

H3.a. Post-Acquisition performance for acquirer

H3.a. Post-acquisition performance for the acquirer of an activist targeted firm shall be higher than acquirers of non-activist targeted firms.

We examined the post-acquisition performance from two perspectives. A. Event study B. Financial performance. The event study approach used stock performance measures to compute the Cumulative Abnormal returns (CAR) and the Buy and Hold Abnormal returns (BHAR). The CAR was computed using the Market-Model (MM), the Market Adjusted Return (MAR) and the Fama French Momentum (FFM) methods for numerous periods (-1y, 6m, 1y, 2y, 3y, 4y and 5y) relative to the date when the M&A deal became effective for the target firm, using monthly datasets. The estimations window used was minimum 3 to maximum 36 months, at least 3 months prior to the event date (here it's the M&A effective date). To reduce the effect of outliers and ensure that our inferences provide a fair amount of general understanding for researchers as well as practitioners, we excluded the outliers to consider the samples that had returns (CAR, BHAR and ROA) between -500% and 500% only.

The BHAR returns were computed using the Fama French Momentum (FFM) method for similar time periods using the monthly dataset. Return on Assets (ROA) was computed using the annual financial filings by the companies. We used the CRSP database and the Eventus software accessible from WRDS for the event studies. We used the COMPUSTAT database (also accessible from WRDS) for the financial performance information.

As shown in the result tables and figures (Appendix sections 6.4.7.1. and 6.4.7.3.), we observe a negative set of returns for the acquirers of target firms in M&A when using the Market Model method as well as the Fama French Momentum method to compute abnormal returns. This result seems to be in line with prior research that had observed negative average returns for acquirers in M&A. Examining the results from the Market Adjusted Returns method (Appendix section 6.4.7.2.) also revealed negative post-acquisition performance for All Non-Activism cases; but interestingly, here we observed that the market adjusted abnormal returns are positive for the acquirers for the Activism cases ("Activism" and "Comparable Activism" datasets) and mostly so (albeit at a lower level) for the "Comparable Non-Activism" cases.

The charts depict a clear distinct pattern to differentiate the post-acquisition performance between the activism and non-activism related M&A cases. Looking closer and comparing the returns computed using the Market Model (MM) method, we observe an increasing mean return (difference in CAR for 6m: 4%, 1y: 9%, 2y: 15%, 3y: 19%, 4y: 26%, 5y: 31%) for acquirers in the Activism dataset, as compared to the acquirers in the All Non-Activism dataset. Similarly, we observe an increasing mean return (difference in CAR for 6m: 1%, 1y: 4%, 2y: 4%, 3y: 4%, 4y: 8%, 5y: 12%) for acquirers in the Activism dataset, as compared to the acquirers in the Comparable Non-Activism dataset. The increase in mean return (difference in CAR for 6m: 3%,

1y: 6%, 2y: 11%, 3y: 16%, 4y: 23%, 5y: 28%) can also be observed in the results using the Market Adjusted Return (MAR) method for acquirers from the Activism dataset in contrast to the acquirers from the All Non-Activism dataset. We found a similar pattern of increase in mean return (difference in CAR for 6m: 3%, 1y: 6%, 2y: 11%, 3y: 16%, 4y: 23%, 5y: 28%) in the results using the Fama French Momentum four factor method for acquirers from the Activism dataset in contrast to the acquirers from the All Non-Activism dataset. The pattern seems to repeat itself for BHAR too, where we see an increase in the mean return (difference in BHAR for 6m: 2%, 1y: 3%, 2y: 8%, 3y: 14%, 4y: 23%, 5y: 34%) using the Fama French Momentum four factor method for acquirers from the Activism dataset in contrast to the acquirers from the All Non-Activism dataset. The increased returns for the Activism dataset are also considerably higher than those observed from the Comparable Non-Activism dataset, across all the various methods used to calculate the Cumulative Abnormal Returns (CAR) as well as the Buy and Hold Abnormal Returns (BHAR). The very distinctive pattern shown in the visual charts simply repeats itself when observing the difference between the control groups too (the "Comparable Activism" and "Comparable Non-Activism" datasets). The spread between the CAR and BHAR values between activism and non-activism samples increases with an increase in the time after the effective date of the M&A. For details, please refer the details in the Appendix sections 6.4.7 and its subsections. The difference in the CAR and BHAR levels seem to support the hypothesis 3.a.

When we analyzed the CAR and BHAR results, we observe varying levels of statistical significance to conclude that the activism sample and the non-activism samples have different mean values (from parametric tests: Pooled and Satterthwaite) and also have different median values (from non-parametric tests: Wilcoxon and Kruskal-Wallis). The parametric tests (Pooled and Satterthwaite tests) to compare the mean values in the activism sample and the comparable non-activism sample; or between the two control groups did not show good statistical

significance. We observe that the non-parametric tests indicate near-fair statistical support to conclude that the median values are different between the activism and comparable non-activism samples for post-acquisition performance in the longer term. We also observe that the non-parametric tests indicate low statistical support to conclude that the median values are different between the control groups (the "comparable activism" and the "comparable non-activism" samples), albeit for relatively much lower sample sizes. We observed satisfactory levels of statistical significance to conclude that the activism sample and the non-activism samples have different mean and median values. The statistical significance level seems to improve slightly as the time past the effective date of the M&A increases from 1 year to 5 years. Additionally, we compared the statistical characteristics of the distributions (like mean, median, standard deviation, skew-ness and kurtosis, etc.) and analyzed the visualizations of the distributions (like frequency distributions, box plots and Q-Q plots) to compare them beyond relying on certain statistical measures only. We note that the CAR and BHAR results provide fair amount of support to our hypothesis H3.a, as shown in the results in the appendix section 6.4.7.5 and its subsections.

We computed Return on Assets (ROA) as a measure financial performance, for the Acquirers. We observed that the average ROA for the Activism sample (1y: 8.7%, 2y: 9%, 3y: 9.4%, 4y: 9.3%, 5y: 9.3%) continued to show a higher level of performance as compared to the All Non-Activism sample (1y: 6.8%, 2y: 6.5%, 3y: 6.6%, 4y: 6.8%, 5y: 7.1%). We also observe similar patterns when comparing average ROA levels across the control groups: "Comparable Activism" sample (1y: 8.1%, 2y: 8.5%, 3y: 8.9%, 4y: 9.0%, 5y: 8.3%) and the "Comparable Non-Activism" sample (1y: 3.9%, 2y: 3.7%, 3y: 3.8%, 4y: 4.1%, 5y: 4.3%). When we analyzed the ROA results, we observed strong levels of statistical significance to conclude that the activism dataset, the comparable non-activism dataset and the non-activism dataset have different mean values (from parametric tests: Pooled and Satterthwaite) and also have different median values (from non-

parametric tests: Wilcoxon and Kruskal-Wallis). We observed similar strong levels of statistical significance to differentiate between the sample distributions from our two control groups (the "comparable activism" dataset and the "comparable non-activism" dataset).

The ROA levels observed in the activist related M&A dataset shows a gradual increasing trend, while shows a pattern of initial decline for comparable and non-activism datasets during the first 2-3 years, before it starts to pick up again. It can be argued that the high ROA for activist related M&A dataset indicates that activists are selective about their targets to begin with. It is also a reflection of the stock selection and intelligence gathering ability of the activists, where they are selective about the potential and prospects of their target firm.

To understand the impact of target firm size, we repeated the tests of post-acquisition performance (for the period after the effective date of the M&A) after filtering the datasets for cases that had the enterprise value of the targets to be one hundred million US dollars or above for the comparable activism and the comparable non-activism datasets. The results showed slightly different levels of CAR, BHAR and ROA, as well as slightly better statistical significance than the datasets where we had considered target firms that had the enterprise value of the targets to be ten million US dollars or above. Overall we did not observe a significant difference between the results and so decided not to include those results in the interest of space in this dissertation.

We conducted the analysis with two other definitions of the comparable non-activism dataset (the control group): A. scenario (approx. 400 cases) where we tightened the percentage band around ROA and firm size to be -/+ 25% instead of -/+ 50%; B. scenario (approx.. 6700 cases) where we

relaxed the timing criteria and considered percentage band around ROA and firm size to be -/+ 25%. In both these cases, our conclusions on the post-acquisition performance held very well in all the scenarios: the results and trends were directionally the same and they also had similar comparative distribution characteristics with slight variations in the levels of the outcomes. For space reasons, we have skipped including those results here.

Overall, we found fair support for our hypothesis H3.a from the stock returns based on the CAR and BHAR measures calculated from stock information of the firms, as well as in the ROA derived from the financial performance measures. The findings provide sufficient support to our belief that activism benefits the shareholders of the target firms as well as those of the acquirers of the activist targeted firms.

Spill-over effects

We also conducted an additional analysis to understand the spill-over effects of activists on other non-activism related target firms. We divided the All Non-Activism cases into 2 groups: Comparable Non-Activism and Other Not-Comparable Non-Activism. We believe that firms comparable to targets of activism would make similar improvements as those firms that are directly targeted by activists. We also believe that acquirers of these comparable non-activism related target firms shall thus also benefit indirectly from the Activism action elsewhere. We expected to see better performance in Comparable Non-Activism cases than the Other Not-Comparable Non-Activism cases.

Please refer Appendix section 6.4.8 for results of our analysis about the spill-over effect of activism on comparable non-activism led M&A cases. Our belief about higher premium for the

comparable non-activism cases, than the other non-activism cases, did not hold. We observed a 4% lower premium for the former sample. We confirmed our beliefs about superior acquisition performance of the comparable non-activism cases as compared to other non-activism related M&A cases. The Cumulative Abnormal Returns (CAR) measured using the Market Model (MM) method for the comparable non-activism dataset was about 20% higher than the other non-comparable non-activism dataset, five years after the M&A became effective. The results had a fair amount of statistical significance to support the conclusion of a positive spill-over effect of activism on other firms and their post-acquisition performance.

Other observations, limitations and suggestions for further research

We tried to examine some of the factors that influence the value of the premium near the M&A announcement date. We also calculated the post-acquisition performance using stock returns as well as financial performance measures to compare between activism related M&A with non-activism related M&A. We also lacked access to some other fields that could have helped us develop a richer understanding of the subject. We employed one of the largest activism databases used in investor activism research so far, we are concerned about the smaller samples used by media and other researchers to draw conclusions.

The premium we observe is the premium with reference to the M&A announcement (irrespective of whether it is related to activism or not) and did not consider the premium related to the activism announcement date. We urge future researchers to consider the returns from a certain period prior to the activism announcement date – to calculate the gains for normal stock holders

who simply hold on to their stock rather than transact (buy or sell) often to gain from the related events.

We note an impact of the timing of Activist engagement in the M&A process on the premium observed four weeks prior to announcement of the M&A in the Activism data sample (after filtering out extreme cases that had premium values less than 0% or above 500%). A slightly lower premium (mean 31% and median 22%) was observed in the sample (N=1243) where activism happened before M&A was announced and before it became effective as compared to the higher premium (mean 42% and median 33%) observed in the sample (N=528) where Activism happened after M&A was announced but before it became effective. Interestingly, it shows that the larger premium happened before the activists entered the M&A! The later case shows activists trying to gain from an M&A that they didn't initiate; or where the activists are called in to help bring a smoother closure to the M&A deal; or the activists represent shareholders who are opposed to the M&A; or some other reason waiting to be explored. We urge future researchers to examine the root cause of the premium further and find ways to differentiate the analysis. The earlier sample also took slightly lesser time between the announcement of the M&A and it becoming effective than the later sample. Schedule 13D filings only happen after ownership level goes above 5% of stock, so unless we have a mechanism to check the activists' ownership levels before announcement of activism, it is difficult to say whether their engagement started after the MnA announcement or they increased their stakes later. Similarly, we hope to see ways to detect exit by activists. We hope future researchers can better examine the choice of timing by activists and acquirers.

We suggest future researchers to try analyzing the count of bids hypothesis with more related classifications in the data, to develop a richer understanding of the subject. Our finding of low statistical significance for premium observed in cases of activism with low versus high overall experience needs to be re-examined further. Our findings of a higher premium returns in cases where activists had prior experience in the industry of target firms, raises many related questions. Future researchers could also investigate the aspect of the interest focus of the activists, geographical or zonal preferences, the influence of the network of their relationships and the role of affinity groups to develop a richer understanding.

To understand how activists collect information about firms, we encourage future researchers to check if the activist intervention was a result of the intelligence gathering by the activists or as a result of being tipped by a member of the board or management at the target firm. We also observed certain activists who entered the game just before the M&A announcement date and closed out their position subsequently. These activists could be blamed for the reasons all activists are viewed as short term players. It also fans a suspicion that either these activists are better informed about the market and the target firms; or they have insider information; or they are tipped by the target firm (directors and/or management); or they are employed as scouting agents by the potential acquirers. For a richer understanding, we need to explore the suspicion of a nexus between the activists, the target or the acquirers – because the activists may be invited to enable a smooth merger or acquisition for the parties supporting the activists. Social and professional networking databases can help future management studies to explore the relationships between activists and smart CEOs and board members; and whether activists could be used as instruments to bring strategic improvement at target firms and thus benefit the acquirers of these target firms.

We hope to see more M&A related outcomes from Activism when we have access to comprehensive activism databases. We felt short-handed when examining the ownership stake of activists, as it was not available in our database. Parsing manually is very time consuming and we would have preferred to collect a larger sample to our satisfaction. We encourage future researchers who have access to this data to reexamine our hypothesis H2.c. that predicts better premium returns when an ownership stake is high.

We also had a few other observations, not related to the hypotheses. El-Khatib (2012) had observed that firms receiving shareholder proposals are associated with approximately 30% relatively higher chance of becoming a target of a subsequent completed acquisition. Indicating the power of access to asymmetric information and relationships, it was argued that takeover likelihood increases the most for targets where the proposal sponsor also holds shares in the bidder firm. This could make an interesting conflict-of-interest scenario that can be studied by future researchers, as more data becomes available.

We missed to analyze mechanisms to attribute post-acquisition performance to the activism led M&A and differentiate it from other confounding factors. For example the approach by Brav, Jiang and Kim (2013) to measure long-term performance using plant-level data is praiseworthy. We showed that certain characteristics like ownership stake, specialization in an industry and level of experience of an activist had a positive correlation to the premium observed at M&A announcement. Could these factors affect the long-term returns too? It would be nice to understand the factors that affect the performance during the post-activism intervention and the post-acquisition periods. Performing multivariate analysis may also help reveal the relationships between the factors that influence Activism in M&A outcomes. We would like to see more

approaches to observe long-term performance outcomes, to influence and improve strategic management decision making as well as predictive financial modeling.

During drill-down analysis (not reported), when we included the temporal dimension (observed based on yearly, 5-year or 10-year groups), we observed different patterns across industry groups. As the number of observations became less, we lost the ability to generalize our findings across the classification dimensions from an academic interest perspective. On the contrary, an increased granularity revealed a good insight to develop a richer understanding for a practitioner or a smart individual investor because it unraveled patterns of concentrated activism presence with varying levels of number of bidders and premiums across industry groups, market levels and economic cycles in comparison to the comparable non-activism and all non-activism datasets. In the M&A context, ownership stake plays a significant role. It needs to be examined for the herding behavior or wolf-pack modus-operandi discussed by other researchers in the general Activism context.

Unrelated to the hypotheses we examine about post-acquisition performance, but interestingly, we observed that the prior 1 year performance (measured using MAR method) of the acquirers firms happens to be about lower for acquirers of firms that had been the targets of Activism, than those of firms that were not targets of activism. Could it indicate some criteria that activists consider while seeking acquirers for the target; or is it that such acquirers seek help from activists to find a suitable target and strengthen their strategic plans? Since there is a sufficient gap of time between the announcement of an M&A and it becoming effective, there could be numerous reasons to explain this behavior. We hope future research shall be able to examine this further.

We encourage future researchers to extend the argument of the spillover effect of the activists in the M&A context too. Could it explain why the comparable non-activism sample shows a slightly improved performance than the general non-activism related M&A outcome – in terms of the M&A premium around M&A announcement or in terms of the post-acquisition performance of the firm? Hopefully future studies could find support for some of the arguments we presented here to explain our observations.

Little research has been done to analyze the qualitative factors that could help explain the impact of the behavioral aspects of the outcomes related to activism. After an extensive literature review of M&A studies, Haleblian et al (2009) observed that vast majority of acquisition research had focused on larger, publicly traded corporations using mainly quantitative archival data. It introduces local bias towards the limited sample and hurts interpretation. We concur that it highlights the lack of an integrated approach, and thus limits a scholar's ability to fully comprehend the phenomenon. However, this research too has been unable to address the qualitative aspects satisfactorily owing to time and resource constraints. Like Schoenberg (2006) and a few others, we too suggest the need for more in-depth interviews, case studies, grounded theory development, surveys and laboratory studies to develop a deeper understanding of the cognitive decision making process to improve the performance outcomes in M&A. Future researchers can use this knowledge to predict activist interest in targets and expected investment returns: to quench the thirst of curious investors as well as the top management at firms who given the new findings in this dissertation, may choose whether to love or hate the activists.

CHAPTER V

CONCLUSION

When we started this research, study of the performance of an acquirer of an activist target in a merger or acquisition context seemed a virgin area of research. Few researchers have attempted to connect the dots and studied activism as a possible antecedent to successful M&A performance, as this study, but we have barely scratched the surface and a lot more needs to be studied. We found that the effect of activism on their target firms and acquirers appears to be reaching much farther out than previously studied. The long term returns seem to last much longer than those who have considered activists as myopic investors and who are interested in short term gains only. We conclude that the momentum of performance improvements created by activism at a target leads to a contagion effect that contributes to the performance (improvement) of the acquirer firm. We also observe a spill-over effect on similar firms comparable to the targets of activism in the M&A context.

We used extensive data from 30 recent years to examine some key questions in this research and during the process found the answers to confirm some of the understanding created by existing research, while we refute other perceived beliefs and findings from the past. Our primary treatment group comprised the activism related mergers or acquisitions (M&A) cases (‘Activism’ dataset).

The objective was to compare the activism cases to all the other non-activism related M&A cases ("Non-Activism" dataset). We created corresponding control groups by extracting the cases that matched on timing of M&A, industry, firm size and prior-performance of the acquirer: ("Comparable Activism" and "Comparable Activism" datasets).

The best premium around the announcement date of the M&A deal as well as the highest post-acquisition performance was observed at the activism related firms and their acquirers. The premium and performance trends of activist related M&A were followed by the "comparable activism", the "comparable non-activism" and the "non-activism" datasets. We divided our research to examine three key questions: Is activism led M&A good for the target firm? Do all activists achieve similar success in fetching good premium for the target? Does activism related M&A benefit the acquirer?

Our first research question examined the benefits of activism to the target firm. We found that the premium earned by shareholders when a firm targeted by activists leads to an M&A is approximately 30-35% as compared to approximately 15-20% for premium earned by targets in non-activism related M&A. Please note that we did not consider the premium that is usually associated with announcement of activism. Hence, the premium that we observe at a subsequent point around the M&A announcement date is an even more significant finding than previously known from the existing investor activism research. It has significant implications for firm valuation, scope of target selection and determination of the price to pay by the acquirers. It can be an important factor for strategic management planning and financial modeling considerations for investment decision making.

We also observed that activists help bring fairness and improve the marketability for a target firm by getting approximately 10% higher number of bids, as compared to those firms in a M&A transaction that are not targeted by activists. Activists also help improve liquidity by attracting mostly all cash offers (about two-third cases) as compared to the non-activism related M&A transaction (about half cases) and comparable non-activism cases. Cash offers and more bids also help ensure a faster and smoother closure to the M&A transaction. Our examination of these attributes related to M&A transactions can be used for policy considerations and refinement of bylaws to protect and strengthen shareholder interests.

Our second research question was, are all activists similar in their performance? We found that activists who specialize in their sectors, through focused industry based experience obtained higher premium returns (36%) than others (32%) and can safely conclude that industry focused experience helps bring better returns in activist related M&A returns too. We found that more experienced activists scored considerably higher premiums (45%) than those with lesser experience (37%); but we could not find a very strong statistical support to differentiate between the distributions. We also found that activists who obtain a higher stake in their target firm get slightly better returns through higher premiums (50%) as compared to (45%) where they have lesser ownership interest in the target firm (the values were statistically significant to have a mean value different than 0), but we could not find statistical significance to draw a confident conclusion when differentiating the distributions. Our examination revealed a positive correlation of the above activist attributes to the premium related to an M&A transaction. These factors can be used for predictive modeling, investment planning as well as strategic management considerations.

The most significant contribution to knowledge that refutes general activism and M&A research and popular perceptions; comes in the form of the answer to our third research question: Does activist influenced acquisition lead to better performance for the acquirer? While literature and media criticize the activists for their short term focus, we found good evidence to convince that indeed activism helps the acquirer achieve a better performance in the longer term, while still providing significant short term returns around the M&A announcement date. We used many different popular models for measurement of cumulative abnormal returns (CAR) and buy and hold abnormal returns (BHAR) in event studies ranging from the date when M&A transaction became effective to periods up to five years later. We found that 5 years after the M&A became effective, the acquirers of activist targeted firms were drawing approximately 30% higher market returns (and 10% higher market adjusted returns) than the cases where activists were not involved. We observed that acquirers of activist targeted firms also achieved consistently higher financial performance reflected in their ROA (25% relatively higher level over a 5 year period after the M&A became effective), as compared to the non-activism cases.

Not surprisingly, the patterns of better performance outcomes showed consistent patters between the control groups ("comparable activism" and "comparable non-activism" samples) drawn from the "activism" and "non-activism" populations respectively. Interestingly, as observed in the post-acquisition performance results (CARs and BHARs), we observe that the "comparable non-activism" related M&A deals seem to be only slightly better than the general non-activism deals. The results from the activism dataset far exceed the performance benefits from the non-activism dataset.

What can explain the superior performance attributable to an activism led M&A deal as compared to others? We see the need for qualitative reasoning to answer this question. Stock performance as well as financial performance of a firm is the result of the culmination of many factors. It has been discussed in the literature review as well as in the prior sections that supported the arguments in favor of the activism influenced M&A transactions. For brevity we shall avoid repeating that reasoning here. In this research, the comparable non-activism firms represent a control-group: they have a similar size, a similar prior performance, a similar timing around the M&A event and have the same industry group; thus implying that they have a similar business model. The similar timing of M&A also helps ensure proximity considerations. Same industry group also means that they have access to similar resources and considering similar prior performance from the comparable set it can be argued that even if they had other resource advantages owing to the Resource Theory (Wernerfelt 1984; Barney 1991), the firms were unable to benefit from it until the activists stepped in. However, it doesn't refute the resource theory because the activists also become part of the shareholder resource pool, as they get actively involved with management when they step into the board and get privy to even better information.

Through a more active involvement with the firm than other shareholders, and from a seat of power and influence; we believe that the activists are able to effectively communicate and persuade the management and the firm to consider strategic changes to the firm. They use bold decision-making to focus on removing "deadwood", eliminating impediments to growth and improving the value of the firm. The activists share their intelligence about the prospects of a firm with its board, leading to self-realization of its potential within the firm (*the carrot and stick model*). This motivates the management and sets the stage for sustained long term performance at the target firm.

These strategic changes also make the firm look attractive to potential acquirers. Activists also help pave the way for a smoother transition during the acquisition by removing hurdles and dissident voices. Through a smoother M&A close, activists help the acquirer firm and its management and boost their confidence that further leads to achieving better performance for the acquirer too. The momentum effect of these strategic changes at the target and the acquirer, lingers on and even has a contagion effect on the acquirer.

As noted, we observed the highest performance at activism related M&A cases, followed by the comparable activism cases, then the comparable non-activism cases and the least for the all non-activism cases. Prior research has observed that firms and their management do not like to be targeted by activists. After a firm gets targeted by activists, similar comparable firms are motivated to 'put their house in order' by addressing the categories of concerns raised by activists. We observed a higher performance at the comparable non-activism cases than the general non-activism cases and believe that it also supports the notion of spillover indirect effects of activism on other firms sharing similar characteristics as those affected by activism directly. From our observation of the performance over a longer term, we observe that while the spillover effect is good for those firms and continues to last longer too, the benefits of the spill-over effect show at a relatively much lesser level as compared to the advantages of direct activist intervention at the target firms.

This study challenged the belief that activists look for short term gains only. The research helped bring attention to the long-term benefits of activism by extending the dialogue to the yet virgin M&A domain. We provide strong evidence to support the belief that the drive and action seen in activism does help bring in strategic changes to a firm that not only create value in the short term

for the shareholders, but it also sets the momentum for a sustained long term value generation that acquirers seem keen to pay a premium for and still enjoy the benefits of a superior longer term performance compared to similar and other firms.

We observed the positive spill-over effects of activism on non-targeted firms and their shareholders too. We concur with prior researchers (Lee and Park 2009; Brav, Jiang and Kim 2015; Gantchev, Gredil and Jotikasthira 2015) that activism benefits the shareholders of the acquirers of target firms as well as acquirers of comparable non-target firms too. Thus the activists are advantageous to society by being advocates for shareholders' interests and play this role in a democratic and less bureaucratic manner. By improving the operating performance as well as stock performance, activists help the target firms directly and the comparable firms indirectly. As a result the industry as a whole gains and competition improves.

We note that activists help bring some solutions to the concerns raised by the classic agency theory. We introduced a new dimension to the mergers and acquisitions studies by showing that the activism factor influences the post-acquisition performance at the target as well as the acquirer firms. We also showed the positive spill-over effect of activist intervention in the M&A context on similar firms. It is our hope that these findings shall help reshape the public opinion; encourage new research by academics to comprehend the factors better; as well as help practitioners become receptive to the demands of the activists to proactively address matters of shareholder interest. We conclude that an activist is a strategic change agent whose effect continues to drive performance for the target and its acquirer even post-acquisition.

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APPENDICES

6.1. Appendix 1: Table of Activism related studies

Table 1. Activism related studies

Activism studies review (influenced by Cossin and Caballero 2013; Brav, Jiang and Kim 2010; Goranova and Ryan 2014)		
Category	**Criteria**	**Notes**
Approach	Pro-activist	Activists help protect shareholder interests and discipline the firm (Brav, Jiang and Kim 2010; Goranova and Ryan 2014). Evidence from samples in the U.S.A. and outside consistently evidence that hedge fund activism creates value for shareholders of target companies (Brav, Jiang and Kim 2010)
	Anti-activist	Activists are a nuisance to smooth functioning of a firm.
Tactic	Defensive	Defensive activists seek to protect preexisting investments and use lobbying (Armour and Cheffins 2012)
	Offensive	Offensive activism investors build up their holding offensively on the assumption that their agitation shall bring in organizational changes to improve shareholder returns (Armour and Cheffins 2012)
	Standalone	The probability of achieving at least one outcome is 46% for stand-alone engagements (lower than wolf-pack). Standalone deals are equivalent to Wolf-Pack in earning returns upon disclosure of outcomes (Becht, Franks, Grant and Wagner 2015).
	Wolf-Pack	The probability of achieving at least one outcome is 46% for stand-alone engagements, while it is 78% for wolf-pack deals because of greater influence on target due to higher 13.4% collective ownership stake compared to 8.3% for standalone. However, they do not earn higher returns upon disclosure of outcomes (Becht, Franks, Grant and Wagner 2015).
Engagement (Becht, Francs, Mayer and Rossi 2015)	Private engagement	Engage target behind closed doors. Not subject to disclosure if share is small. More profitable.
	Public disclosure	Private and public activism, are comparable in terms of aims and success rates.

Size (Judge et al 2010)	Minority shareholder	Act individually
	Majority shareholder	Block Holder or institutional investor
Motivation (Judge et al. 2010; Neville 2011)	Social objective	Socially driven activism focuses on economic equity issues and seeks more justice in society (Cossin and Caballero 2013)
	Political	Primary interest of Sovereign Wealth Funds may not be to increase shareholder value but to pursue political-social interests through their investments (Neville 2011)
	Financial interests	Capital structure,
	Corporate Control	Activists may seek to prevent acquisitions, hold out against bidders in takeovers or facilitate the takeover of a target company (Kahan and Rock 2007).
	Operational	Production efficiency improvement is observed when activists target operational issues like business strategies and asset sales. Labor productivity improves too (Brav, Jiang, Kim 2015)
	Personal	Hubris
Social objective	Non-profit	Logsdon and Van Buren III (2008)
	Environmental	Corporate Social Responsibility (Logsdon and Van Buren III 2008)
	Labor union	Logsdon and Van Buren III (2008)
	Public interest group	Logsdon and Van Buren III (2008)
Financial interest	Entrepreneurial	
	Capital Structure	Demands about dividend, debt restructuring, or the firm's recapitalization. Activism targeting capital structure earn relatively lower returns (Brav, Jiang and Kim 2010)
	Returns	Short or long term (Bessler, Drobetz and Holler 2015; Boyson and Mooradian 2007; Brav, Jiang, Partnoy and Thomas 2008; Brav, Jiang and Kim 2013; Gantchev 2013; Kahan and Rock 2007; Klein and Zur 2009; Frank et al 2006; Greenwood and Schor 2009; Goodwin et al. 2014). Shareholder activism is successful in creating shareholder value across countries (Becht, Franks, Grant and Wagner 2015)
Strategy	Corporate Governance	For matters such as CEO dismissal, separation of the CEO and Chairman of the Board roles, increase in board independence, CEP pay, excessive executive compensation and additional disclosures (Gantchev 2013; Prevost, Rao and Williams 2012)

		Activism targeting corporate governance earn relatively lower returns (Brav, Jiang and Kim 2010)
	Merger or Acquisition	Activists may seek to prevent acquisitions, hold out against bidders in takeovers or facilitate the takeover of a target company (Kahan and Rock 2007). M&A receives high abnormal returns (Brav, Jiang and Kim 2010; Greenwood and Schor 2009; Barclay and Holderness 1991; Klein and Zur 2006; Becht et al 2015)
	Leveraged Buy Out	Effect of hedge funds on the premium is concentrated among hedge funds with an activism agenda: is stronger for management-led LBOs than for third-party LBOs, and is stronger in club deal LBOs than in solo-sponsored LBOs (Huang 2010)
	Legal or Judicial	Activists may file civil or class action law suit (Girard 2011; Cossin and Caballero 2013)
	Media coverage	To gain spotlight (Cossin and Caballero 2013)
Investor Type	Hedge Funds	Hedge funds are better suited to activism. HF managers may invest personal wealth, have stronger incentives, are lightly regulated, face fewer conflicts of interest with firms, and have lock-up provision to prevent investor flight (Brav, Jiang and Kim 2010; Greenwood and Schor 2009). Activist hedge funds in the U.S. propose strategic, operational, and financial remedies and attain success or partial success in two thirds of the cases. Hedge funds seldom seek control and in most cases are non-confrontational (Brav, Jiang, Thomas and Partnoy 2008).
	Pension funds	Pension funds usually seem keen on corporate governance matters. They may face conflict of interest due to other business relationship with target firms and may have non-financial objectives too (Brav, Jiang and Kim 2010)
	Closed-end funds	Activism reduced discount (deviation of actual from potential value) to half its original value (Bradley, Brav, Goldstein and Jiang 2010)
	Sovereign Wealth Funds	despite their mostly passive investments, SWFs possess a natural tendency toward shareholder activism (Ghahramani 2013)
Firm responses	Dialogue	Corporation-stakeholder engagement (Logsdon and Buren 2011). Corporate - shareholder activists dialogue (Rehbein, Logsdon and Van Buren 2013).
	Defensive	Target firm reaction usually subsides after initial offensive stance (multiple).
	Offensive	Offensive response by a firm to activism can also be an important aspect of integrating political strategy into competitive strategy (Hoffman 1996). Initial response by firm and CEO is to defend offensively.

Manager response	Socio-cognitive	Managers of firms in an industry respond differently to activism, even when subject to common campaigns and strategies (Waldron, Navis and Fisher 2012)
Impact of Activism	Firm	Short and Long term benefits (Goodwin et al. 2014; Brav et al. 2008; Bessler et al. 2015). Hedge funds can facilitate long-lasting changes in corporate governance, cash flows, and operating performance that benefit target firm shareholders and hedge fund investors alike (Boyson and Mooradian 2010). Corporate restructuring (divestitures and spin-offs of non-core assets, and blocking diversifying acquisitions), and takeovers (the target firm is acquired by a strategic buyer or private equity fund) (Becht, Franks, Grant and Wagner 2015).
	Industry	Benefits of activism at a firm had spill-over effects on similar firms in the industry, whose performance improves as well (Brav, Jiang and Kim 2015; Gantchev, Gredil and Jotikasthira 2014)
	Stock Price	Hedge fund activism results in increasing share prices for target firms (Bessler et al. 2015). Trading by hedge funds produces a permanent change in the stock price, which occurs in equal part both prior to and concurrent to the trading activity (Croci and Petrella 2015)
	Activist	Hedge funds themselves benefit from activism: the risk-adjusted annual performance of hedge funds seeking changes in corporate governance is about 7-11% higher than for non-activist hedge funds and hedge funds pursuing less aggressive activism (Boyson and Mooradian 2007).
	Other shareholders – favorable	In general, fellow shareholders benefit (free-ridership).
	Other shareholders - unfavorable	specific hedge fund types may expropriate value from other minority shareholders, creating a 'principal-principal' conflict (Schneider and Lori 2011)
2-way Lessons	Firm side	firms take seriously the concerns of their critics (Logsdon and Buren 2009; Cossin and Caballero 2013)
	Activist side	activists assuming a conciliatory position allows them to focus on the desired change at the firm, and also enables them to seek allies within the targeted companies(Logsdon and Buren 2009; Cossin and Caballero 2013)
Returns	Short term	The abnormal return around the announcement of activism is approximately 7% (Brav, Jiang, Thomas and Partnoy 2008).
	Long term	The abnormal 7% return around the announcement

		shows no reversal during the subsequent year (Brav, Jiang, Thomas and Partnoy 2008).
	Short and Long Term	Hedge fund activists improve both short-term stock performance and long-term operating performance of their targets (Boyson and Mooradian 2007). The abnormal return around the 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 (Brav, Jiang, Thomas and Partnoy 2008). Hedge fund activists 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 (Goodwin, Singh, Slipetz and Rao 2014)
Success Factors	Overall Experience	Classifying hedge funds along lines of total activist cases – high frequency hedge funds showed 31.1% returns in three years post-activist intervention start date compared to -12.6% return for low-frequency hedge funds. Targets of high frequency hedge funds file fewer bankruptcies and face lesser liquidation (6%) compared to (16%) targets of low frequency hedge funds (Boyson and Mooradian 2011)
	Manager Experience	75% of managers at high frequency hedge funds, representing 81% of all high skilled activist events have experience in activism gained prior to their joining their current hedge fund. Contrast it to 3% of managers from low frequency hedge funds. High frequency managers perform as better activists than low frequency managers (Boyson and Mooradian 2011).
	Target Identification or Stock Picking	Hedge fund activists tend to target “value” firm that have sound operating cashflows, but have low valuations compared to “fundamentals”, low (sales), growth rates, leverage, and dividend payout ratios (Brav, Jiang and Kim 2010). Poor stock performance, high working capital and high research and development (R&D) observed at targets of high frequency hedge funds suggests that these target firms have a greater potential for improvement (Boyson and Mooradian 2011).
	Target firm characteristics	Cash rich, low leverage, high working capital (Brav, Jiang and Kim 2010); high R&D (Boyson and Mooradian 2011). Fat CEO packages, low performance, sound fundamentals.
	Organizational Behavior	Revitalization of a target firm is an important outcome of acquisition and should be a strong consideration

		when making the decision to acquire (Vermeulen 2005)
Filings considered	Initial activist intent 13D	Almost all activism studies related to the USA consider 13D filings.
	Amended 13D/A	Besides corrections to the original 13D filing, a 13D/A filing shows the change in the game-plan or strategy of the activists.

6.2. Appendix 2: Table of Mergers and Acquisitions studies

Table 2. Mergers and Acquisitions studies

Mergers and Acquisitions studies review (influenced by Jindra and Moeller 2014)		
Category	**Criteria**	**Notes**
Approach	Friendly	where the board negotiates and accepts an offer. Synergistic transactions (Mueller and Sirower 2003)
	Hostile	where the board tries to prevent a merger
Valuations	Relative	Relative valuations of the merging firms and the market's perception of the synergies. The valuation consequences of mergers, and merger wave (Shleifer and Vishny, 2003).
Type	Vertical merger	Occurs when firms, operating at different levels within an industry's supply chain, merge operations. Consolidation of peer firms from the same industry who often compete and offer similar products. For example a refinery acquires an oil producer.
	Horizontal merger	Combines two companies from the same industry that produce different products. They may not be competitors but exist in the same supply chain.
	Conglomerate	A merger between firms that are involved in totally unrelated business activities.
	Product Extension Merger	When players from the same market merge to combine their products and get access to a bigger set of consumers for earning higher profits.
Motivation	Social objective	
	Hubris	(winners' curse) some managers believe that they are better than others in spotting value-generating merger opportunities (Roll 1986; Mueller and Sirower 2003)
	Economic	Merger waves are driven mainly by economic motivations. The clustering over time can be attributed to a combination of shocks as well as capital liquidity or desire for cash. Shocks could be economic, regulatory and technological. However, sufficient macro-level overall capital liquidity component seems essential

		(Harford, 2005)
	Valuation	Misvaluation drives mergers. The behavior of the market-to-book ratio (M/B) is driven by firm-specific deviations from short-run industry pricing, that long-run components of M/B run counter to the conventional wisdom: Low long-run value to book firms buy high long-run value-to-book firms (Rhodes–Kropfa, Robinson and Viswanathan 2005). Shleifer and Vishny (2002) also present a model of mergers and acquisitions based on stock market misvaluations of the combining firms. In this form of neo-classical theory based model, mergers are a form of arbitrage by rational managers operating in inefficient markets. The key ingredients of the model are the relative valuations of the merging firms and the market's perception of the synergies from the combination. The model explains who acquires whom, the choice of the medium of payment, the valuation consequences of mergers, and merger waves. The key ingredients of the answers are the relative valuations of the combining firms and the synergies that the market perceives in the merger (Shleifer and Vishny 2002)
	Source of value	Difference in WACC (weighted average cost of capital), as shown by leverage and method of payment, of combined firm and the combining firms may have a significant role. Cash payment is value creating while high leverage can destroy value by raising cost of capital of the firm (Yaghoubi, Locke and Gibb 2013).
	Industry effects	The results of the study propose discrepancy in acquirers' long-term abnormal returns across industries (1981-2007) (Yaghoubi, Locke and Gibb 2014)
	Personal	Highest takeover probability is observed when the proposal sponsors in the target firm are also owners in the bidder firm (El-Khatib 2012).
Merger Waves	Neo-classical theory	Acquisitions happen in waves because of need for restructuring at industry that is level driven technological, economic and regulatory shocks (Gort 1969; Jensen 1993; Mitchell and Mulherin 1996; Andrade, Mitchell and Stafford 2001; Hartford 2005; Yaghoubi, Locke and Gibb 2013)
	Behavioral Theory	Acquisitions waves are driven by market mis-valuations (Shleifer and Vishny 2003; Dong, Hershleifer, Richardson and Teoh 2006; Bouwman, Fuller and Nain 2009; Yaghoubi, Locke and Gibb 2013)
Value drivers	Diversification	
	Synergies gained - Market access	

	Synergies gained - Technology access	
	Capital structure	Difference in WACC (weighted average cost of capital), as shown by leverage and method of payment, of combined firm and the combining firms may have a significant role. Cash payment is value creating while high leverage can destroy value by raising cost of capital of the firm (Yaghoubi, Locke and Gibb 2013).
	Public interest group	
Firm Characteristics	Size	A sample of 12,023 acquisitions by public firms from 1980 to 2001. The equally weighted abnormal announcement return is 1.1%, but acquiring-firm shareholders lose $25.2 million on average upon announcement. The announcement return for acquiring-firm shareholders was roughly two percentage points higher for small acquirers irrespective of the form of financing and whether the acquired firm was public or private. The size effect is robust to firm and deal characteristics, and it is not reversed over time (Moeller, Schlingemann, Stulz 2003)
Financial interest	Entrepreneurial	
	Capital Structure	
	Returns	The results by Swoonswang (2014) in Thai markets suggest that the target firm's shareholders gain substantial and positive abnormal returns, while bidding firm's shareholders realize positive rather than negative abnormal returns. The total gains are positive at 25.48%, indicating that takeovers create values.
Strategy	Merger or Acquisition	Becht, Franks, Grant and Wagner (2015) separate corporate restructurings into "Takeover" (the target firm is acquired by a strategic buyer or private equity fund), and "Restructuring" (divestitures, spin-offs of non-core assets and the blocking of diversifying acquisitions).
Firm responses	Dialogue	Burnett et al (2012) suggest formation of an Activist Control Teat (ACT) comprising senior leaders to address shareholder activism in the midst of M&A activities. Key criteria for members: Exposure to Strategy and Reporting, Capacity to Interact, Position and Communicate.
	Defensive	
	Offensive	

6.3. Appendix 3: Target characteristics with reference to Activism and M&A

Table 3. Activism with reference to M&A

Target characteristic	Activism	M&A	Comments
Size of firm	Activists typically target small to mid-cap firms. Lately, large target size has not been a deterrent. We see successful outcomes across target size. Returns are best with smaller targets. Study of activism for very small firms has been lacking, as most researchers focus on firms above a certain size say 100million dollars. Effect of size of activist or hedge fund has not been studied much either.	A lot of mixed outcomes can be seen in research. Mostly, positive returns are observed with smaller acquirers. Large acquirer firms tend to generate slightly negative returns.	We can expect better returns for smaller firms where it is easier for the activists as well as the acquirer to understand the value drivers of the firm and control them. A larger target firm may have more complex set of value drivers, thus making it a challenge for the activists and the acquirers. Size of the target firm needs to be further studied.
Industry	Mixed observations exist. Certain activists are known to be effective across industries. Others have developed a specialist flavor and seem to be experts in their frequently targeted industries.	Horizontal integrations merge competing firms to reduce costs, reduce competition, increase market size, increase customer base and create monopoly. HI is known to destroy value, as its often driven by hubris, rarely succeeds and cause regulatory and governance challenges for a larger firm. Vertical integration merges across industries but in same line example a manufacturer acquires a retailer to start marketing its products and is a form of	Specialization of activists in industry segments can help them seek an appropriate M&A partner or acquirer firm for the target and can help improve the performance for HI. Similarly, experience with the upstream and downstream industries may help activists help VI. Further ability of activists to bring deep rooted strategic improvements can prepare a promising target firm for presentation as pure diversification candidate as well. This

		related diversification). VI intends to bring in internal efficiency. Total diversification involves entering an unrelated industry. Customers care more about the experience you provide than your internal efficiency (through VI), so a customer focused business, should focus on HI (Vossoughi 2014).	subject needs further research.
Technology	Activists are smart to understand the pros and cons of technology use at their target firm. They may force management to decide for a better technology and harvest the old or underperformers. We don't see many papers discuss it well.	Access to newer or better technology can help improve the economics of scale and market power for an acquirer. It also offers an ability to diversify from being overly exposed to a single technology. Many M&A studies have discussed technology fairly well.	Ability of activism to convince or force management to bring value creating change can help get a target firm to adopt a better technology sooner. It can also serve to market the target firm better to potential acquirers at a higher premium. This subject also needs more research.
Market	Activists target firms that have not optimally used their market muscle. Activists are also known to target firms that have little growth potential left of its own but has sufficient assets to harvest value in the market chain. Activism studies have not ventured much beyond measuring the firm level returns, to see market effects.	Acquirers target firms that provide economy of scale, scope, increase customer base, increase market share, synergy of operation, synergy of discounts on raw materials, reducing taxes, diversification (market, product), access to resources (human, assets, materials, technology, labor, skills, customers). M&A studies have looked at	Activists through their research can identify hidden assets and opportunities for growth. They can force target firm managers to operate optimally. Simultaneously they can help convince a potential acquirer on how it can improve its own market power through acquisition. Fresh research that studies market influence jointly in

		market effects fairly well.	activism and M&A context can shed more light on the subject.
Region/ Proximity/ Legal or Judicial	An international study found that activists in their domestic markets perform better (Becht, Frank, Mayer and Rossi 2015). Studies at a more granular regional level are lacking.	Regions due to different legal frameworks and market frameworks could have different effects.	Further research on proximity is needed – for example to study effect of networking and dyad and triad of relationships - between activists, executives or board target firm and those at the acquirer firm.
Experience	Experienced activists get better returns for target firm shareholders. Skill builds up with experience.	Frequent acquirers seem to be successful in getting better returns from acquisitions.	Experienced activists may be collaborating with experienced acquirers (*White Knights*). It needs further research.
Assets	Underutilized assets are appealing to the activists. They see them as unused cash waiting to be harvested.	Acquirers looking for growth or synergy seek targets with underused assets that can complement its own.	An activism strategy could be to gain from acting as scouting agents for target or matchmakers for potential acquirers, thus bringing value to shareholders at the target as well as the acquirer. This win-win strategy needs further research.
Cashflow	Activists target cash rich companies. One of favorite demand of activists is to return the excess cash back to the shareholders.	Acquirers also target cash rich companies.	Company that's sitting on its cash and has't invested it well seems to be a common target for activists as well as acquirers.
Target selection	Activists are known for their informed and superior stock picking skills (Nain & Yao 2013; Bessler, Drobetz and Holler 2015). More profitable firms are targeted by hedge funds than other activists (Klein and Zur 2006).	Appropriate choice of a target firm and one that can be acquired at the right price and premium to meet the strategic intent, is essential for a well planned and executed M&A strategy to be	It needs to be studied whether a subsequent M&A plan is part of the strategy of activists when they originally seek a toe-hold investment in a target firm.

		successful. M&A literature reveals numerous techniques for target identification.	
Performance	Mixed performance outcomes have been reported by early researchers. More recent outcomes show short-term returns. Few researchers have attempted to show long-term gains (Bebchuck et al 2014; Goodwin et al 2014).	M&A rarely adds value because the expected synergy doesn't materialize. About half of M&A are successful (Price 2013). Universally, researchers agree that target shareholders gain considerable abnormal returns (~30%), acquirers usually see zero or negative returns and together the acquirer and target firm see a small yet positive return. M&A pays overall (Bruner 2002).	Suitable target choice of activists with a focus on a strategic plan execution helps the activists. Acquirers can magnify the gains by banking on the momentum effect of a desire to perform post-acquisition at the target firm.
Growth potential	Activists target firms with growth potential. Activists also target firms that have no potential left but have sufficient assets to harvest value.	Acquirers aiming for diversification seek good performing targets. Acquirers also seek targets that offer performance through synergy.	Targets that are not operating at their full potential could be acquired for lesser price by the activists. Acquirers may also be interested in getting a target that realizes its shortcomings, shows stable cashflow and is operating on a strategic growth plan laid out by the activists. Observation of best shareholder returns in activist events leading to M&A (Greenwood and Schor 2009) could be a fair reason to study activism effect on M&A
Corporate	Hedge funds tend to acquire	Acquirer firms with	Standalone studies of

Governance	stakes in firms suffering from weak corporate governance and are less profitable than their peers (Bessler et al 2015)	weak corporate governance and anti-takeover provisions (ATP) generate negative returns (Masulis et al 2007).	corporate governance in activism and M&A studies need to be extended to understand the impact in the context where the target of an activist later serves as a target of the acquirer too.
Firm Response	Mixed results have been observed in a target firm's response to aggressive or hostile approach used by the activists. Some have found better returns to hostile approach (Becht et al 2010). Others have found best results in dealing behind closed-doors at the board-room of target firms.		
Financing	Most activist deals are cash purchase from the open market. It also offers a hassle free way to exit when needed.	Studies have produced mixed results. Mostly cash based transactions have generated better value. Stock financing improves debt rating and reduces cost of debt for acquirer. Stock financing is preferred by over-valued acquirers, who pay a higher premium and so negative return in stock financed transactions is not surprising (Masulis et al 2007).	Cash payment seem to be the preferred financing vehicle for both activism and M&A. Cash may also be favored by target firm shareholders, owing to the flexibility and better liquidity compared to stock.
Premium	Activists are good at building a position around market value. The exposure of activist intentions or announcements drives up stock price. Activists close their position at a premium relative to their purchase	Higher the premium paid by an acquirer, lesser is the expected return for the acquirer. Like hubris at TMT level, overvaluation that leads to higher	Premium reflects the trust and expectation to see better performance from the target firm post-acquisition. Higher premium can be expected for activism

	price.	premium payment by larger firms is also attributed to M&A failures.	led M&A. More research is needed to explain this complex but important subject.
Society/ Culture	Activists challenge the management and board at target firms, so they are not portrayed well by the managers at a firm. Activism stories about job losses, cuts on expenditures like training and research and development, add to their negative image.	M&A has its own share of social, political and cultural integration challenges between the target firm and the acquirer (Cartwright and Schoenberg 2006).	More behavioral studies are needed to develop a richer interpretation of the phenomenon associated with activism leading to M&A.
Timing	The recent activism waves seem to be following regulatory and macro-economic changes. Spill-over effects of activism create the impression of industry wide waves (Gantchev, Gredil and Jotikasthira 2013)	M&A activities seem to happen in waves that follow macro-economic, technological, industrial, regulatory or socio-political events.	Further studies that examine the networking between Target firms, Activists and Acquirers could shed more light on the event monitoring and response mechanism that triggers the flurry of activism and M&A activities that seem to coincide on the timing aspect and provide hints of coordination and information sharing among the players.

6.4. Appendix 4: Result Tables and Figures

Convention used and interpretation

The symbols *, **, ***, **** show the significance at the 0.10, 0.05, 0.01 and 0.001 levels respectively.

$^{\sim}$The Student's t-test checks to see if the mean is different than zero. The p-value for this test indicated that the mean value is not statistically significant. Here, it is advisable to use the trimmed mean value that was found to be significantly different than zero.

[1]The t-test is a two sample test of means to test whether the mean for the sample differs from the mean for the activist target sample. We list both the Pooled t-Test and the Satterthwaite t-Test. The Pooled t-Test assumes that the two sample populations have equal variances. The Satterthwaite t-Test does not assume that the populations have equal variances. Each score is shown as a pair of t Value & its significance or p-value (Pr > |t|) that is shown in parentheses. The t-Tests were conducted for 95% confidence level. A significance value that is less than 0.05 indicates a highly significant p-value, and supports the conclusion of a significant difference between the sample being tested and the Activism sample. A significance value that is greater than or equal to 0.05 indicates a non-highly significant p-value, and supports the conclusion of a non-significant difference between the sample being tested and the Activism sample.

[2,3]The Wilkoxon and Kruskal-Wallis are non-parametric tests to see if the sample concerned arises from different distribution than the activist target sample. The tests check whether the distribution of a variable is the same across different groups. It is used primarily to indicate if the medians are different between the concerned sample and the activist target sample. The Normal Approximation Z statistic is quoted for the Wilcoxon test and it includes a continuity correction of 0.5. The Z-score is followed by its corresponding One-Sided p-value (Pr > Z) and the Two-Sided p-value (Pr > |Z|) respectively in parentheses. The Chi-Square statistic is used for the Kruskal-Wallis test. Its significance or p-value (Pr > Chi-Square) is shown in parentheses. The tests were conducted for 95% confidence level. A significance value that is less than 0.05 indicates a highly significant p-value, and supports the conclusion of a significant difference between the sample being tested and the Activism sample. A significance value that is greater than or equal to 0.05 indicates a non-highly significant p-value, and supports the conclusion of a non-significant difference between the sample being tested and the Activism sample.

6.4.1. H1.a. Premium for target during M&A

Test of Hypothesis H1.a. Activist influenced M&A shall lead to higher premium for target firm shareholders, as compared to others

6.4.1.1. Table: Comparison of distributions

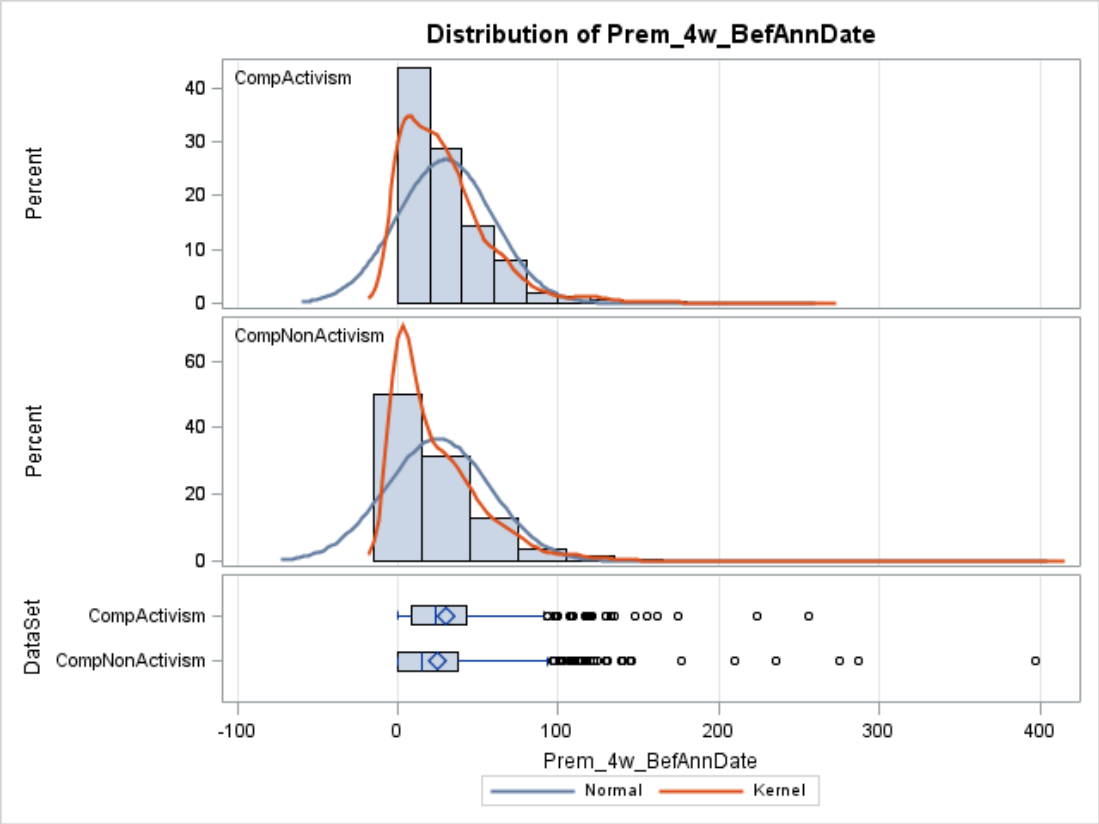
Premium 4 weeks before M&A announcement date

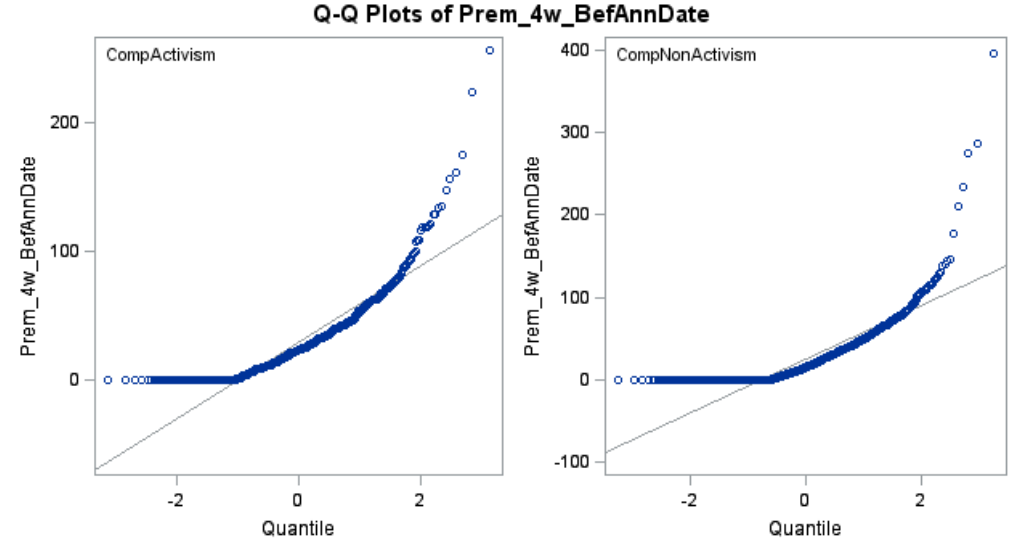
Table 4. Premium 4 weeks before M&A announcement date

Sample	N Considered / Total	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: Exclude where Prem_4w_BefAnnDate is negative or above 500%						
Activism led M&A	1771 / 1977	34.09**** / 32.23****	25.45			
Comparable Non-activism related M&A	1072 / 1239	24.83**** / 23.18****	15.12	6.50 (<.0001) / 6.80 (<.0001)	-7.7545 (<.0001) (<.0001)	60.1333 (<.0001)
All Non-activism related M&A	20439 / 23351	20.54**** / 18.48****	2.96	14.76 (<.0001) / 14.05 (<.0001)	24.4411 (<.0001) (<.0001)	597.3685 (<.0001)
Filter: Exclude where Prem_4w_BefAnnDate is negative or above 500%						
Comparable Activism led M&A	687 / 770	29.44**** / 28.19****	23.24			
Comparable Non-activism related M&A	1072 / 1239	24.83**** / 23.18****	15.12	2.99 (0.0029) / 3.05 (0.0024)	5.3641 (<.0001) (<.0001)	28.7742 (<.0001)

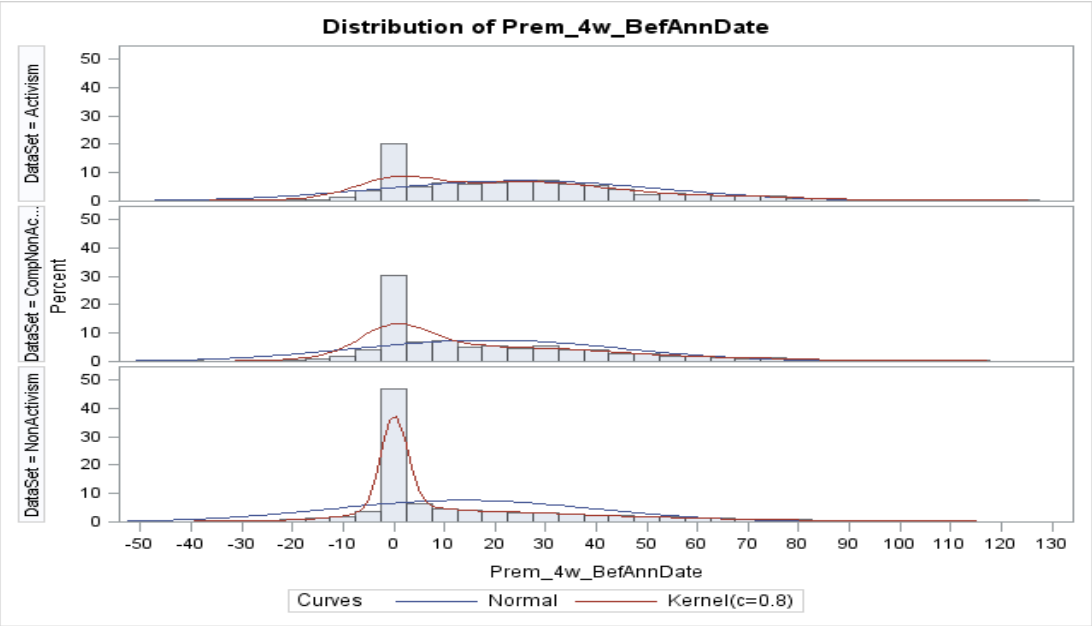
6.4.1.2. Figure: Distributions

Prem_4w_BefAnnDate: where Prem_4w_BefAnnDate between (0,500%)





(Filter: Exclude Prem_4w_BefAnnDate less than -50% or above 130%)



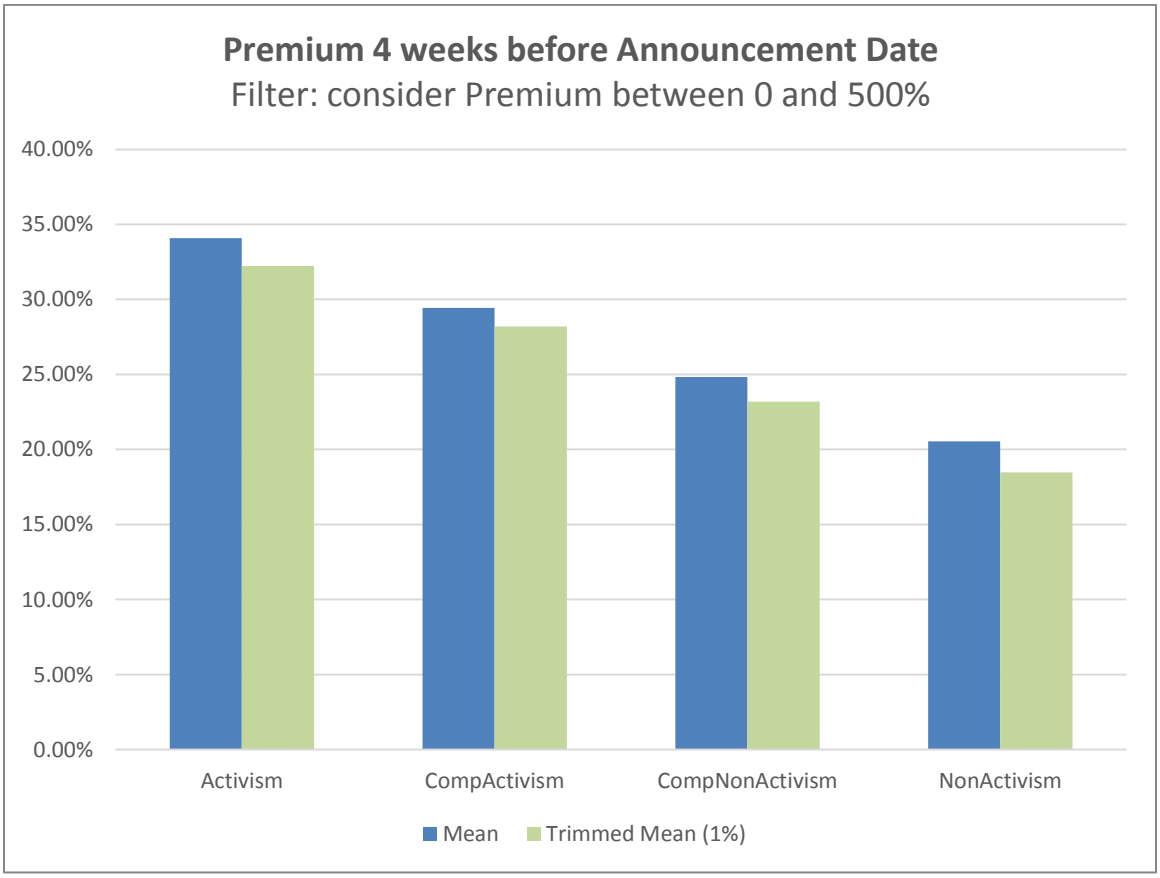


Figure 2: Premium 4 weeks before M&A announcement date

6.4.2. H1.b. Number of Bids

Test for Hypothesis 1.b. More bids shall be observed for the target firm in an activist influenced M&A deal, as compared to others

6.4.2.1. Table: Comparison of distributions

Number of Bids: comparison for Activism, Comparable and All Non-Activism

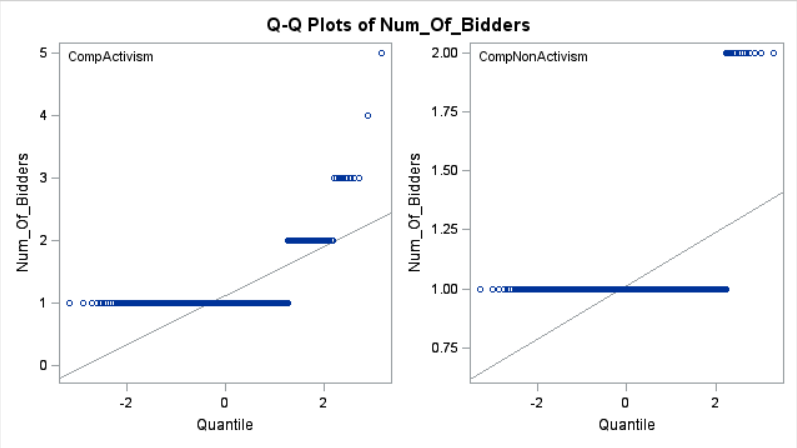
Table 5. Count of bids

Sample	N	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: None						
Activism led M&A	1977	1.1229**** / 1.1033****	1.0			
Comparable Non-activism related M&A	1239	1.0129**** / 1.0025****	1.0	10.06 (<.0001) / 12.20 (<.0001)	-10.2566 (<.0001) (<.0001)	105.1997 (<.0001)
All Non-activism related M&A	23351	1.0264**** / 1.0118****	1.0	19.20 (<.0001) / 11.33 (<.0001)	22.3474 (<.0001) (<.0001)	499.4052 (<.0001)
Filter: None						
Comparable Activism led M&A	770	1.1221**** / 1.0995****	1.0			
Comparable Non-activism related M&A	1239	1.0129**** / 1.0025****	1.0	9.20 (<.0001) / 7.52 (<.0001)	9.3100 (<.0001) (<.0001)	86.6779 (<.0001)

6.4.2.2. Figure: Distributions

Number of Bids: comparison for Activism, Comparable and All Non-Activism

Filter: None



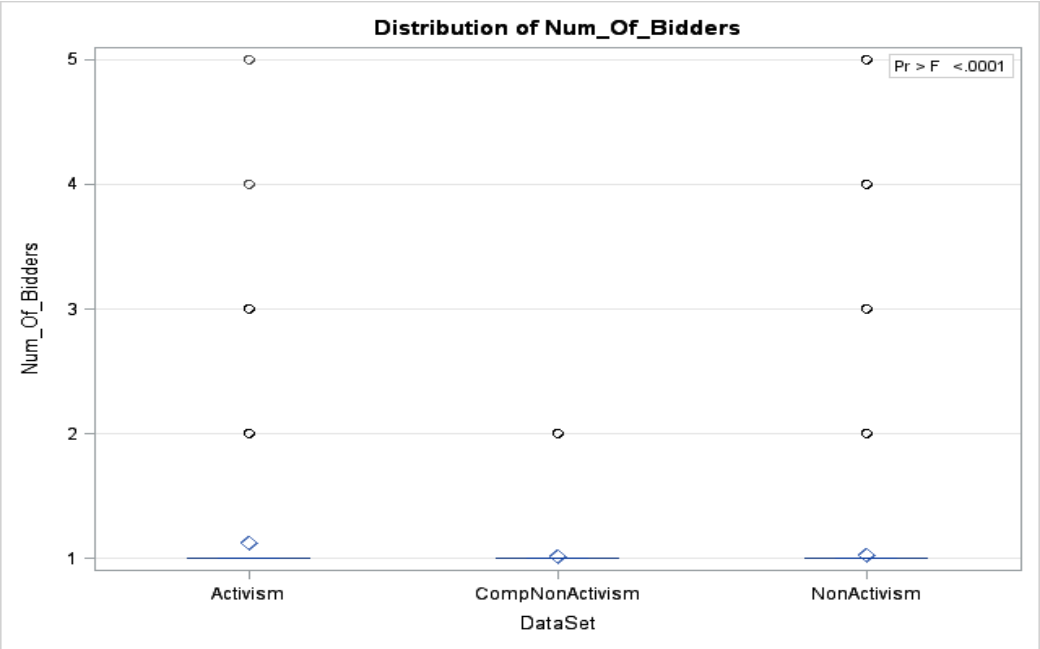
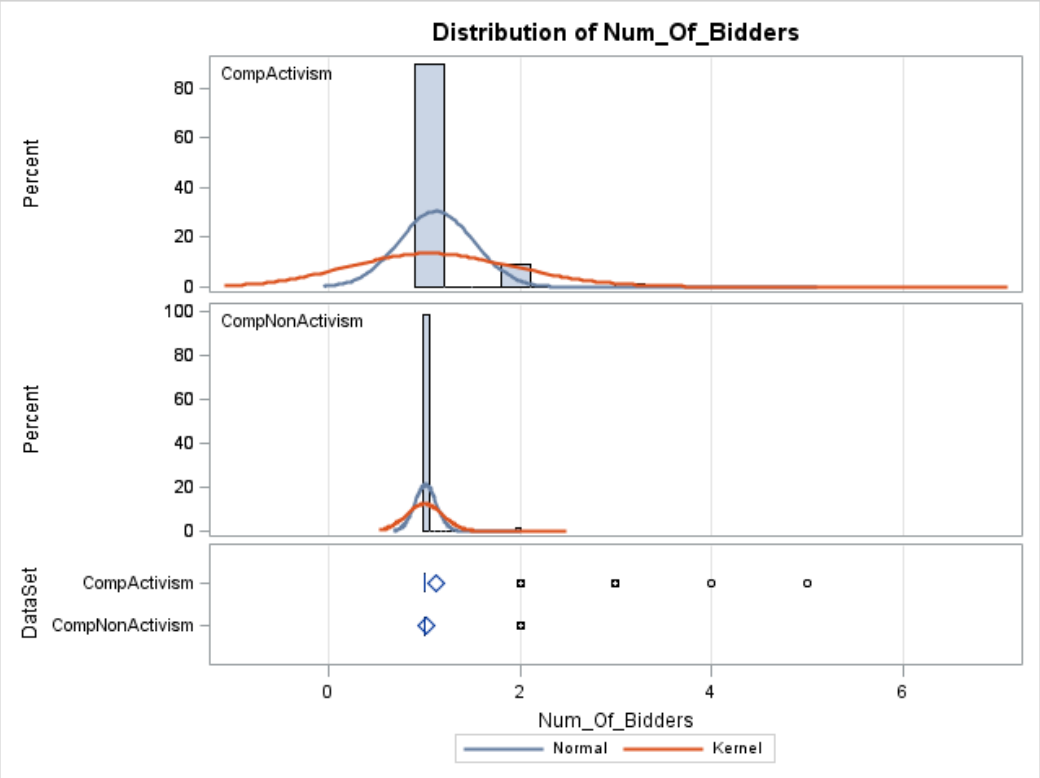


Figure 3: Count of bids



6.4.3. H1.c. Cash Offer: Mode of Payment

Test for Hypothesis 1.c. We shall observe more cash offers than stock for the target by the acquirer in activist led M&A

6.4.3.1. Table: Comparison of distributions

All Cash Offers compared

We defined AllCashOffer as a dummy variable (CashOnly) that was assigned a value 1 when percent of cash was 100 and a value 0, if otherwise.

Table 6. Mode of payment: Cash Vs. Stock Offers

Sample	N	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: None						
Compare All Cash Offer (100% Cash) between datasets						
Activism led M&A	1977	0.6645**** / 0.6680****	1.0			
Comparable Non-activism related M&A	1239	0.5496**** / 0.5507****	1.0	6.58 (<.0001) / 6.50 (<.0001)	-6.5392 (<.0001) (<.0001)	42.7608 (<.0001)
All Non-activism related M&A	23351	0.4832**** / 0.4828****	0.0	15.57 (<.0001) / 16.33 (<.0001)	15.4933 (<.0001) (<.0001)	240.0437 (<.0001)
Filter: None						
Compare All Stock Offer (100% Stock) between datasets						
Activism led M&A	1977	0.0749**** / 0.0661****	0.0			
Comparable Non-activism related M&A	1239	0.1542**** / 0.1467****	0.0	-7.18 (<.0001) / -6.69 (<.0001)	7.1254 (<.0001) (<.0001)	50.7713 (<.0001)
All Non-activism related M&A	23351	0.1643**** / 0.1574****	0.0	-10.51 (<.0001) / -13.98 (<.0001)	-10.4848 (<.0001) (<.0001)	109.9307 (<.0001)
Filter: None						
Compare All Cash Offer (100% Cash) between datasets						
Comparable Activism led M&A	770	0.7117**** / 0.7162****	1.0			
Comparable Non-activism related M&A	1239	0.5496**** / 0.5507****	1.0	7.34 (<.0001) / 7.50 (<.0001)	7.2442 (<.0001) (<.0001)	52.4790 (<.0001)
Compare All Stock Offer (100% Stock) between datasets						
Comparable Activism led	770	0.08831**** / 0.0796****	0.0			

M&A						
Comparable Non-activism related M&A	1239	0.1542**** / 0.1467****	0.0	-4.30 (<.0001) / -4.54 (<.0001)	-4.2806 (<.0001) (<.0001)	18.3245 (<.0001)

6.4.3.2. Figures: Distributions

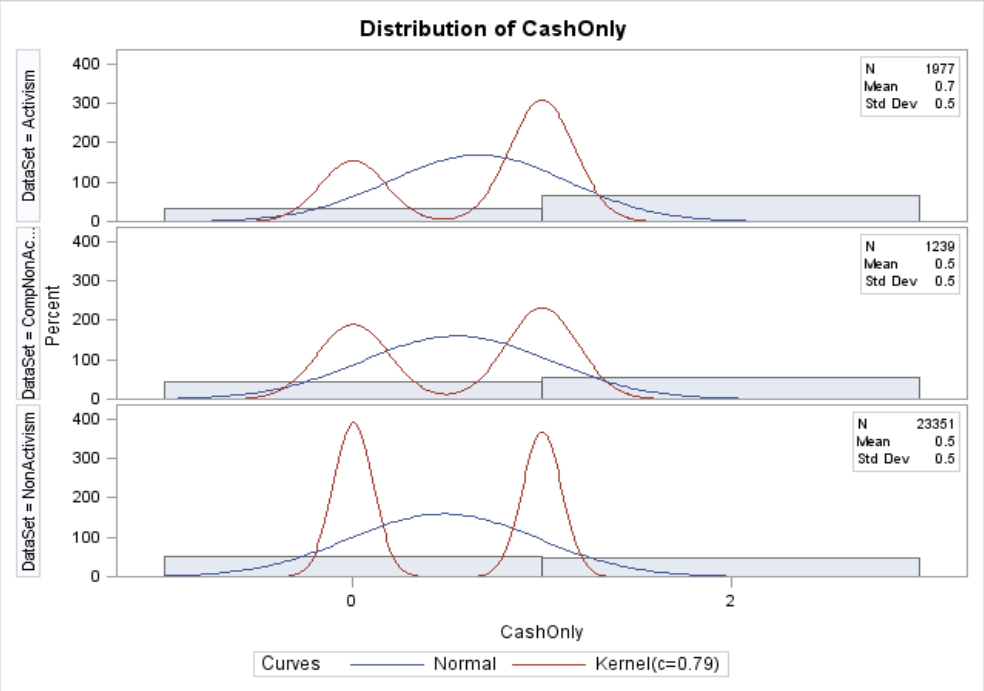
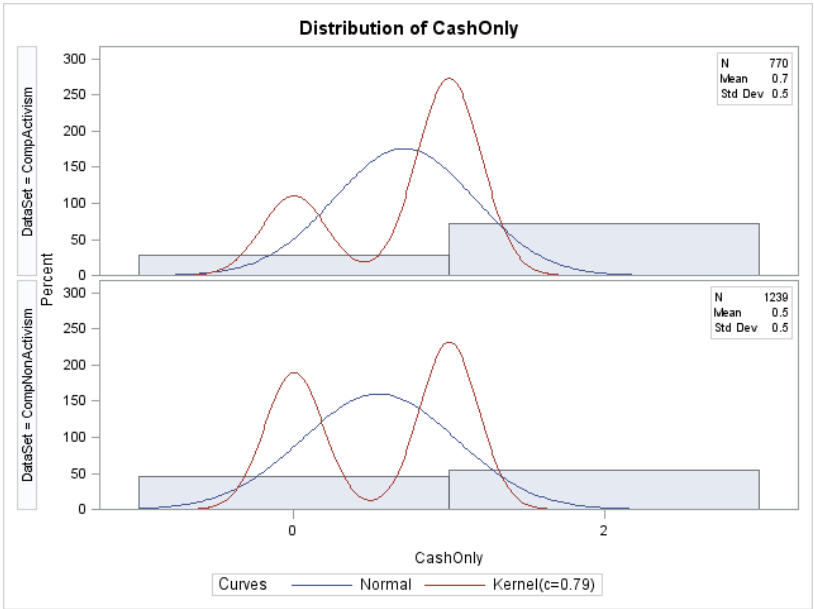
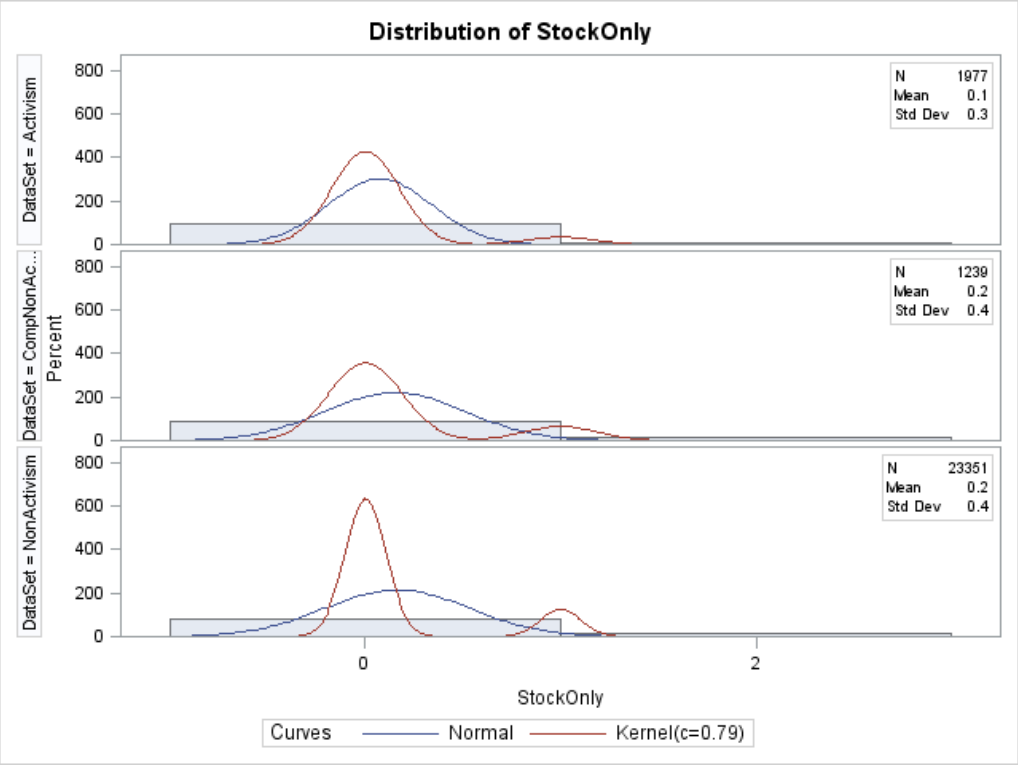
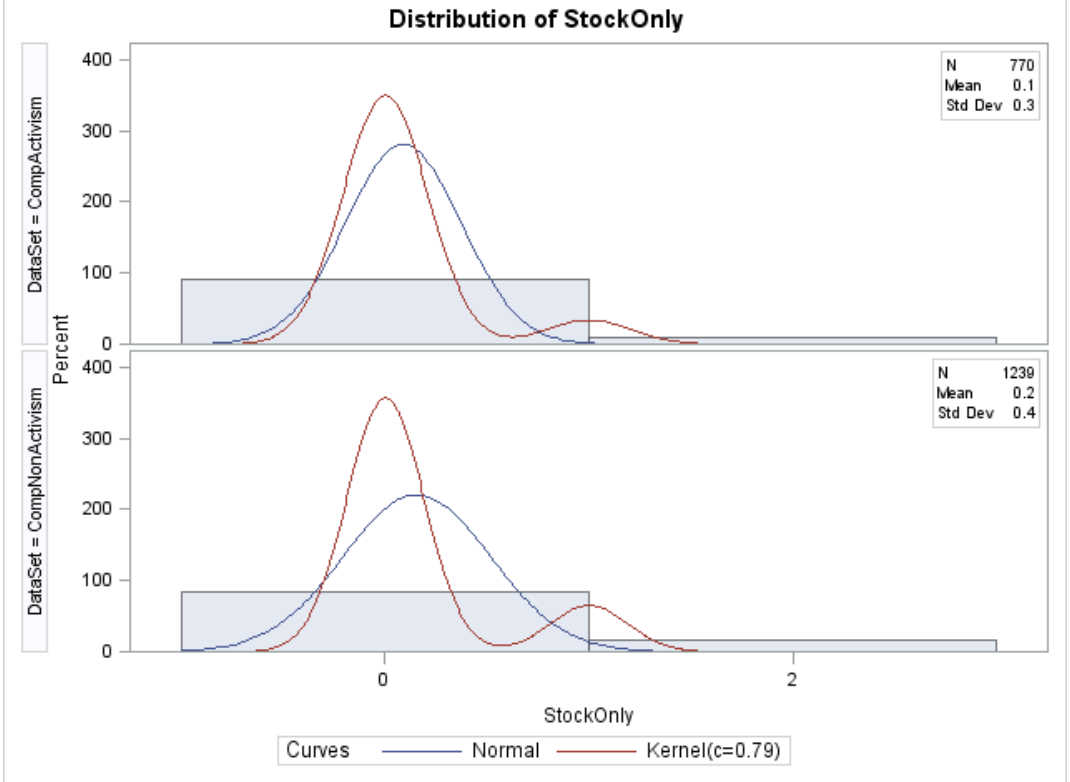


Figure 4: Mode of payment: Cash Only with Stock Only





All (100%) Cash or All (100%) Stock or OtherOrMixed Offer: No Filter



6.4.3.3. Table: Basic Statistics

Mode of Payment CashOnly (Cash=100%) or StockOnly(Stock=100%) or Mixed(Any other combination): No Filter

Table 7. Statistics: Mode of payment

Data set	Activism			NonActivism		
Variable	CashOnly	StockOnly	OtherOrMixed	CashOnly	StockOnly	OtherOrMixed
N	1977	1977	1977	23351	23351	23351
Mean	66.46%	7.49%	26.05%	48.32%	16.43%	35.25%
Std Dev	0.4722	0.2632	0.4390	0.4997	0.3705	0.4778
Variance	0.2230	0.0693	0.1927	0.2497	0.1373	0.2283
Std Error	0.0106	0.0059	0.0099	0.0033	0.0024	0.0031
Coeff of Variation	71.0508	351.6300	168.5311	103.4224	225.5559	135.5246
Minimum	0	0	0	0	0	0
1st Pctl	0	0	0	0	0	0
5th Pctl	0	0	0	0	0	0
10th Pctl	0	0	0	0	0	0
25th Pctl	0	0	0	0	0	0
Median	1	0	0	0	0	0
75th Pctl	1	0	1	1	0	1
90th Pctl	1	0	1	1	1	1
95th Pctl	1	1	1	1	1	1
99th Pctl	1	1	1	1	1	1
Maximum	1	1	1	1	1	1
Quartile Range	1	0	1	1	0	1
Skewness	-0.6980	3.2334	1.0922	0.0673	1.8123	0.6174
Kurtosis	-1.5143	8.4634	-0.8079	-1.9956	1.2844	-1.6190
t Value	62.58	12.64	26.38	147.75	67.75	112.75
Pr > |t|	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

DataSet	CompActivism			CompNonActivism		
N Obs	770			1239		
Variable	CashOnly	StockOnly	OtherOrMixed	CashOnly	StockOnly	OtherOrMixed
N	770	770	770	1239	1239	1239
Mean	71.17%	8.83%	20.00%	54.96%	15.42%	29.62%
Std Dev	0.4533	0.2839	0.4003	0.4977	0.3612	0.4568
Variance	0.2055	0.0806	0.1602	0.2477	0.1305	0.2086
Std Error	0.0163	0.0102	0.0144	0.0141	0.0103	0.0130
Coeff of	63.6896	321.5113	200.1300	90.5563	234.3361	154.2057

Variation						
Minimum	0	0	0	0	0	0
1st Pctl	0	0	0	0	0	0
5th Pctl	0	0	0	0	0	0
10th Pctl	0	0	0	0	0	0
25th Pctl	0	0	0	0	0	0
Median	1	0	0	1	0	0
75th Pctl	1	0	0	1	0	1
90th Pctl	1	0	1	1	1	1
95th Pctl	1	1	1	1	1	1
99th Pctl	1	1	1	1	1	1
Maximum	1	1	1	1	1	1
Quartile Range	1	0	0	1	0	1
Skewness	-0.9365	2.9075	1.5029	-0.1998	1.9178	0.8938
Kurtosis	-1.1259	6.4701	0.2595	-1.9633	1.6808	-1.2031
t Value	43.57	8.63	13.87	38.87	15.02	22.83
Pr > |t|	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

6.4.4. H2.a. Prior Experience of Activist in Industry

Test of Hypothesis 2.a. An activist with prior experience in the industry of target firm shall get better premium for the target. *(as compared to those with no related prior experience)*

6.4.4.1. Table: Comparison of distributions

Prior Experience of Activist in industry of target w.r.t. Premium 4 weeks before announcement date

Prior Experience: having > 1 instance (Here Median of Prior Industry Experience = 1)

No Prior Experience: having <= 1 instance

Table 8. Prior industry experience of activist

Sample	N	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: Exclude where Premium is negative or above 500%						
Activists having Prior Experience in Industry of target firm	803	36.2027**** / 34.2983****	28.31			
Activists having No Prior Experience in Industry of target firm	968	32.3303**** / 30.3941****	23.21	-2.08 (0.0379) / -2.09 (0.0367)	4.3841 (<.0001) (<.0001)	19.2205 (<.0001)

6.4.4.2. Figure: Correlation between Premium and Prior Industry Experience

Premium 4 weeks prior to M&A announcement date:
Activists having Prior Experience in the Industry of the target firm.
Filter: where Premium is between (0%, 500%)

Pearson Correlation Coefficients, N = 1771
Between PriorExp_Act_Ind and Prem_4w_BefAnnDate
(Prob > |r| under H0: Rho=0)
0.08402 (0.0004)

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
PriorExp_Act_Ind	1771	4.56578	7.90112	1	1.00000	50.00000
Prem_4w_BefAnnDate	1771	34.08610	39.09331	25.45	0	354.55000

6.4.4.3. *Figure: Distributions*

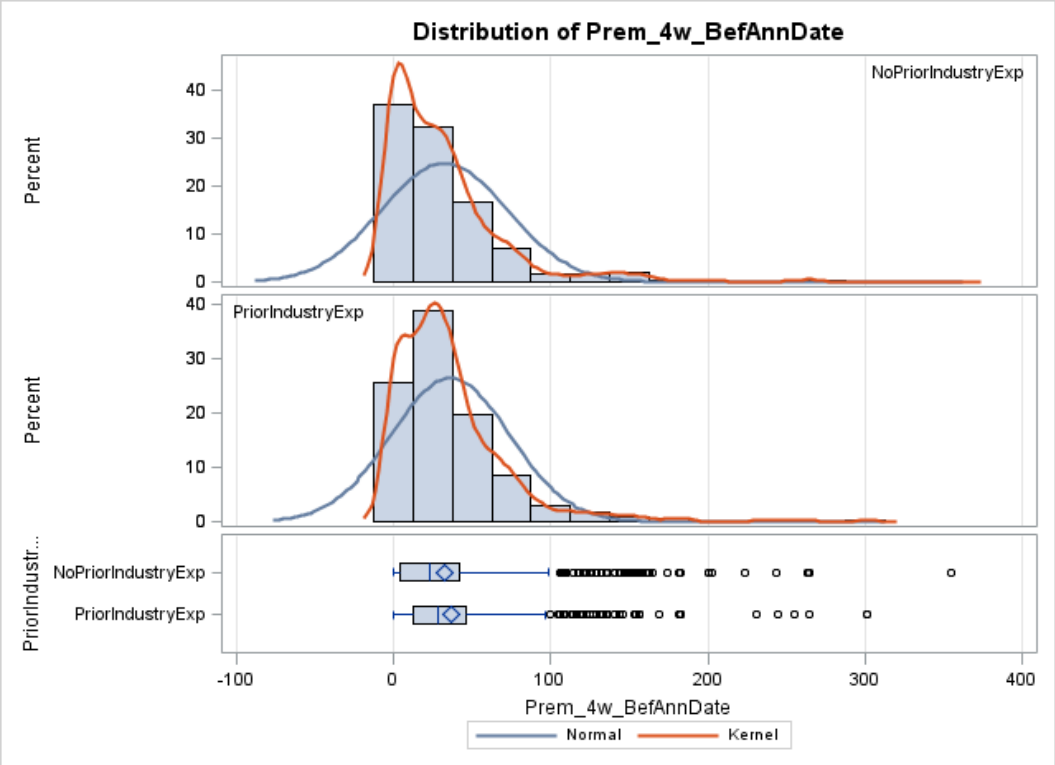
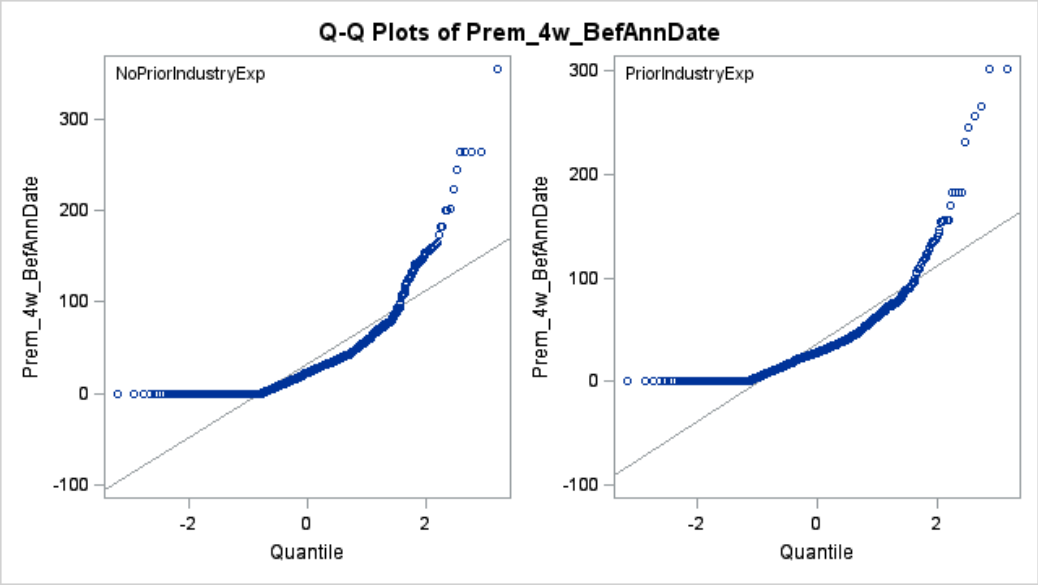


Figure 5: Prior experience in industry of target



6.4.5. H2.b. Prior Overall Experience of Activist w.r.t. Premium

Test for Hypothesis H2.b. An activist with prior overall experience shall get better premium for the target than when a lesser experienced activist is involved.

6.4.5.1. Table: Comparison of distributions

Overall Experience of Activist w.r.t. Premium 4 weeks before announcement date

Prior Overall Experience: > 6 experiences (here Median Prior Overall Experiences = 6)

No Prior Overall Experience: <= 6 experience.

Table 9. Prior overall experience of activist

Sample	N	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: Exclude where Premium is negative or above 500%						
Activists having Prior Experience	219	45.2418**** / 43.6522****	36.92			
Activists having No Prior Experience	93	36.7741**** / 35.8635****	28.37	-1.82 (0.0691) / -1.84 (0.0676)	-2.8784 (0.0020) (0.0040)	8.2891 (0.0040)

6.4.5.2. Figure: Correlation between Premium and Prior Overall Experience

(Filter: consider where Premium 4 weeks before Announcement Date is between (0, 500%)

Pearson Correlation Coefficients, N = 312
Between PriorExp_Act and Prem_4w_BefAnnDate
(Prob > |r| under H0: Rho=0)
0.14606 (0.0098)

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
PriorExp_Act	312	181.66987	171.38958	155	1.00000	494.00000
Prem_4w_BefAnnDate	312	42.71776	37.64798	32.985	0	244.83000

6.4.5.3. Figure: Distributions

Prior Overall Experience or Not: Activism

Filter: consider where Premium is between (0%, 500%)

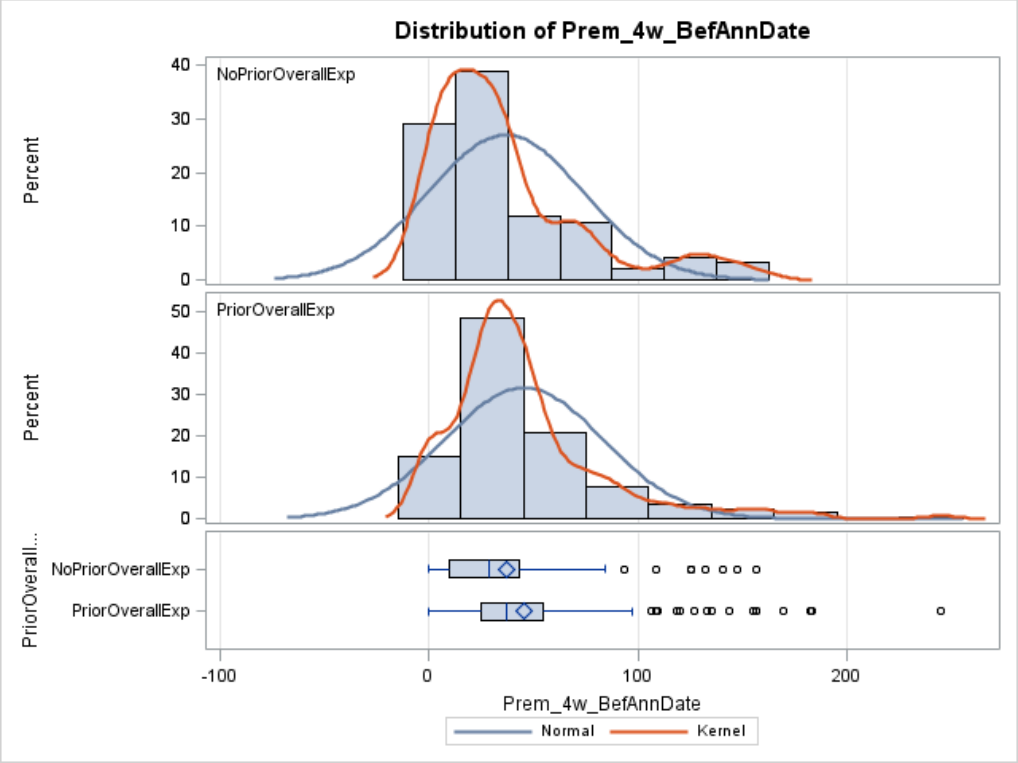
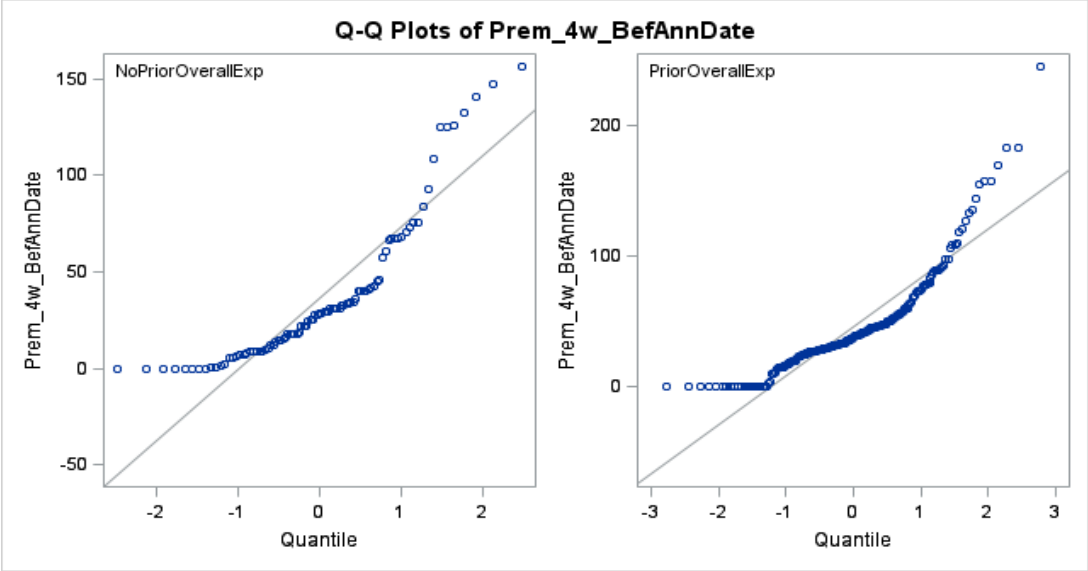


Figure 6: Prior overall experience of activist



6.4.6. H2.c. Ownership Interest of Activist w.r.t. Premium

Test for Hypothesis 2.c. An activist with greater ownership in the target firm shall get better premium than activists with lower ownership.

6.4.6.1. Table: Comparison of distributions

Ownership Interest of Activist w.r.t. Premium 4 weeks before announcement date

Using 326 samples, with no filter we observed:

Average Ownership share of Activist (%) = 9.9439**** Median = 7.175

Average Premium 4 weeks before announcement date (%) = 44.5083**** Median = 34.575

Filter: consider where Premium 4 weeks before Announcement Date is between (0, 500%)

Table 10. Ownership interest of activist

Sample	N	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Premium 4 weeks before announcement date: Filter consider Premium between (0,500%)						
Above median ownership (%)	138	49.9655**** / 48.4452****	37.33			
At or Below median ownership (%)	144	44.6715**** / 43.3271****	36.49	1.21 (0.2276) / 1.20 (0.2298)	4.3331 (0.3325) (0.6649)	0.1882 (0.6644)

6.4.6.2. Table: Correlation between Ownership stake and Premium

(Filter: consider where Premium 4 weeks before Announcement Date is between (0, 500%)

Pearson Correlation Coefficients, N = 282
Between Act_Own_Pct and Prem_4w_BefAnnDate
(Prob > |r| under H0: Rho=0)
0.09979 (0.0944)

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
Act_Own_Pct	282	0.09416	0.11005	0.0709	0.01000	1.00000
Prem_4w_BefAnnDate	282	47.26220	36.78513	36.485	0.39000	244.83000

6.4.6.3. *Figure: Ownership Interest of Activist w.r.t. Premium*

Ownership % of Activist in Target before Acquisition: Activism led MnA
Filter: consider where Premium 4 weeks before announcement date is between (0, 500%)

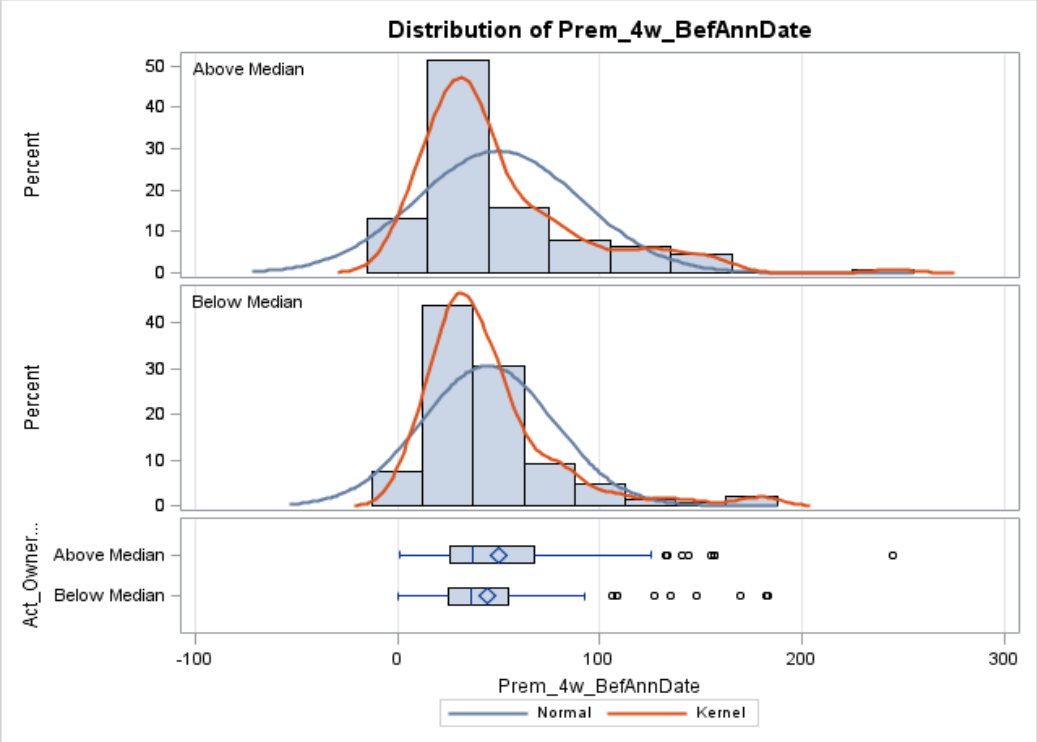
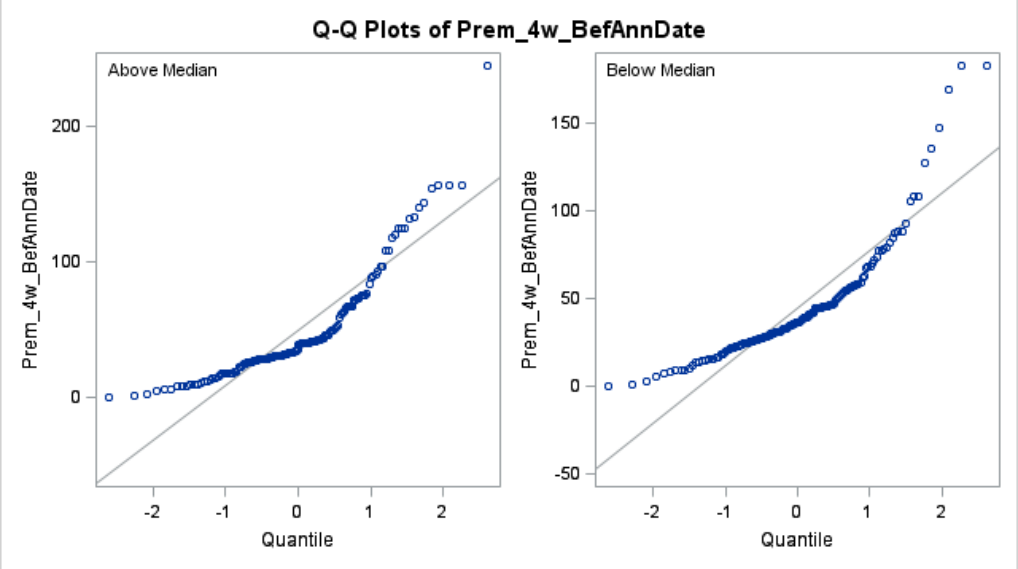


Figure 7: Ownership level of Activist in target



6.4.6.4. *Table: Ownership Level Vs Premium Level*

Premium 4 weeks prior to M&A announcement date: Where Premium is between (0%, 500%)

Table 11. Ownership level Vs Premium level

Frequency
Percent
Row Pct
Col Pct

Table of Prem_4w_BefAnnDate_Level by Act_Ownership_Level

Prem_4w_BefAnnDate_Level	Act_Ownership_Level		
	Above Median	Below Median	Total
Above Median	98	99	197
	34.75	35.11	69.86
	49.75	50.25	
	71.01	68.75	
Below Median	40	45	85
	14.18	15.96	30.14
	47.06	52.94	
	28.99	31.25	
Total	138	144	282
	48.94	51.06	100.00

Statistics for Table of Prem_4w_BefAnnDate_Level by Act_Ownership_Level

McNemar's Test	
Statistic (S)	25.0432
DF	1
Asymptotic Pr > S	<.0001
Exact Pr >= S	5.955E-07

6.4.7. H3.a. Post-Acquisition performance for acquirer

Test for Hypothesis H3.a. Post-acquisition performance for the acquirer of an activist targeted firm shall be higher than acquirers of non-activist targeted firms.

6.4.7.1. Market Model (MM) method: Cumulative Abnormal Returns

6.4.7.1.1. Table: Basic Statistics

Cumulative Abnormal Returns (CAR)

Table 12. Statistics: CAR using Market Model (MM)

Window (Months from Effective Date)		Mean	Median	Variance	Skewness	Kurtosis	t Value	Pr > |t|
Filter: consider CAR between -500% and 500%								
Dataset:	**Activism**		Model:	Market Adjusted Returns			N Obs	580
(-12,0)		0.02%	-0.02%	0.3124	-0.1011	7.2523	0.01	0.9882
(0,+6)		-0.49%	-1.28%	0.2956	0.5326	13.7117	-0.4	0.6892
(0,+12)		-1.15%	-0.98%	0.4204	-0.1804	4.7608	-0.66	0.5119
(0,+24)		-3.38%	-1.27%	0.6092	-0.2379	2.7292	-1.34	0.1822
(0,+36)		-5.95%	0.81%	0.7808	-0.3692	2.1959	-1.84	0.0669
(0,+48)		-4.95%	0.35%	0.9156	-0.3034	2.7328	-1.3	0.1933
(0,+60)		-6.03%	1.18%	1.0406	-0.3344	2.7603	-1.4	0.1632
Dataset:	**CompActivism**		Model:	Market Adjusted Returns			N Obs	295
(-12,0)		-1.81%	-1.82%	0.3099	0.4502	3.7471	-1.54	0.1231
(0,+6)		-1.60%	-1.75%	0.2789	-0.0186	2.9591	-1.52	0.1287
(0,+12)		-4.78%	-1.33%	0.4384	-0.5106	2.3545	-2.89	0.004
(0,+24)		-7.10%	-4.48%	0.6407	-0.4321	2.5963	-2.93	0.0034
(0,+36)		-9.46%	-8.10%	0.8225	-0.0238	3.0846	-3.05	0.0024
(0,+48)		-13.19%	-6.61%	0.9762	-0.2754	2.3053	-3.58	0.0004
(0,+60)		-17.58%	-7.19%	1.1140	-0.3882	2.1182	-4.18	<.0001
Dataset:	**CompNonActivism**		Model:	Market Adjusted Returns			N Obs	695
(-12,0)		-1.81%	-1.82%	0.3099	0.4502	3.7471	-1.54	0.1231
(0,+6)		-1.60%	-1.75%	0.2789	-0.0186	2.9591	-1.52	0.1287
(0,+12)		-4.78%	-1.33%	0.4384	-0.5106	2.3545	-2.89	0.004
(0,+24)		-7.10%	-4.48%	0.6407	-0.4321	2.5963	-2.93	0.0034
(0,+36)		-9.46%	-8.10%	0.8225	-0.0238	3.0846	-3.05	0.0024
(0,+48)		-13.19%	-6.61%	0.9762	-0.2754	2.3053	-3.58	0.0004
(0,+60)		-17.58%	-7.19%	1.1140	-0.3882	2.1182	-4.18	<.0001
Dataset:	**NonActivism**		Model:	Market Adjusted Returns			N Obs	11002
(-12,0)		-1.68%	-1.91%	0.3853	0.7393	9.9350	-4.5	<.0001
(0,+6)		-4.98%	-3.12%	0.3692	-0.3023	9.9701	-13.95	<.0001

(0,+12)		-9.98%	-5.54%	0.5465	-0.5519	4.5970	-18.88	<.0001
(0,+24)		-18.39%	-10.45%	0.8325	-0.5271	2.9979	-22.84	<.0001
(0,+36)		-24.99%	-15.17%	1.0428	-0.4365	2.0335	-24.78	<.0001
(0,+48)		-30.99%	-17.73%	1.2194	-0.4009	1.4614	-26.28	<.0001
(0,+60)		-37.48%	-20.39%	1.3955	-0.4019	1.2491	-27.77	<.0001

6.4.7.1.2. MM: Chart

Market Model: Cumulative Abnormal Returns (CAR)

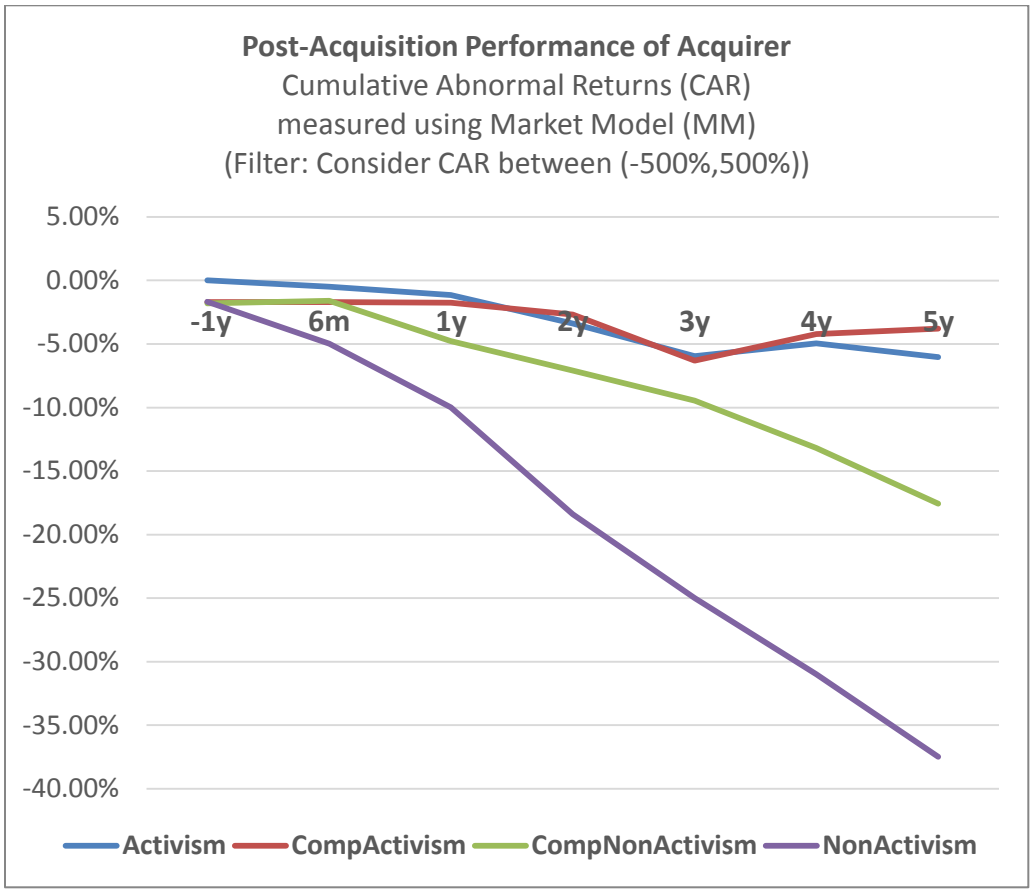


Figure 8: CAR: Market Model

6.4.7.1.3. Table: Comparison of distributions

Table 13. Post-acquisition performance: CAR using MM

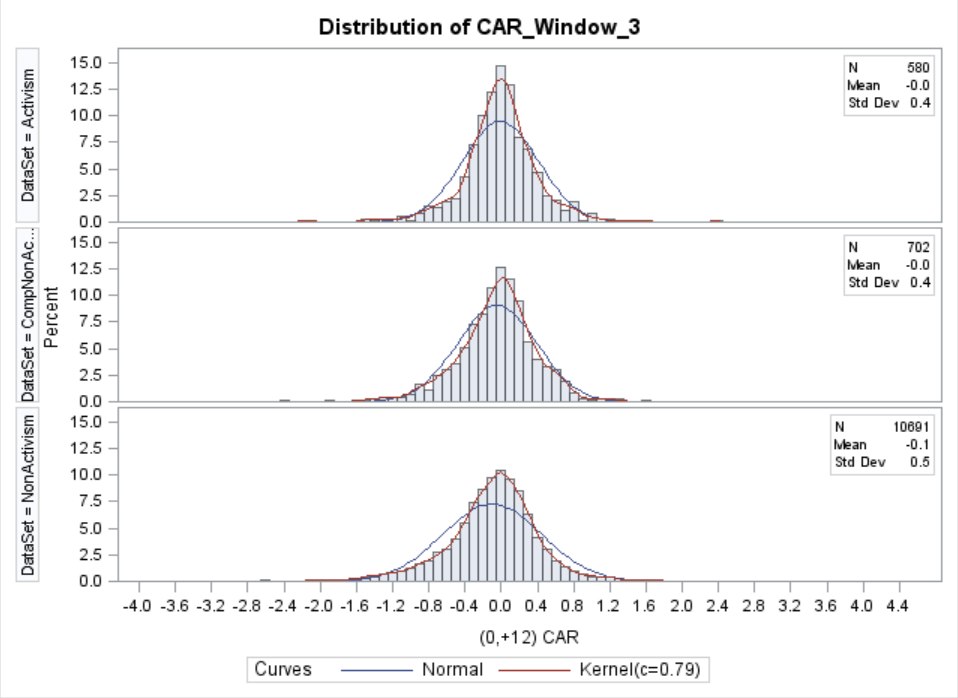
Sample	N Considered / Total	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: consider CAR between -500% and 500%						
1y after M&A Effective Date (CAR_Window_3 (0,+12m) CAR)						
Activism led M&A	580 / 1977	-0.0115 / -0.0097	-0.0098			
Comparable Non-activism related M&A	702 / 1239	-0.0478*** / -0.0446***	-0.0133	1.51 (0.1321) / 1.51 (0.1306)	2.3832 (0.0086) (0.0172)	5.6795 (0.0172)
All Non-activism related M&A	10691 / 23357	-0.0998**** / -0.0957****	-0.0554	3.83 (0.0001) / 4.84 (<.0001)	3.7330 (<.0001) (0.0002)	13.9353 (0.0002)
2y after M&A Effective Date (CAR_Window_4 (0,+24m) CAR)						
Activism led M&A	580 / 1977	-0.0338 / -0.0330	-0.0127			
Comparable Non-activism related M&A	702 / 1239	-0.0710** / -0.0671**	-0.0448	1.06 (0.2905) / 1.06 (0.2882)	2.6138 (0.0045) (0.0090)	6.8321 (0.0090)
All Non-activism related M&A	10691 / 23357	-0.1839**** / -0.1799****	-0.1045	4.28 (<.0001) / 5.65 (<.0001)	4.2387 (<.0001) (<.0001)	17.9663 (<.0001)
3y after M&A Effective Date (CAR_Window_5 (0,+36m) CAR)						
Activism led M&A	580 / 1977	-0.0595* / -0.0580*	0.0081			
Comparable Non-activism related M&A	702 / 1239	-0.0946** / -0.0963**	-0.0810	0.78 (0.4373) / 0.78 (0.4350)	3.0456 (0.0012) (0.0023)	9.2757 (0.0023)
All Non-activism related M&A	10691 / 23357	-0.2499**** / -0.2465****	-0.1518	4.33 (<.0001) / 5.61 (<.0001)	4.7693 (<.0001) (<.0001)	22.7462 (<.0001)
4y after M&A Effective Date (CAR_Window_6 (0,+48m) CAR)						
Activism led M&A	580 / 1977	-0.0495 / -0.0494	-0.0035			
Comparable Non-activism related M&A	702 / 1239	-0.1320*** / -0.1298***	-0.0661	1.55 (0.1219) / 1.56 (0.1197)	3.9765 (<.0001) (<.0001)	15.8128 (<.0001)
All Non-activism related M&A	10691 / 23357	-0.3099**** / -0.3075****	-0.1773	5.07 (<.0001) / 6.54 (<.0001)	5.4616 (<.0001) (<.0001)	29.8295 (<.0001)

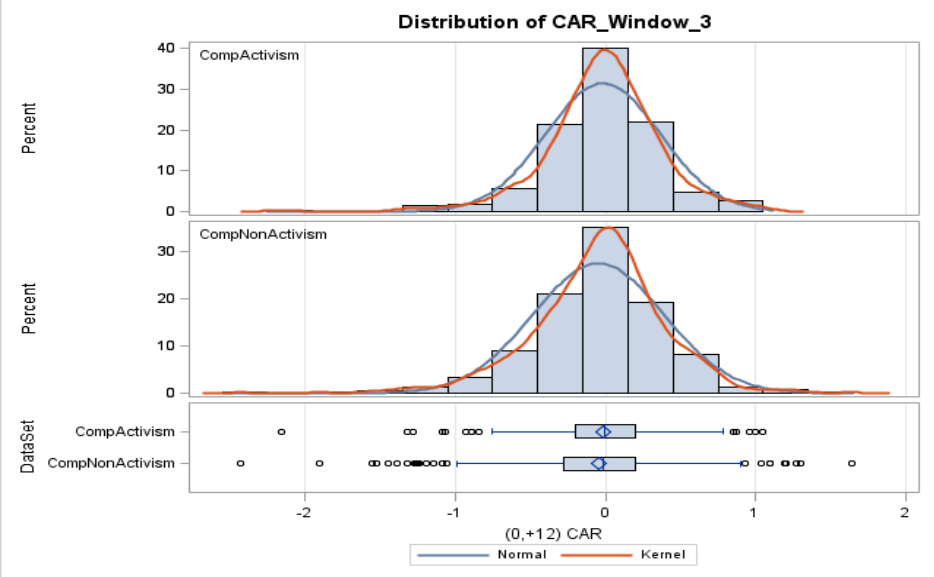
5y after M&A Effective Date (CAR_Window_7 (0,+60m) CAR)						
Activism led M&A	580 / 1977	-0.0603 / -0.0604	0.0118			
Comparable Non-activism related M&A	702 / 1239	-0.1758**** / -0.1710**	-0.0719	1.90 (0.0574) / 1.91 (0.0558)	4.4181 (<.0001) (<.0001)	19.5197 (<.0001)
All Non-activism related M&A	10691 / 23357	-0.3748**** / -0.3730****	-0.2039	5.35 (<.0001) / 6.95 (<.0001)	5.9577 (<.0001) (<.0001)	35.4943 (<.0001)
Filter: consider CAR between -500% and 500%						
1y after M&A Effective Date (CAR_Window_3 (0,+12m) CAR)						
Comparable Activism led M&A	295 / 770	-0.0174 / -0.0117	-0.0056			
Comparable Non-activism related M&A	695 / 1239	-0.0474*** / -0.0443***	-0.0127	1.02 (0.3065) / 1.08 (0.2800)	0.9483 (0.1715) (0.3430)	0.8995 (0.3429)
2y after M&A Effective Date (CAR_Window_4 (0,+24m) CAR)						
Comparable Activism led M&A	295 / 770	-0.0269 / -0.0271	-0.0117			
Comparable Non-activism related M&A	695 / 1239	-0.0706*** / -0.0673***	-0.0444	1.02 (0.3092) / 1.07 (0.2840)	0.9599 (0.1685) (0.3371)	0.9217 (0.3370)
3y after M&A Effective Date (CAR_Window_5 (0,+36m) CAR)						
Comparable Activism led M&A	295 / 770	-0.0630 / -0.0547	0.0094			
Comparable Non-activism related M&A	695 / 1239	-0.0940** / -0.0963***	-0.0814	0.56 (0.5740) / 0.59 (0.5533)	1.4078 (0.0796) (0.1592)	1.9824 (0.1591)
4y after M&A Effective Date (CAR_Window_6 (0,+48m) CAR)						
Comparable Activism led M&A	295 / 770	-0.0421 / -0.0372	-0.0042			
Comparable Non-activism related M&A	695 / 1239	-0.1303*** / -0.1287***	-0.0658	1.35 (0.1765) / 1.43 (0.1521)	1.8883 (0.0295) (0.0590)	3.5661 (0.0590)
5y after M&A Effective Date (CAR_Window_7 (0,+60m) CAR)						
Comparable Activism led M&A	295 / 770	-0.0378 / -0.0394	0.0132			
Comparable Non-activism related M&A	695 / 1239	-0.1725**** / -0.1686****	-0.0719	1.80 (0.0721) / 1.88 (0.0601)	2.2664 (0.0117) (0.0234)	5.1373 (0.0234)

6.4.7.1.4. MM: Figures: Distributions

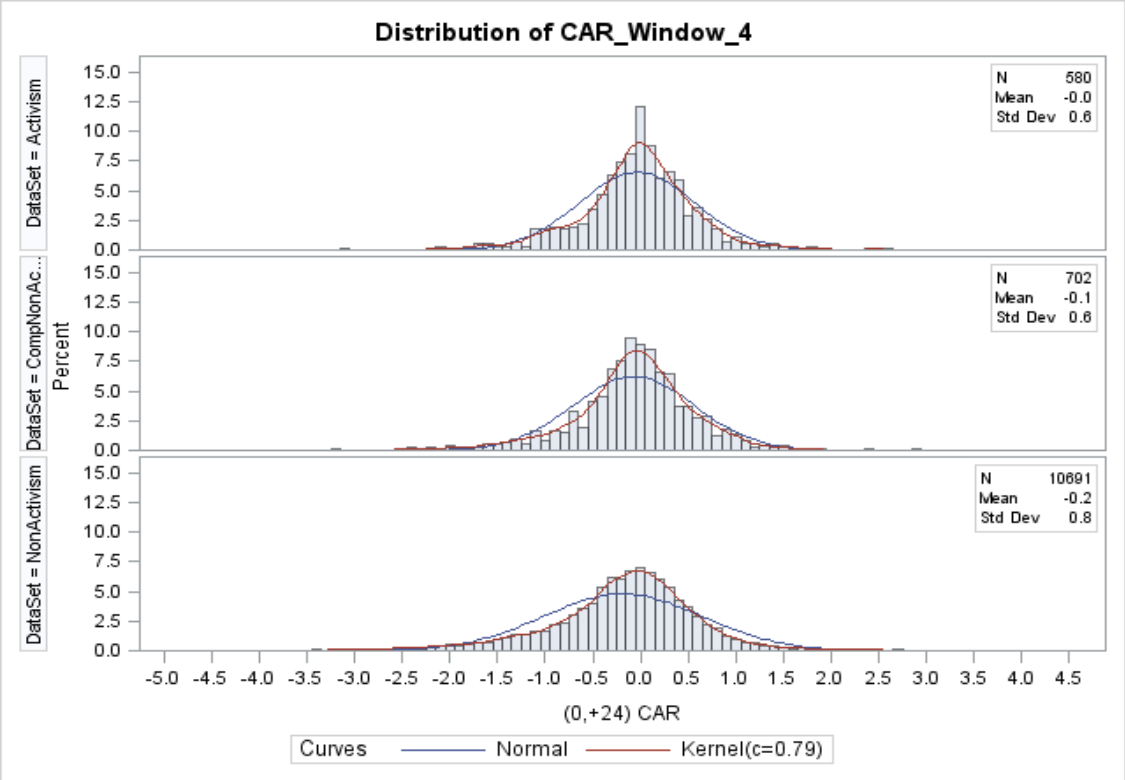
Post-Effective Date Acquisition performance (Market Model)
Cumulative Abnormal Return (CAR)
(Filter: consider CAR between -500% and 500%)

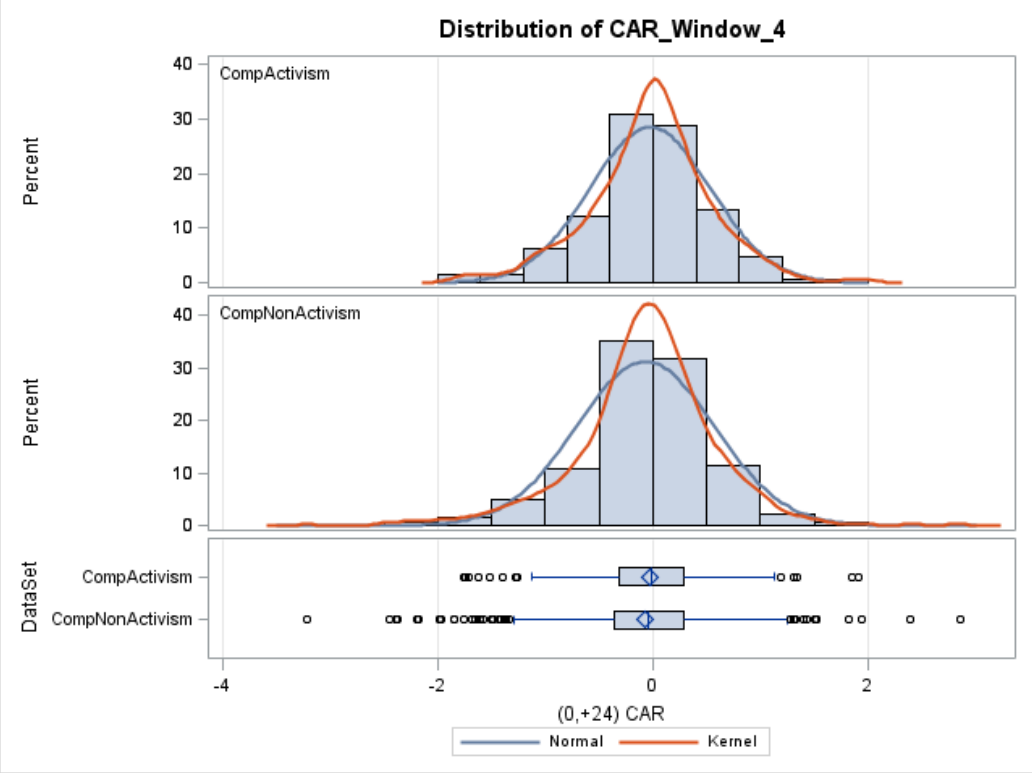
1y (CAR_Window_3: 0-12 months after effective date of M&A)



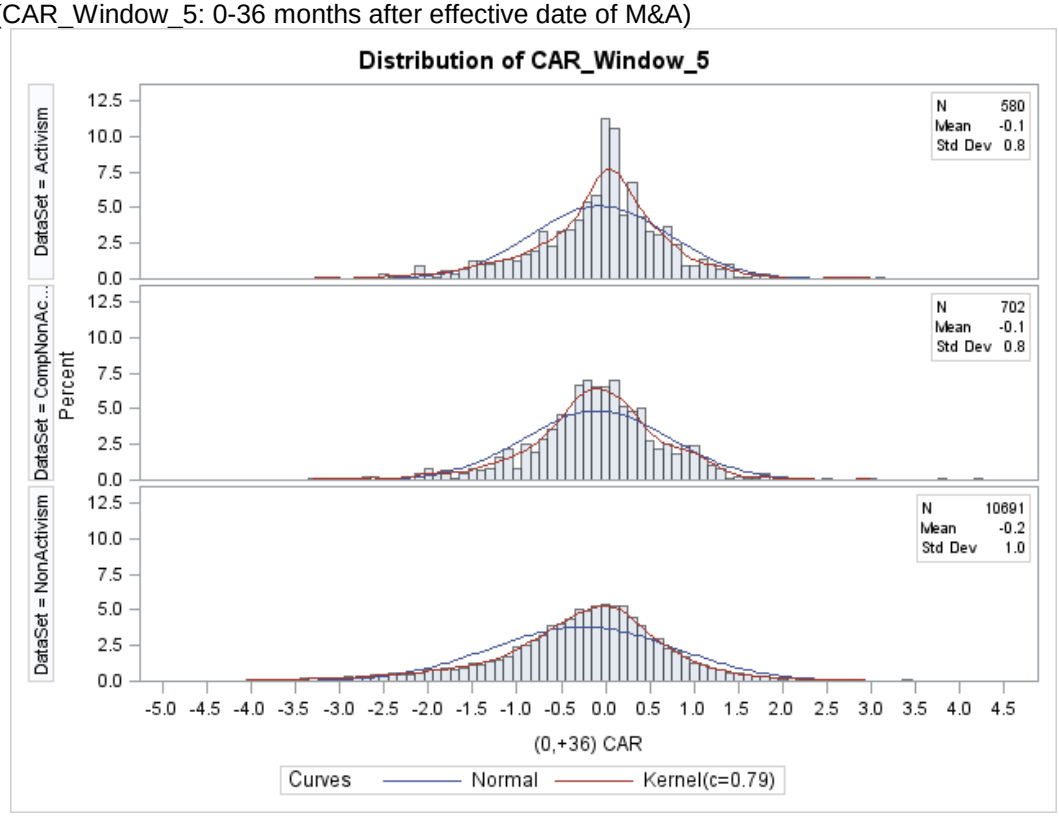


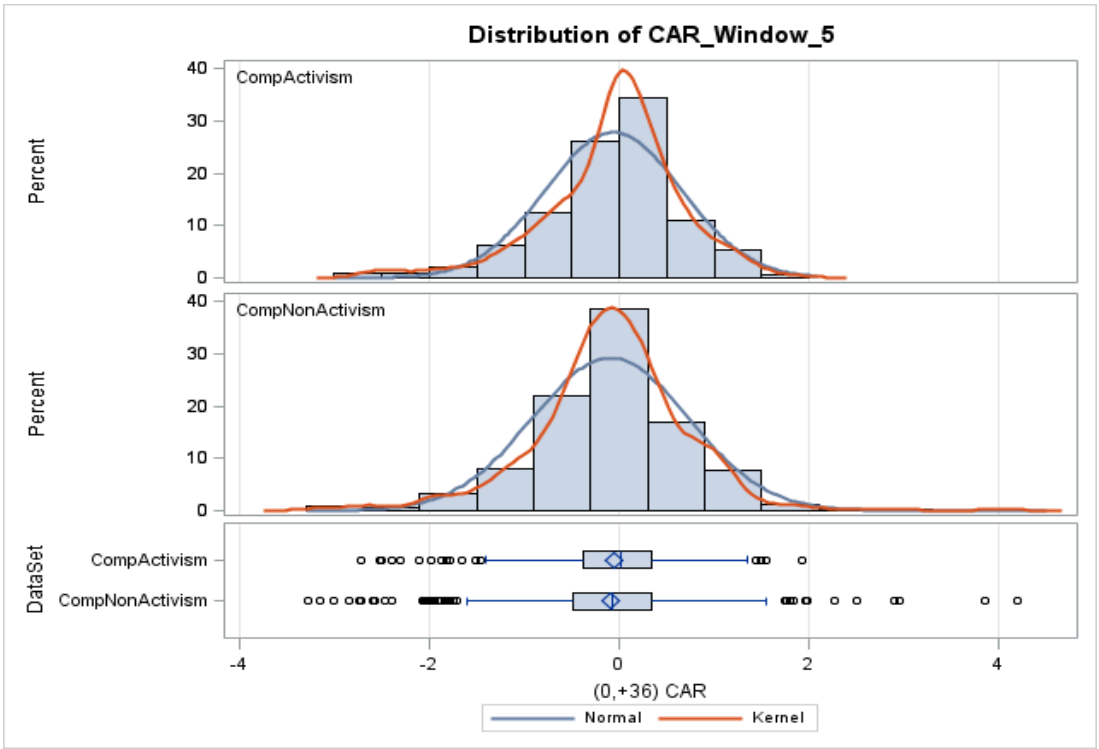
2y (CAR_Window_4: 0-24 months after effective date of M&A)



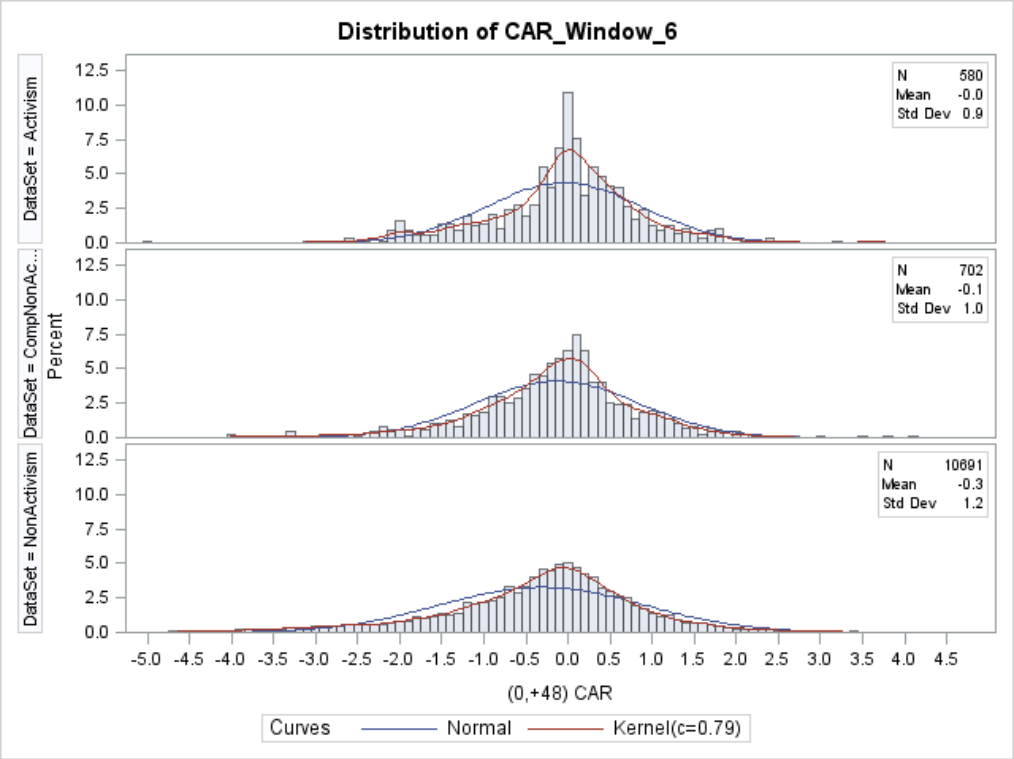


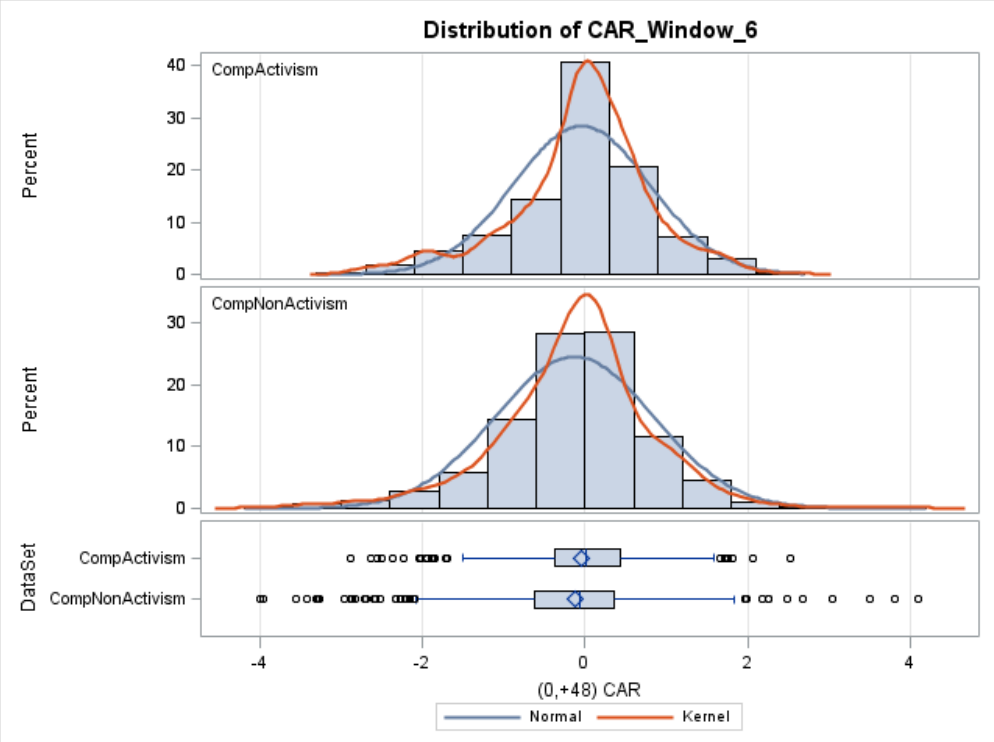
3y (CAR_Window_5: 0-36 months after effective date of M&A)





4y (CAR_Window_6: 0-48 months after effective date of M&A)





5y (CAR_Window_7: 0-60 months after effective date of M&A)

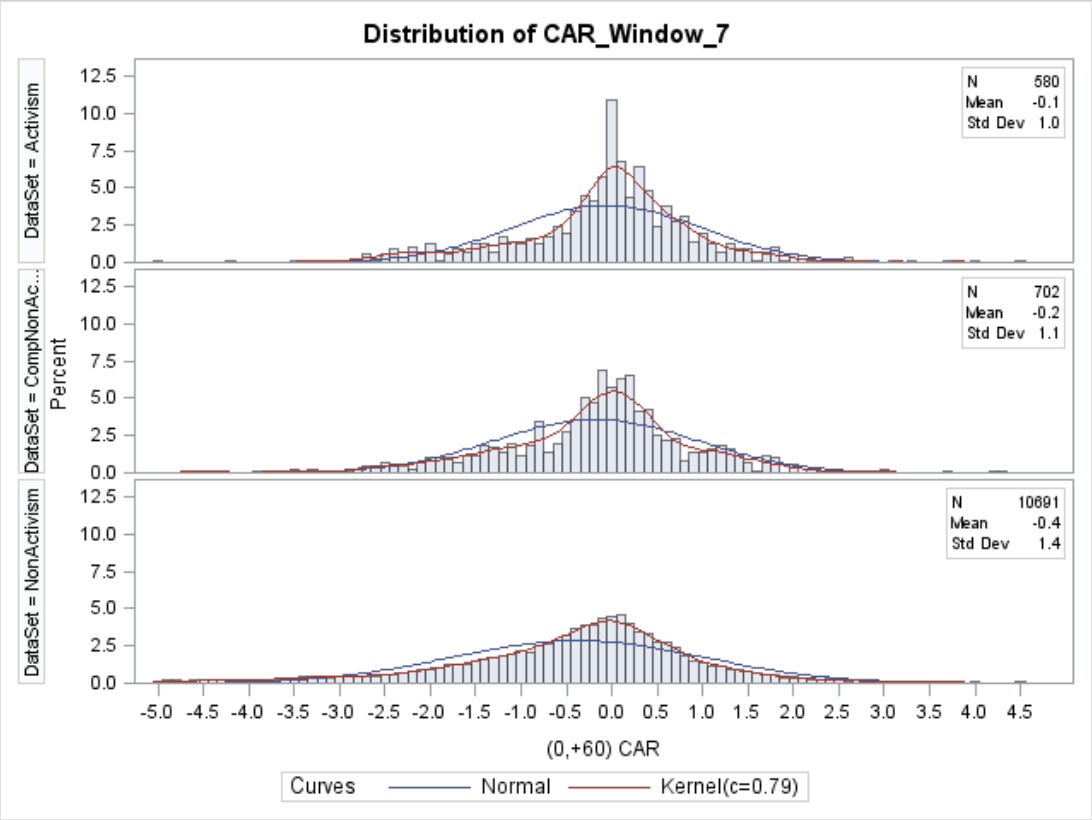
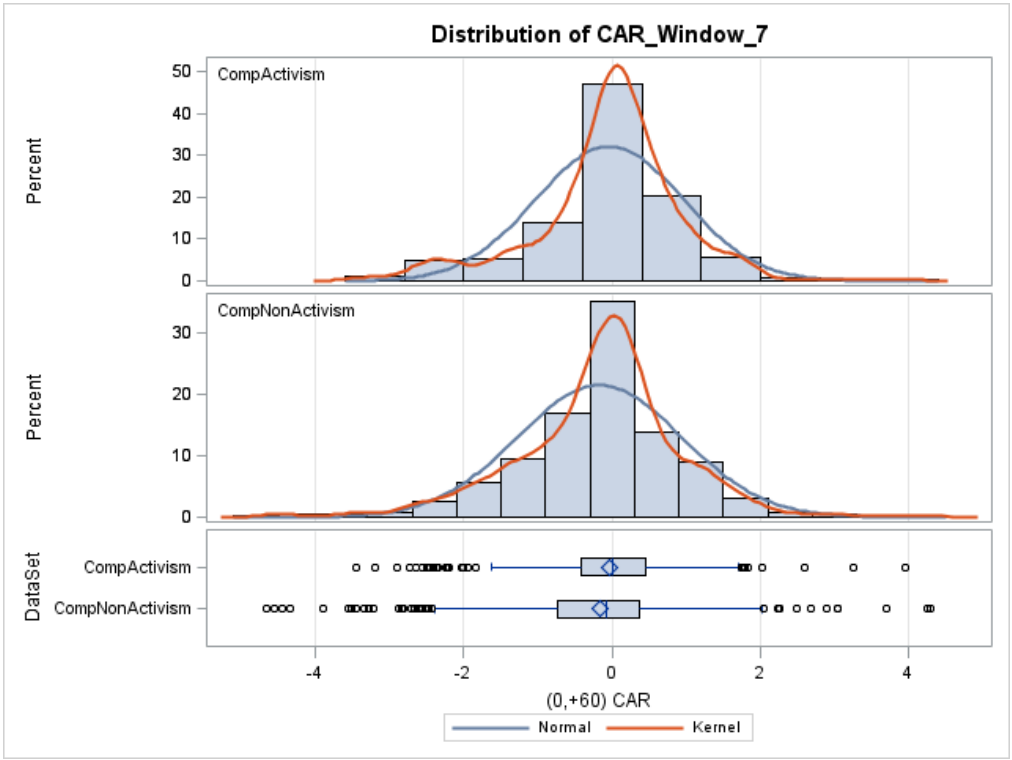


Figure 9: CAR: MM Distributions



6.4.7.2. Market Adjusted Returns (MAR) method

MAR : Cumulative Abnormal Returns

6.4.7.2.1. Table: Basic Statistics

Table 14. Statistics: CAR using Market Adjusted returns (MAR)

Window (Months from Effective Date)		Mean	Median	Variance	Skewness	Kurtosis	t Value	Pr > |t|
Filter: consider CAR between -500% and 500%								
Dataset:	**Activism**		Model:	Market Adjusted Returns			N Obs	580
(-12,0)		3.78%	2.91%	0.3330	0.2881	3.1215	2.73	0.0065
(0,+6)		2.33%	3.22%	0.2818	0.8100	18.0500	1.99	0.0474
(0,+12)		3.56%	4.29%	0.3794	-0.1888	6.7737	2.26	0.0241
(0,+24)		4.28%	5.68%	0.5037	-0.3330	4.9965	2.05	0.041
(0,+36)		3.99%	6.71%	0.6012	-0.4105	4.7871	1.6	0.1102
(0,+48)		7.17%	8.78%	0.6480	-0.2238	4.1343	2.67	0.0079
(0,+60)		7.87%	10.74%	0.6743	-0.4746	4.1212	2.81	0.0051
Dataset:	**CompActivism**		Model:	Market Adjusted Returns			N Obs	702
(-12,0)		1.90%	1.41%	0.3061	0.3459	1.3099	1.06	0.2878
(0,+6)		0.95%	2.82%	0.2263	-0.6016	2.6989	0.72	0.4708
(0,+12)		2.07%	2.93%	0.3277	-1.0236	7.2819	1.09	0.2783
(0,+24)		3.49%	4.80%	0.4408	-0.2551	2.8803	1.36	0.1753
(0,+36)		1.73%	4.94%	0.5119	-1.2275	6.6373	0.58	0.5623
(0,+48)		5.42%	7.81%	0.5262	-0.6095	3.0482	1.77	0.078
(0,+60)		6.47%	8.06%	0.5710	-0.7263	5.1825	1.95	0.0527
Dataset:	**CompNonActivism**		Model:	Market Adjusted Returns			N Obs	702
(-12,0)		4.67%	2.47%	0.3666	0.6652	2.5394	3.39	0.0007
(0,+6)		0.73%	1.05%	0.2668	-0.1315	2.9913	0.72	0.469
(0,+12)		-0.67%	-0.35%	0.3687	-0.4027	2.6007	-0.48	0.6308
(0,+24)		0.95%	3.51%	0.4998	-0.4871	4.7581	0.51	0.612
(0,+36)		0.65%	1.85%	0.5938	-0.0786	6.9702	0.29	0.7724
(0,+48)		2.20%	2.78%	0.6422	-0.2924	6.0372	0.91	0.3629
(0,+60)		1.44%	3.26%	0.6766	-0.2426	4.7947	0.57	0.5704
Dataset:	**NonActivism**		Model:	Market Adjusted Returns			N Obs	11002
(-12,0)		9.87%	6.05%	0.4756	1.4753	8.9449	21.74	<.0001
(0,+6)		-0.34%	0.74%	0.3424	-0.1284	8.4712	-1.03	0.3025
(0,+12)		-1.66%	1.29%	0.4793	-0.6656	5.5874	-3.62	0.0003
(0,+24)		-2.96%	2.52%	0.6693	-0.6826	4.6074	-4.64	<.0001
(0,+36)		-2.94%	2.80%	0.7719	-0.6862	3.6249	-3.98	<.0001
(0,+48)		-2.04%	4.13%	0.8405	-0.6440	3.2278	-2.54	0.011

(0,+60)		-2.18%	5.43%	0.9035	-0.6629	2.8862	-2.53	0.0114

6.4.7.2.2. MAR: Chart

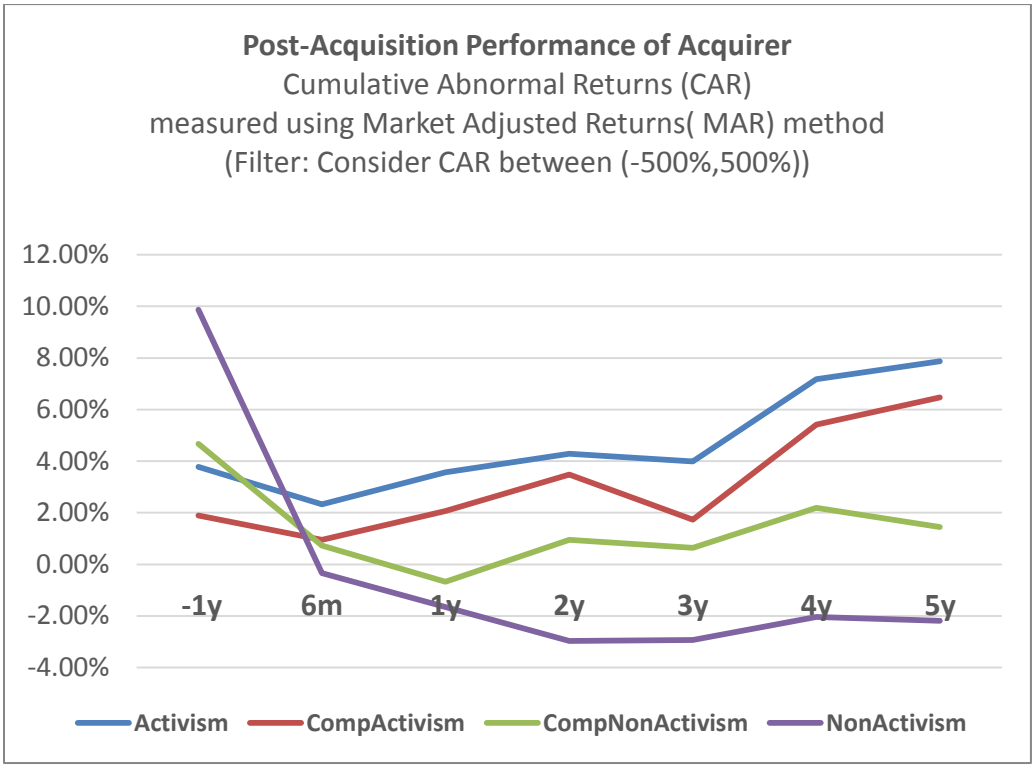


Figure 10: CAR: Market Adjusted Returns

6.4.7.2.3. Table: Comparison of Distributions

Table 15. Post-acquisition performance: CAR using MAR

Sample	N Considered / Total	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: consider CAR between -500% and 500%						
1y after M&A Effective Date (CAR_Window_3 ((0,+12m) CAR)						
Activism led M&A	580 / 1977	0.0356** / 0.0380***	0.043			
Comparable Non-activism related M&A	708 / 1239	-0.0067 / 0.0043	-0.004	2.02 (0.0434) / 2.02 (0.0440)	0.8673 (0.1929) (0.3858)	0.7522 (0.3858)
All Non-activism	10981 /	-0.0166** / -0.0121**	0.013	2.58 (0.0099) /	2.3432 (0.0096)	5.4908 (0.0191)

related M&A	23357			3.18 (0.0015)	(0.0191)	
2y after M&A Effective Date (CAR_Window_4 ((0,+24m) CAR)						
Activism led M&A	580 / 1977	0.0428** / 0.0452**	0.057			
Comparable Non-activism related M&A	708 / 1239	0.0095 / 0.0136	0.035	1.19 (0.2361) / 1.18 (0.2365)	0.2835 (0.3884) (0.7768)	0.0804 (0.7768)
All Non-activism related M&A	10981 / 23357	-0.0296**** / -0.0236****	0.025	2.57 (0.0102) / 3.31 (0.0010)	1.8822 (0.0299) (0.0598)	3.5425 (0.0598)
3y after M&A Effective Date (CAR_Window_5 ((0,+36m) CAR)						
Activism led M&A	580 / 1977	0.0399 / 0.0425*	0.067			
Comparable Non-activism related M&A	708 / 1239	0.0065 / 0.0087	-0.019	1.00 (0.3170) / 1.00 (0.3176)	-0.1494 (0.4406) (0.8813)	0.0223 (0.8812)
All Non-activism related M&A	10981 / 23357	-0.0294**** / -0.0232***	0.028	2.13 (0.0334) / 2.66 (0.0079)	1.5220 (0.0640) (0.1280)	2.3165 (0.1280)
4y after M&A Effective Date (CAR_Window_6 ((0,+48m) CAR)						
Activism led M&A	580 / 1977	0.0717** / 0.0727**	0.088			
Comparable Non-activism related M&A	708 / 1239	0.0220 / 0.0247	0.028	1.38 (0.1685) / 1.38 (0.1689)	0.6287 (0.2648) (0.5295)	0.3953 (0.5295)
All Non-activism related M&A	10981 / 23357	-0.0204** / -0.0143*	0.041	2.60 (0.0094) / 3.28 (0.0011)	2.0591 (0.0197) (0.0395)	4.2401 (0.0395)
5y after M&A Effective Date (CAR_Window_7 ((0,+60m) CAR)						
Activism led M&A	580 / 1977	0.0787*** / 0.0826***	0.107			
Comparable Non-activism related M&A	708 / 1239	0.0144 / 0.0163	-0.033	1.70 (0.0898) / 1.70 (0.0897)	0.08445 (0.1992) (0.3984)	0.7133 (0.3984)
All Non-activism related M&A	10981 / 23357	-0.0218** / -0.016*	0.054	2.64 (0.0083) / 3.43 (0.0006)	2.1563 (0.0155) (0.0311)	4.6497 (0.0311)
Filter: consider CAR between -500% and 500%						
1y after M&A Effective Date (CAR_Window_3 ((0,+12m) CAR)						
Comparable Activism led M&A	295 / 770	0.0207 / 0.0259***	0.029			
Comparable Non-activism related M&A	708 / 1239	-0.0067 / 0.0043	-0.0035	1.11 (0.2688) / 1.16 (0.2459)	1.1151 (0.1324) (0.2648)	1.2438 (0.2647)

2y after M&A Effective Date (CAR_Window_4 ((0,+24m) CAR)						
Comparable Activism led M&A	295 / 770	0.0349** / 0.0372**	0.048			
Comparable Non-activism related M&A	708 / 1239	0.0095 / 0.0136	0.035	0.76 (0.4496) / 0.80 (0.4261)	0.6094 (0.2711) (0.5423)	0.3715 (0.5422)
3y after M&A Effective Date (CAR_Window_5 ((0,+36m) CAR)						
Comparable Activism led M&A	295 / 770	0.0173 / 0.0296*	0.049			
Comparable Non-activism related M&A	708 / 1239	0.0065 / 0.0087	-0.019	0.27 (0.7843) / 0.29 (0.7712)	0.8730 (0.1913) (0.3826)	0.7624 (0.3826)
4y after M&A Effective Date (CAR_Window_6 ((0,+48m) CAR)						
Comparable Activism led M&A	580 / 770	0.0542* / 0.0607**	0.078			
Comparable Non-activism related M&A	708 / 1239	0.0220 / 0.0247	0.028	0.76 (0.4465) / 0.83 (0.4091)	1.4000 (0.0808) (0.1615)	1.9604 (0.1615)
5y after M&A Effective Date (CAR_Window_7 ((0,+60m) CAR)						
Comparable Activism led M&A	295 / 770	0.0647* / 0.0724**	0.081			
Comparable Non-activism related M&A	708 / 1239	0.0144 / 0.0163	-0.033	1.12 (0.2630) / 1.20 (0.2304)	1.5919 (0.0557) (0.1114)	2.5345 (0.1114)

6.4.7.2.4. Figure: Distributions (5y)

MAR: 5y after M&A Effective Date (Filter: consider where CAR between -500% and +500%)

using Market Adjusted Returns (MAR) method
Cumulative Abnormal Return (CAR) for Activism, ComparableNonActivism and All NonActivism related MnA
(Filter: consider CAR between -500% and 500%)

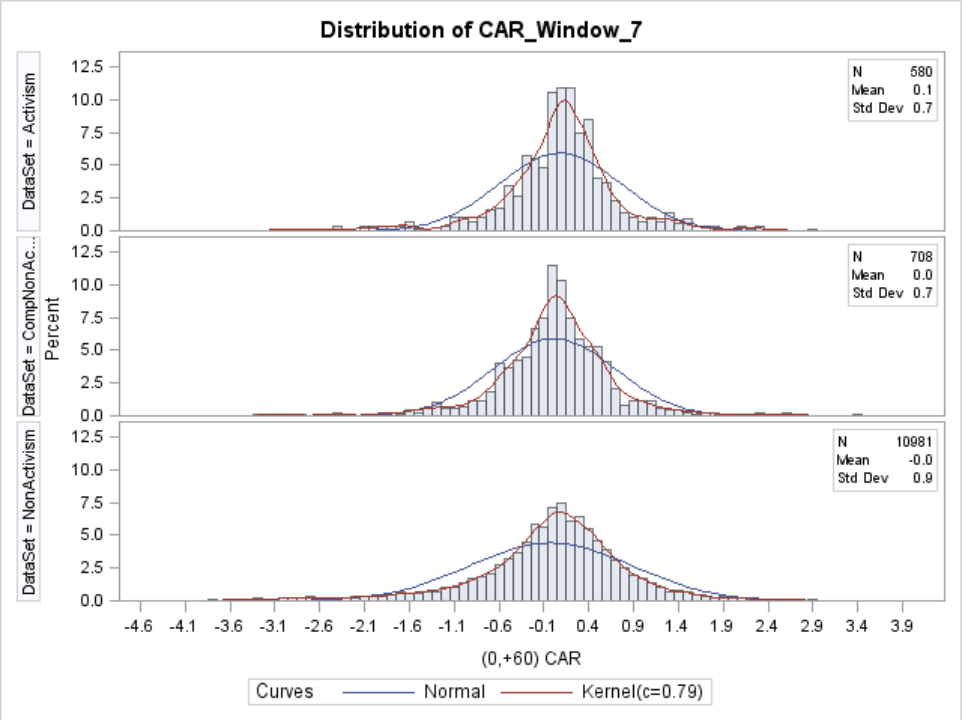
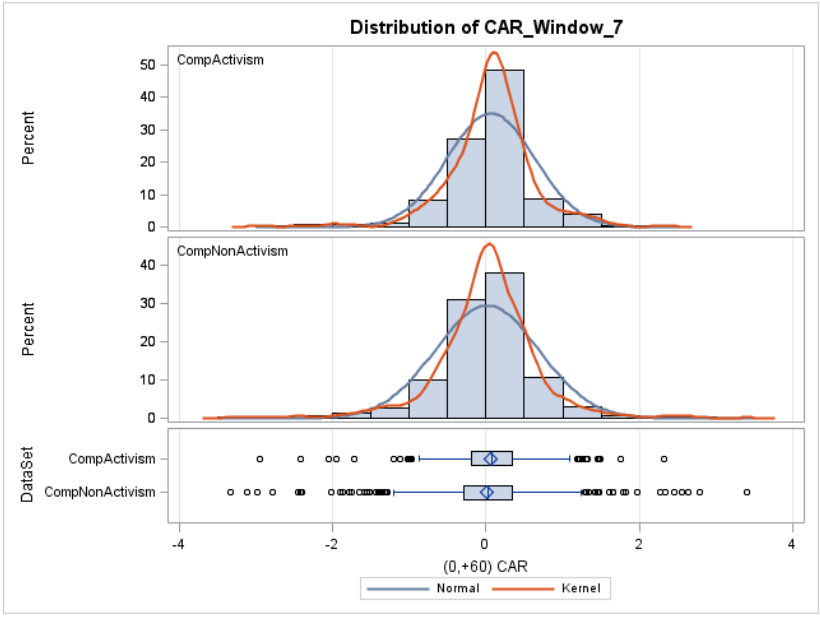


Figure 11: CAR: MAR Distributions



6.4.7.3. Fama French Momentum (FFM) method: Cumulative Abnormal Returns

6.4.7.3.1. Table: Basic Statistics

Cumulative Abnormal Returns (CAR) after M&A Effective Date

Table 16. Statistics: CAR using Fama French Momentum (FFM) method

Year (Relative to Effective Date)	Mean	Median	Variance	Skewness	Kurtosis	t Value	Pr > |t|
Filter	consider CAR between -500% and 500%						
DataSet	**Activism**						
-1y	-0.56%	-0.58%	0.0872	-0.2422	7.0885	-0.46	0.6487
0y	-1.91%	-2.00%	0.1058	-0.1623	7.3017	-1.41	0.159
1y	-3.61%	-1.35%	0.2118	-0.3575	4.0495	-1.88	0.0599
2y	-7.14%	-2.53%	0.4045	-0.3192	2.6764	-2.7	0.0072
3y	-9.99%	-3.34%	0.6367	-0.4165	2.9004	-3.01	0.0027
4y	-9.40%	-1.77%	0.8455	-0.1213	1.7707	-2.46	0.0143
5y	-10.64%	-2.39%	1.0021	-0.2873	2.2453	-2.55	0.0109
Dataset	**CompActivism**						
-1y	-1.24%	-2.15%	0.2685	0.1263	3.8131	-0.79	0.4297
0y	-3.21%	-1.64%	0.3038	-0.3881	2.7051	-1.82	0.0703
1y	-4.62%	-1.01%	0.4300	-0.3627	3.0377	-1.85	0.0657
2y	-8.17%	-3.09%	0.5567	-0.1908	0.4927	-2.52	0.0122
3y	-13.82%	-5.01%	0.7147	-0.3706	0.8414	-3.32	0.001
4y	-13.70%	-1.78%	0.8602	-0.2204	0.9638	-2.74	0.0066
5y	-14.04%	-3.09%	0.9651	-0.3858	1.7279	-2.5	0.013
Dataset	**CompNonActivism**						
-1y	-1.62%	-1.62%	0.0781	0.7421	4.2120	-1.53	0.1269
0y	-1.22%	-1.06%	0.1034	0.6283	5.4896	-1	0.3171
1y	-5.41%	-2.96%	0.2406	-0.3166	5.8452	-2.9	0.0038
2y	-9.44%	-5.48%	0.4491	-0.2867	5.0616	-3.71	0.0002
3y	-14.05%	-10.04%	0.7223	0.1230	4.3079	-4.35	<.0001
4y	-18.39%	-10.03%	0.9683	0.1669	3.2426	-4.92	<.0001
5y	-22.48%	-11.13%	1.2304	0.0659	3.2341	-5.34	<.0001
Dataset	**NonActivism**						
-1y	-1.24%	-1.28%	0.1260	0.4062	8.3998	-3.59	0.0003
0y	-4.54%	-2.74%	0.1561	-0.3008	5.8498	-11.78	<.0001
1y	-9.59%	-5.54%	0.3406	-0.3528	4.2683	-16.83	<.0001
2y	-18.25%	-10.42%	0.7481	-0.4419	3.0790	-21.62	<.0001
3y	-25.67%	-15.88%	1.1378	-0.3689	1.8442	-24.66	<.0001
4y	-31.97%	-20.55%	1.5399	-0.2848	1.4062	-26.4	<.0001
5y	-38.27%	-23.48%	1.9852	-0.2595	1.1760	-27.83	<.0001

6.4.7.3.2. FFM: Chart

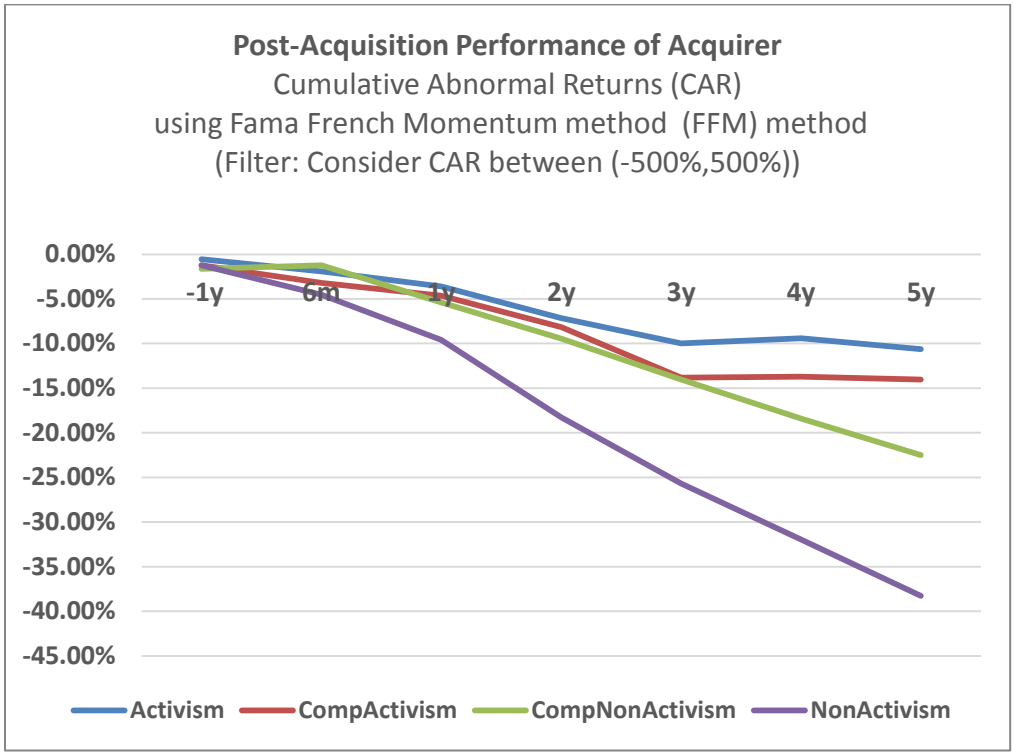


Figure 12: CAR: Fama French Momentum method

6.4.7.3.3. Table: Comparison of Distributions

Cumulative Abnormal Returns (CAR) using Fama French Momentum Two-Step (FFM) method: 1y, 2y, 3y, 4y & 5y after M&A Effective Date

(Filter: consider CAR between -500% and 500%)

Table 17. Post-acquisition performance: CAR using FFM

Sample	N Considered / Total	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: consider CAR between -500% and 500%						
1y after M&A Effective Date (CAR_Window_3 ((0,+12m) CAR)						
Activism led M&A	578 / 1977	-0.0361* / -0.0321*	-0.014			
Comparable Non-activism related M&A	693 / 1239	-0.0541*** / -0.0519***	-0.030	0.67 (0.5027) / 0.67 (0.5002)	-0.6217 (0.2671) (0.5341)	0.3866 (0.5341)
All Non-activism related M&A	10502 / 23357	-0.0959**** / -0.0935****	-0.055	2.42 (0.0155) / 2.99 (0.0029)	2.3760 (0.0088) (0.0175)	5.6452 (0.0175)

2y after M&A Effective Date (CAR_Window_4 ((0,+24m) CAR)						
Activism led M&A	578 / 1977	-0.0714** / -0.0676**	-0.025			
Comparable Non-activism related M&A	693 / 1239	-0.0944*** / -0.0932****	-0.055	0.62 (0.5332) / 0.63 (0.5313)	0.8501 (0.1976) (0.3953)	0.7227 (0.3953)
All Non-activism related M&A	10502 / 23357	-0.1825**** / -0.1791****	-0.104	3.04 (0.0023) / 4.00 (<.0001)	2.8288 (0.0023) (0.0047)	8.0022 (0.0047)
3y after M&A Effective Date (CAR_Window_5 ((0,+36m) CAR)						
Activism led M&A	578 / 1977	-0.0999*** / -0.0963***	-0.033			
Comparable Non-activism related M&A	693 / 1239	-0.1405**** / -0.1446****	-0.100	-0.87 (0.3833) / -0.88 (0.3806)	1.4713 (0.0706) (0.1412)	2.1649 (0.1412)
All Non-activism related M&A	10502 / 23357	-0.2567**** / -0.2540****	-0.159	3.48 (0.0005) / 4.51 (<.0001)	3.5045 (0.0002) (0.0005)	12.2812 (0.0005)
4y after M&A Effective Date (CAR_Window_6 ((0,+48m) CAR)						
Activism led M&A	578 / 1977	-0.0940** / -0.0940**	-0.018			
Comparable Non-activism related M&A	693 / 1239	-0.1839**** / -0.1900****	-0.100	1.67 (0.0948) / 1.68 (0.0928)	2.1426 (0.0161) (0.0321)	4.5909 (0.0321)
All Non-activism related M&A	10502 / 23357	-0.3197**** / -0.3192****	-0.206	4.31 (<.0001) / 5.63 (<.0001)	4.4133 (<.0001) (<.0001)	19.4772 (<.0001)
5y after M&A Effective Date (CAR_Window_7 ((0,+60m) CAR)						
Activism led M&A	578 / 1977	-0.1064** / -0.1046**	-0.024			
Comparable Non-activism related M&A	693 / 1239	-0.2248**** / -0.2284****	-0.111	1.98 (0.0478) / 2.00 (0.0458)	2.5132 (0.0060) (0.0120)	6.3165 (0.0120)
All Non-activism related M&A	10502 / 23357	-0.3827**** / -0.3832****	-0.235	4.65 (<.0001) / 6.30 (<.0001)	4.9543 (<.0001) (<.0001)	24.5451 (<.0001)
Filter: consider CAR between -500% and 500%						
1y after M&A Effective Date (CAR_Window_3 (0,+12m))						
Comparable Activism led M&A	295 / 770	-0.0462* / -0.0441**	-0.010			
Comparable Non-activism related M&A	693 / 1239	-0.0541** / -0.0519**	-0.030	0.24 (0.8114) / 0.25 (0.8014)	0.2948 (0.3841) (0.7682)	0.0870 (0.7681)
2y after M&A Effective Date (CAR_Window_4 (0,+24m))						

Comparable Activism led M&A	295 / 770	-0.0817** / -0.0812**	-0.031			
Comparable Non-activism related M&A	693 / 1239	-0.0944**** / -0.0933****	-0.055	0.29 (0.7756) / 0.31 (0.7589)	0.4015 (0.3440) (0.6881)	0.1613 (0.6880)
3y after M&A Effective Date (CAR_Window_5 (0,+36m))						
Comparable Activism led M&A	283 / 770	-0.1382*** / -0.1349***	-0.05			
Comparable Non-activism related M&A	693 / 1239	-0.1405**** / -0.1446****	-0.100	0.04 (0.9672) / 0.04 (0.9648)	0.5116 (0.3045) (0.6089)	0.2619 (0.6088)
4y after M&A Effective Date (CAR_Window_6 (0,+48m))						
Comparable Activism led M&A	295 / 770	-0.1370*** / -0.1361***	-0.178			
Comparable Non-activism related M&A	693 / 1239	-0.1839**** / -0.1900****	-0.100	0.71 (0.4772) / 0.75 (0.4532)	1.2093 (0.1133) (0.2265)	1.4628 (0.2265)
5y after M&A Effective Date (CAR_Window_7 (0,+60m))						
Comparable Activism led M&A	295 / 770	-0.1404**** / -0.1372****	-0.031			
Comparable Non-activism related M&A	693 / 1239	-0.2248**** / -0.2284****	-0.111	1.14 (0.2561) / 1.20 (0.2299)	1.605 (0.0484) (0.0968)	2.7577 (0.0968)

6.4.7.3.4. Figure: Distributions (5Y)

Fama French Momentum Abnormal Returns: 5y (CAR_Window_7)

(Filter: consider CAR between -500% and 500%)

Fama French Momentum Two-Step (FFM) method Cumulative Abnormal Return (CAR)

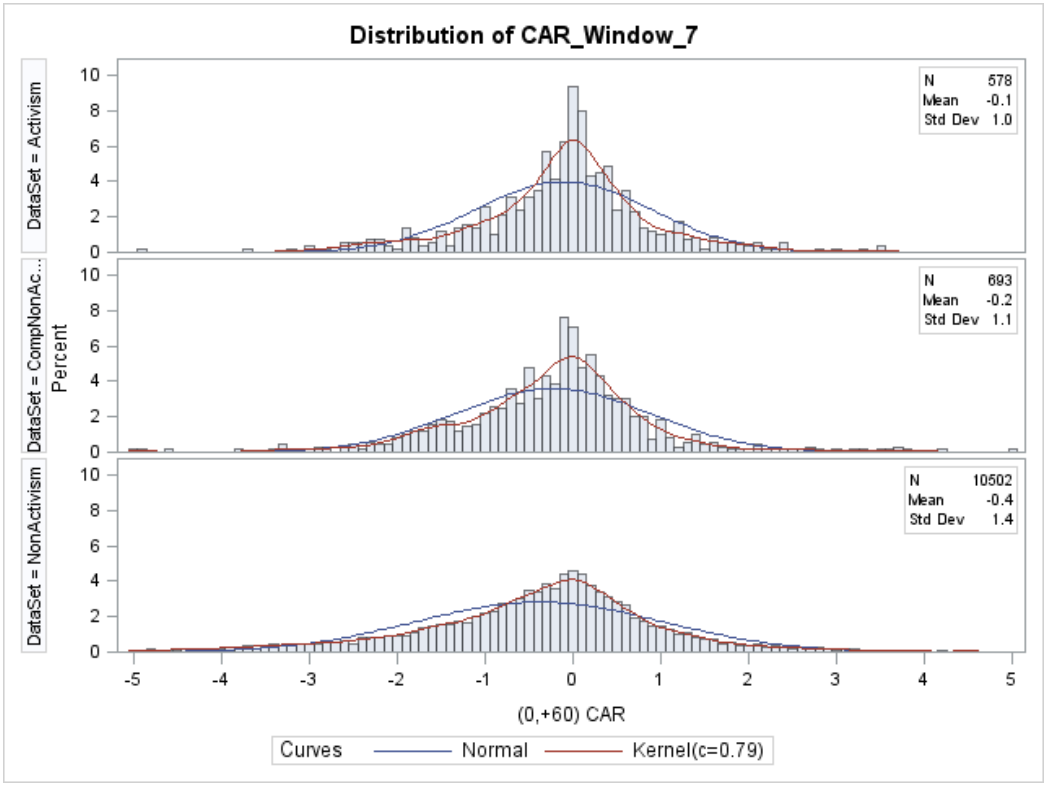
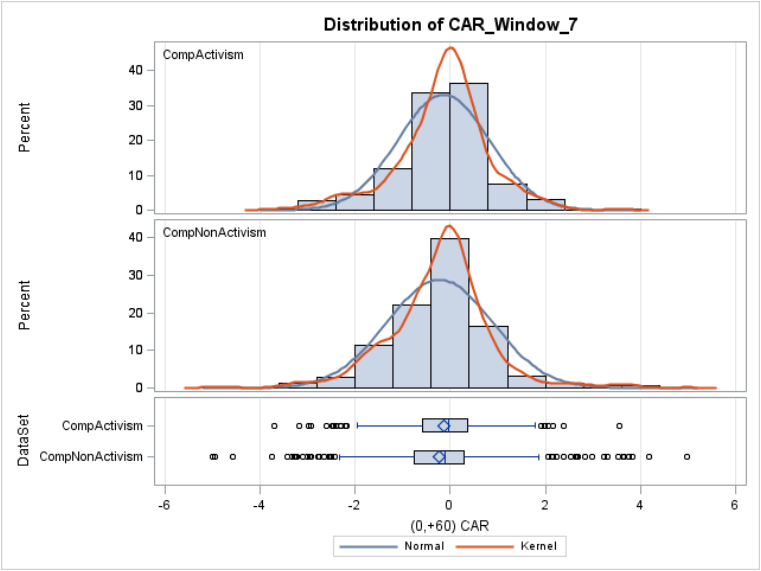


Figure 13: CAR: FFM Distributions



6.4.7.4. Fama French Momentum (FFM) method: Buy and Hold Abnormal Returns

6.4.7.4.1. Table: Basic Statistics

Fama French Momentum method

Buy and Hold Abnormal Returns (BHAR) measured monthly for 6m, 1y, 2y, 3y, 4y & 5y after M&A Effective Date

(Filter: Consider BHAR between -500% and 500%)

Table 18. Statistics: BHAR using FFM method

Year (Relative to Effective Date)	Mean	Median	Variance	Skewness	Kurtosis	t Value	Pr > |t|
DataSet	**Activism**						
-1y	-2.13%	-1.98%	0.1047	0.7716	6.8736	-1.55	0.1205
6m	-0.83%	-1.75%	0.1123	2.5908	29.7517	-0.58	0.5593
1y	-3.50%	-3.20%	0.1974	0.9790	6.6401	-1.86	0.0639
2y	-8.70%	-7.43%	0.4465	0.3596	3.6814	-3.07	0.0022
3y	-14.41%	-9.63%	0.7524	0.3299	2.8776	-3.92	0.0001
4y	-19.29%	-10.00%	1.1479	0.1150	2.9667	-4.25	<.0001
5y	-26.32%	-11.12%	1.5503	-0.1370	3.2579	-4.98	<.0001
Dataset	**CompActivism**						
-1y	-2.43%	-2.43%	0.0916	1.0604	5.3467	-1.35	0.1777
6m	-2.55%	-0.95%	0.0902	-0.3079	2.5536	-1.43	0.1543
1y	-3.91%	-2.30%	0.1778	0.2097	2.3428	-1.56	0.1196
2y	-9.20%	-7.79%	0.3790	-0.1576	2.8279	-2.52	0.0125
3y	-19.01%	-10.29%	0.6541	-0.3587	2.6711	-3.95	<.0001
4y	-25.80%	-12.31%	1.0111	-0.4262	2.9053	-4.32	<.0001
5y	-31.72%	-12.31%	1.5483	-0.3110	3.5571	-4.29	<.0001
Dataset	**CompNonActivism**						
-1y	-2.50%	-4.78%	0.1402	2.3139	17.7371	-1.72	0.0861
6m	0.16%	-1.00%	0.1010	1.2018	6.3094	0.13	0.894
1y	-4.08%	-4.48%	0.2274	0.4134	4.8961	-2.2	0.0283
2y	-11.23%	-9.53%	0.5032	-0.0557	2.9042	-4.07	<.0001
3y	-19.65%	-15.18%	0.8385	-0.0174	3.0090	-5.52	<.0001
4y	-27.48%	-21.15%	1.2414	-0.0130	2.0231	-6.34	<.0001
5y	-40.61%	-23.21%	1.7721	-0.3395	1.9093	-7.84	<.0001
Dataset	**NonActivism**						
-1y	-3.29%	-4.38%	0.1729	1.0532	14.8024	-7.64	<.0001
6m	-2.59%	-3.03%	0.1432	0.6476	10.9196	-6.6	<.0001

1y	-6.78%	-6.26%	0.3128	0.3179	5.5253	-11.71	<.0001
2y	-16.85%	-15.20%	0.7157	0.0078	3.3348	-19.24	<.0001
3y	-28.64%	-25.15%	1.1766	0.0345	1.7396	-25.51	<.0001
4y	-42.44%	-34.23%	1.7263	0.0089	0.9368	-31.2	<.0001
5y	-60.44%	-44.09%	2.5062	-0.1434	0.6648	-36.88	<.0001

6.4.7.4.2. FFM: Chart

Buy and Hold Abnormal Returns (BHAR) measured monthly for 6m, 1y, 2y, 3y, 4y & 5y after M&A Effective Date

(Filter: Consider BHAR between -500% and 500%)

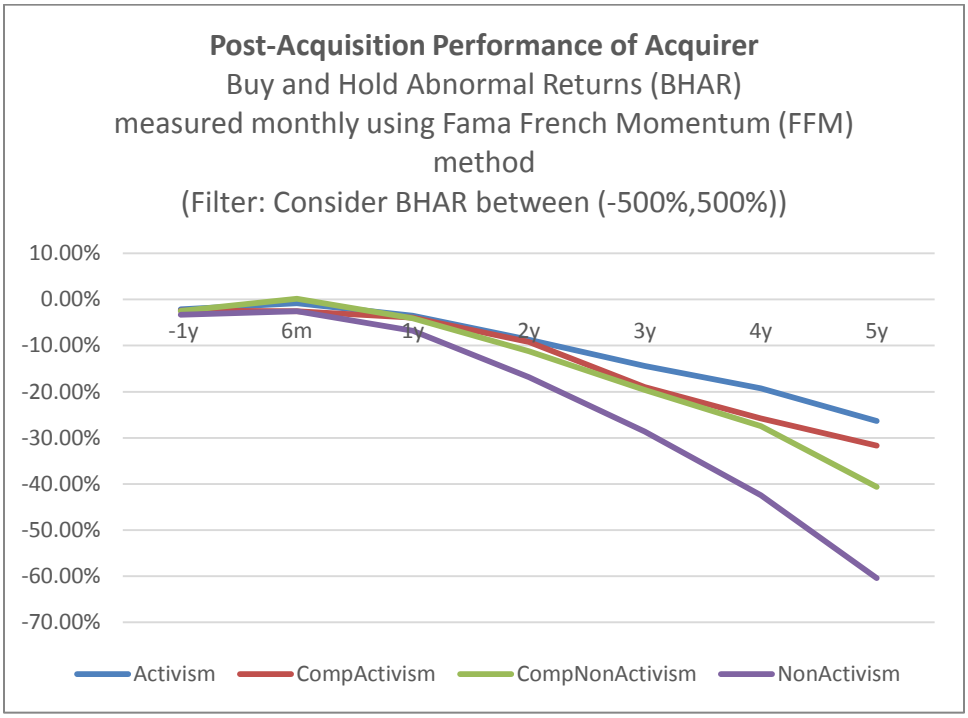


Figure 14: BHAR: Fama French Momentum method

6.4.7.4.3. Table: Comparison of Distributions

Buy and Hold Abnormal Returns (BHAR) using Fama French Momentum method

1y, 2y, 3y, 4y & 5y after M&A Effective Date (Filter: consider BHAR between -500% and 500%)

Table 19. Post-acquisition performance: BHAR using FFM

Sample	N Considered / Total	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: consider BHAR between -500% and 500%						
1y after M&A Effective Date (BHAR_Window_3 (0,+12m))						
Activism led M&A	556 / 1977	-0.0350* / -0.0422**	-0.032			
Comparable Non-activism related M&A	661 / 1239	-0.0408** / -0.0438**	-0.045	0.22 (0.8277) / 0.22 (0.8267)	0.2088 (0.4173) (0.8346)	0.0436 (0.8345)
All Non-activism related M&A	9330 / 23357	-0.0678**** / -0.0709****	-0.063	1.36 (0.1747) / 1.61 (0.0966)	1.5107 (0.0654) (0.1309)	2.2823 (0.1309)
2y after M&A Effective Date (BHAR_Window_4 (0,+24m))						
Activism led M&A	556 / 1977	-0.0870*** / -0.0917***	-0.074			
Comparable Non-activism related M&A	661 / 1239	-0.1123**** / -0.1105****	-0.095	0.64 (0.5251) / 0.64 (0.5230)	0.6385 (0.2616) (0.5232)	0.4077 (0.5231)
All Non-activism related M&A	9330 / 23357	-0.1685**** / -0.1688****	-0.152	2.23 (0.0257) / 2.75 (0.0061)	2.5092 (0.0060) (0.0121)	6.2962 (0.0121)
3y after M&A Effective Date (BHAR_Window_5 (0,+36m))						
Activism led M&A	556 / 1977	-0.1441**** / -0.1514****	-0.096			
Comparable Non-activism related M&A	661 / 1239	-0.1965**** / -0.1953****	-0.152	1.02 (0.3085) / 1.02 (0.3062)	1.2397 (0.1075) (0.2151)	1.5370 (0.2151)
All Non-activism related M&A	9330 / 23357	-0.2864**** / -0.2879****	-0.252	3.04 (0.0024) / 3.70 (0.0002)	3.4929 (0.0002) (0.0005)	12.2007 (0.0005)
4y after M&A Effective Date (BHAR_Window_6 (0,+48m))						
Activism led M&A	556 / 1977	-0.1929**** / -0.2023****	-0.100			
Comparable Non-activism related M&A	661 / 1239	-0.2748**** / -0.2762****	-0.211	1.30 (0.1939) / 1.30 (0.1924)	1.7479 (0.0402) (0.0805)	3.0554 (0.0805)
All Non-	9330 /	-0.4244****	-	4.08 (<.0001) /	4.7366	22.4358

activism related M&A	23357	/ -0.4288****	0.342	4.88 (<.0001)	(<.0001) (<.0001)	(<.0001)
5y after M&A Effective Date (BHAR_Window_7 (0,+60m))						
Activism led M&A	556 / 1977	-0.2632**** / -0.2692****	-0.111			
Comparable Non-activism related M&A	661 / 1239	-0.4061**** / -0.4084****	-0.232	1.92 (0.0550) / 1.93 (0.0536)	2.0262 (0.0214) (0.0427)	4.1060 (0.0427)
All Non-activism related M&A	9330 / 23357	-0.6044**** / -0.6102****	-0.441	4.99 (<.0001) / 6.17 (<.0001)	5.5828 (<.0001) (<.0001)	31.1672 (<.0001)
Filter: consider BHAR between -500% and 500%						
1y after M&A Effective Date (BHAR_Window_3 (0,+12m))						
Comparable Activism led M&A	283 / 770	-0.0391* / -0.0430**	-0.023			
Comparable Non-activism related M&A	661 / 1239	-0.0408** / -0.0438**	-0.045	0.05 (0.9602) / 0.05 (0.9582)	0.4742 (0.3177) (0.6354)	0.2250 (0.6353)
2y after M&A Effective Date (BHAR_Window_4 (0,+24m))						
Comparable Activism led M&A	283 / 770	-0.0920*** / -0.0909***	-0.078			
Comparable Non-activism related M&A	661 / 1239	-0.1123**** / -0.1105****	-0.095	0.42 (0.6767) / 0.44 (0.6591)	0.7048 (0.2405) (0.4810)	0.4969 (0.4809)
3y after M&A Effective Date (BHAR_Window_5 (0,+36m))						
Comparable Activism led M&A	283 / 770	-0.1901**** / -0.1875****	-0.103			
Comparable Non-activism related M&A	661 / 1239	-0.1965**** / -0.1953****	-0.152	0.10 (0.9192) / 0.11 (0.9151)	0.6943 (0.2437) (0.4875)	0.4823 (0.4874)
4y after M&A Effective Date (BHAR_Window_6 (0,+48m))						
Comparable Activism led M&A	283 / 770	-0.2580**** / -0.2577****	-0.123			
Comparable Non-activism related M&A	661 / 1239	-0.2748**** / -0.2762****	-0.211	0.22 (0.8274) / 0.23 (0.8203)	0.9268 (0.1770) (0.3541)	0.8591 (0.3540)
5y after M&A Effective Date (BHAR_Window_7 (0,+60m))						
Comparable Activism led M&A	283 / 770	-0.3172**** / -0.3245****	-0.123			

Comparable Non-activism related M&A	661 / 1239	-0.4061**** / -0.4084****	-0.232	0.96 (0.3381) / 0.98 (0.3252)	1.2629 (0.1033) (0.2066)	1.5951 (0.2066)

6.4.7.4.4. Figure: Distributions (5Y)

Fama French Momentum Abnormal Returns: 5y (BHAR_Window_7)

(Filter: consider BHAR between -500% and 500%)

Post-Effective Date Acquisition performance
using Fama French Momentum Two-Step (FFM) method
Buy and Hold Abnormal Return (BHAR)
for Activism, ComparableNonActivism and All NonActivism related MnA
(Filter: consider BHAR between -500% and 500%)

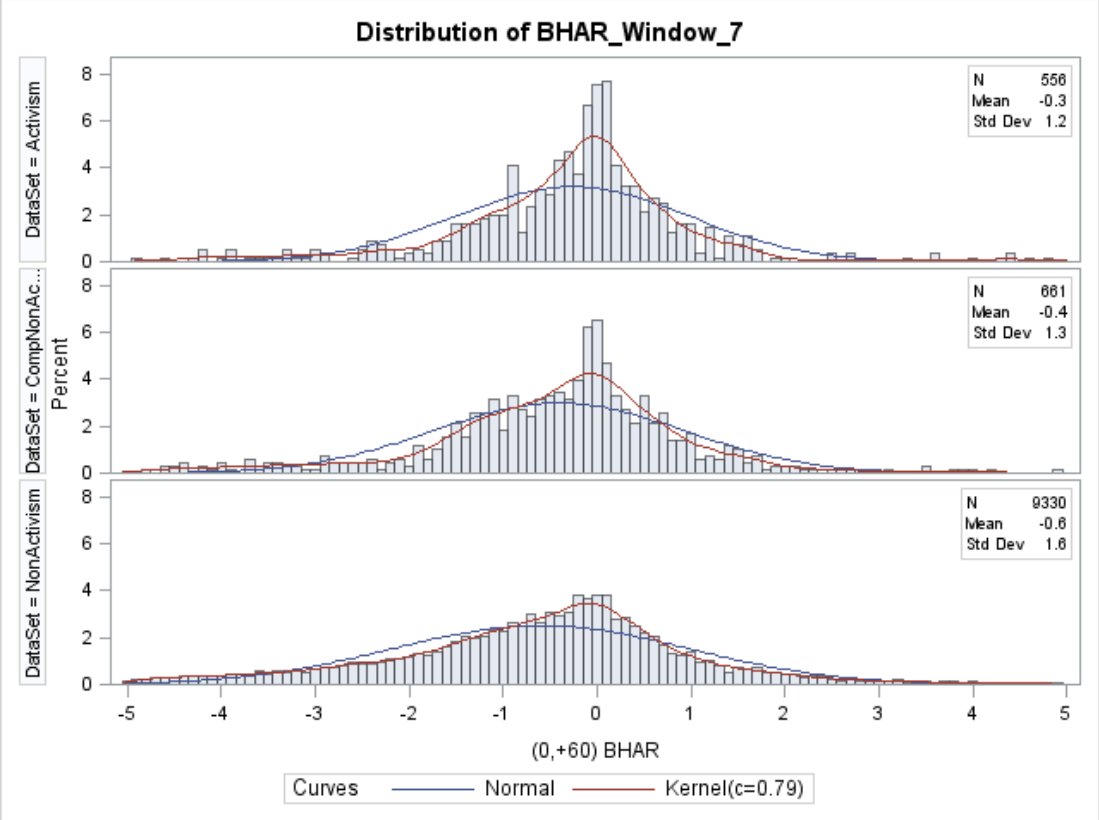
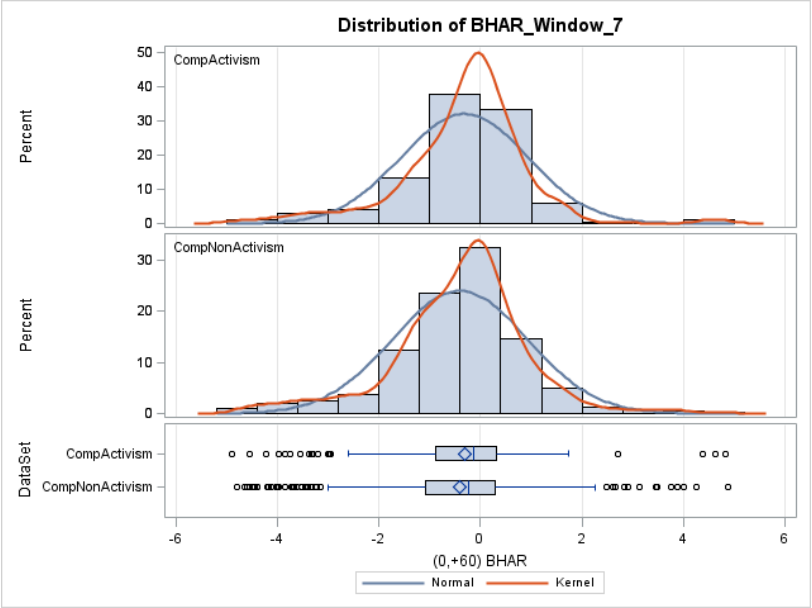


Figure 15: BHAR: FFM Distributions



6.4.7.5. Financial Performance: Return on Assets (ROA)

6.4.7.5.1. Table: Basic Statistics

Return on Assets (ROA): Acquisition performance

Table 20. Statistics: Return on Assets (ROA)

Year (Relative to Effective Date)	Mean	Median	Variance	Skewness	Kurtosis	t Value	Pr > |t|
Filter	(consider ROA between -500% and 500%)						
DataSet	**Activism**						
-1y	9.28%	9.74%	0.0140	-2.6129	26.1407	16.42	<.0001
0y	8.59%	9.10%	0.0157	-7.5596	132.0492	19.81	<.0001
1y	8.67%	9.61%	0.0091	-1.0494	5.2940	24.51	<.0001
2y	8.97%	9.60%	0.0104	-1.9590	16.6510	21.73	<.0001
3y	9.41%	10.03%	0.0093	-1.5065	11.0550	21.22	<.0001
4y	9.33%	10.59%	0.0097	-2.2659	15.2938	19.27	<.0001
5y	9.25%	11.09%	0.0115	-2.3794	13.8987	15.92	<.0001
Dataset	**CompActivism**						
-1y	9.98%	8.32%	0.0101	0.9404	0.7540	14.43	<.0001
0y	8.14%	7.18%	0.0063	0.7559	-0.2142	19.73	<.0001
1y	8.06%	6.48%	0.0064	0.5910	-0.3439	18.02	<.0001
2y	8.52%	6.95%	0.0086	-0.2910	5.0176	14.76	<.0001
3y	8.87%	8.05%	0.0075	0.3709	0.5316	14.78	<.0001
4y	9.02%	9.94%	0.0071	0.4747	-0.8242	14.15	<.0001
5y	8.30%	9.06%	0.0075	-0.0765	0.6823	11.33	<.0001

Dataset	CompNonActivism						
-1y	4.52%	1.88%	0.0054	1.9845	201.9295	37.66	<.0001
0y	4.19%	1.93%	0.0044	1.9806	65.3704	58.09	<.0001
1y	3.89%	1.95%	0.0037	1.8634	138.9603	50.46	<.0001
2y	3.74%	1.76%	0.0044	0.8379	171.8552	45.66	<.0001
3y	3.77%	1.67%	0.0041	1.6272	78.9524	47.91	<.0001
4y	4.05%	1.65%	0.0043	1.9512	34.9807	50.72	<.0001
5y	4.28%	1.58%	0.0049	2.0280	47.0396	52.52	<.0001
Dataset	**NonActivism**						
-1y	7.52%	3.43%	0.0188	-7.1121	201.9295	37.66	<.0001
0y	7.12%	3.12%	0.0139	-3.2345	65.3704	58.09	<.0001
1y	6.79%	3.07%	0.0157	-5.8426	138.9603	50.46	<.0001
2y	6.51%	3.03%	0.0161	-7.6568	171.8552	45.66	<.0001
3y	6.61%	3.05%	0.0136	-3.8231	78.9524	47.91	<.0001
4y	6.75%	3.18%	0.0114	-2.0750	34.9807	50.72	<.0001
5y	7.08%	3.37%	0.0107	-2.0202	47.0396	52.52	<.0001

6.4.7.5.2. ROA: Chart

Return on Assets (ROA): Chart

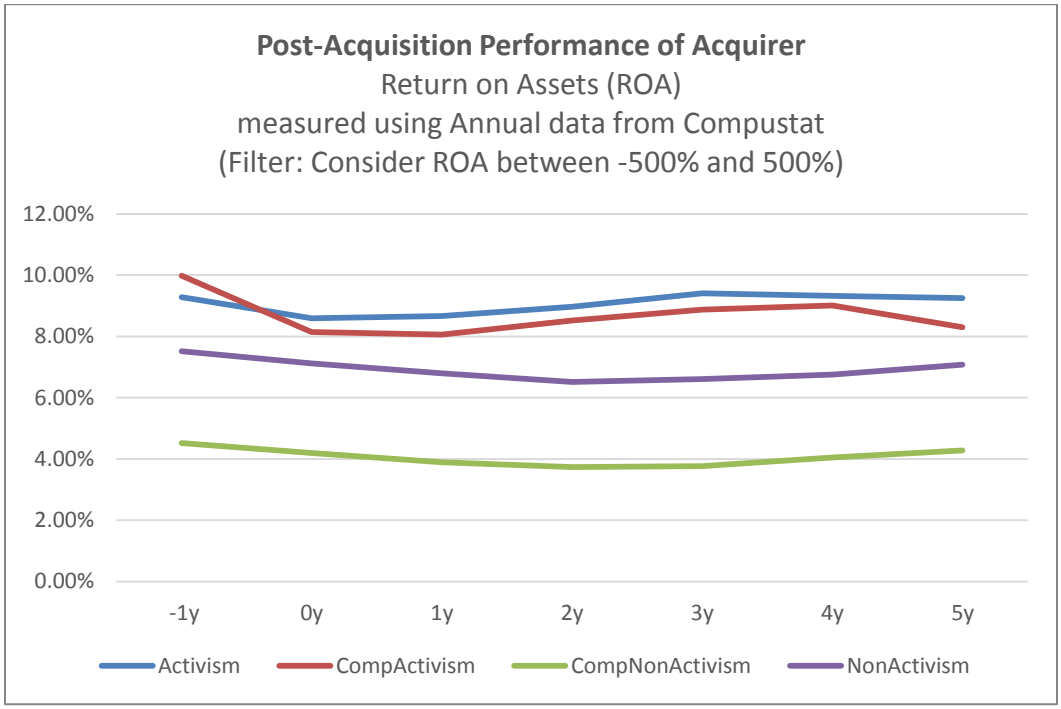


Figure 16: Return on Assets (ROA)

6.4.7.5.3. Table: Comparison of distributions

ROA: Table: Comparison of Distributions

Table 21. Post-acquisition performance: ROA

Sample	N Considered / Total	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: Consider where ROA is between (-500%, 500%)						
1y after M&A Effective Date						
Activism led M&A	725 / 1977	0.0867**** / 0.0890****	0.0961			
Comparable Non-activism related M&A	756 / 1239	0.0389**** / 0.0373****	0.0195	11.53 (<.0001) / 11.43 (<.0001)	12.9349 (<.0001) (<.0001)	167.3141 (<.0001)
All Non-activism related M&A	8648 / 23357	0.0679**** / 0.0704****	0.0308	3.93 (<.0001) / 4.95 (<.0001)	6.7382 (<.0001) (<.0001)	45.4033 (<.0001)
2y after M&A Effective Date						
Activism led M&A	612 / 1977	0.0897**** / 0.0924****	0.0960			
Comparable Non-activism related M&A	668 / 1239	0.0374**** / 0.0367****	0.0176	10.96 (<.0001) / 10.77 (<.0001)	12.0022 (<.0001) (<.0001)	144.0558 (<.0001)
All Non-activism related M&A	7916 / 23357	0.0651**** / 0.0684****	0.0303	4.68 (<.0001) / 5.63 (<.0001)	6.8327 (<.0001) (<.0001)	46.6864 (<.0001)
3y after M&A Effective Date						
Activism led M&A	474 / 1977	0.0941**** / 0.0968****	0.1003			
Comparable Non-activism related M&A	576 / 1239	0.0377**** / 0.0366****	0.0167	11.31 (<.0001) / 10.89 (<.0001)	11.8437 (<.0001) (<.0001)	104.2750 (<.0001)
All Non-activism related M&A	7155 / 23357	0.0661**** / 0.0684****	0.0305	5.11 (<.0001) / 6.03 (<.0001)	7.3130 (<.0001) (<.0001)	53.4795 (<.0001)
4y after M&A Effective Date						
Activism led M&A	413 / 1977	0.0933**** / 0.0974****	0.1059			
Comparable Non-activism related M&A	500 / 1239	0.0405**** / 0.0387****	0.0165	9.66 (<.0001) / 9.32 (<.0001)	10.6003 (<.0001) (<.0001)	112.3682 (<.0001)
All Non-activism related M&A	6456 / 23357	0.0675**** / 0.0691****	0.0318	4.77 (<.0001) / 5.13 (<.0001)	6.7946 (<.0001) (<.0001)	46.1668 (<.0001)
5y after M&A Effective Date						

Activism led M&A	340 / 1977	0.0925**** / 0.0968****	0.1109			
Comparable Non-activism related M&A	430 / 1239	0.0428**** / 0.0401****	0.0158	7.76 (<.0001) / 7.40 (<.0001)	9.2389 (<.0001) (<.0001)	85.3597 (<.0001)
All Non-activism related M&A	5861 / 23357	0.0708**** / 0.0718****	0.0337	3.75 (0.0002) / 3.63 (0.0003)	5.7809 (<.0001) (<.0001)	33.4195 (<.0001)
Filter: Consider where ROA is between (-500%, 500%)						
1y after M&A Effective Date						
Comparable Activism led M&A	318 / 770	0.0806**** / 0.0797****	0.0648			
Comparable Non-activism related M&A	756 / 1239	0.0389**** / 0.0373****	0.0195	9.28 (<.0001) / 8.35 (<.0001)	7.966 (<.0001) (<.0001)	63.4678 (<.0001)
2y after M&A Effective Date						
Comparable Activism led M&A	258 / 770	0.0852**** / 0.0852****	0.0695			
Comparable Non-activism related M&A	668 / 1239	0.0374**** / 0.0367****	0.0176	8.75 (<.0001) / 7.57 (<.0001)	7.7750 (<.0001) (<.0001)	60.4526 (<.0001)
3y after M&A Effective Date						
Comparable Activism led M&A	208 / 770	0.0887**** / 0.0880****	0.0805			
Comparable Non-activism related M&A	576 / 1239	0.0377**** / 0.0366****	0.0167	8.90 (<.0001) / 7.76 (<.0001)	7.7220 (<.0001) (<.0001)	59.6324 (<.0001)
4y after M&A Effective Date						
Comparable Activism led M&A	174 / 770	0.0902**** / 0.0895****	0.0994			
Comparable Non-activism related M&A	500 / 1239	0.0405**** / 0.0387****	0.0165	7.95 (<.0001) / 7.08 (<.0001)	6.5409 (<.0001) (<.0001)	42.7858 (<.0001)
5y after M&A Effective Date						
Comparable Activism led M&A	140 / 770	0.0830**** / 0.0833****	0.0906			
Comparable Non-activism related M&A	430 / 1239	0.0428**** / 0.0401****	0.0158	5.57 (<.0001) / 4.99 (<.0001)	5.1902 (<.0001) (<.0001)	26.9412 (<.0001)

6.4.7.5.4. *Figure: Distribution (5y)*

Post-Effective Date Acquisition performance Return on Assets (ROA) using company financials data from Compustat for Activism, ComparableNonActivism and All NonActivism related MnA (Filter: consider ROA between -500% and 500%) TestPeriod = 5 y

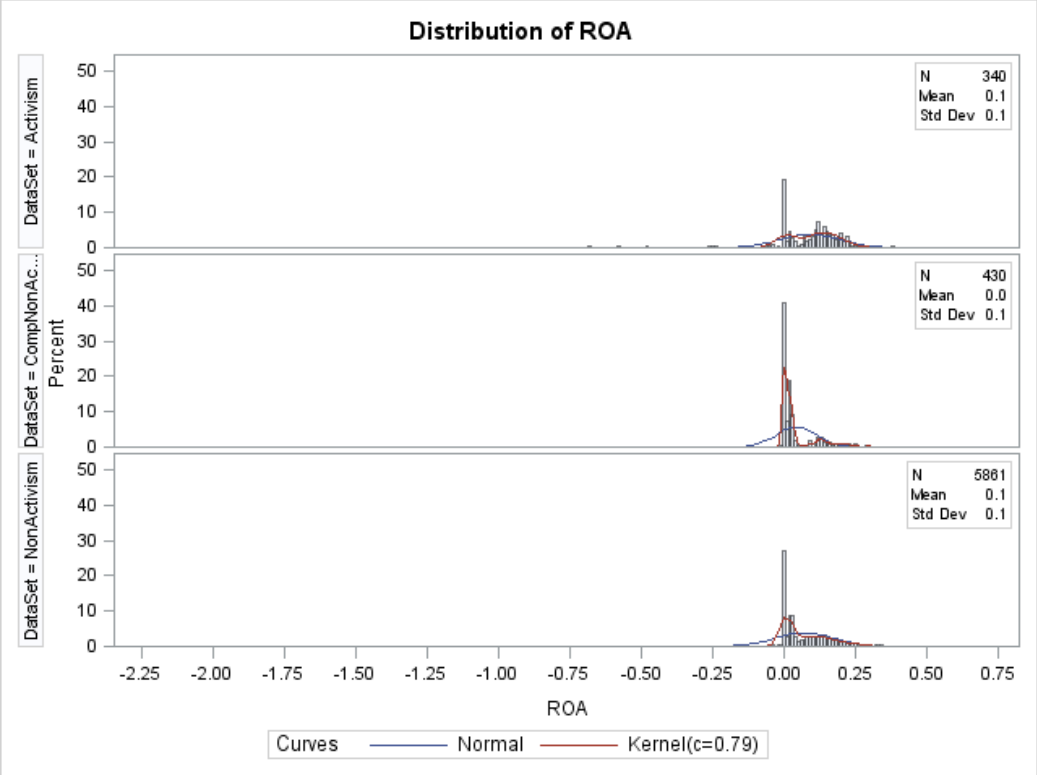
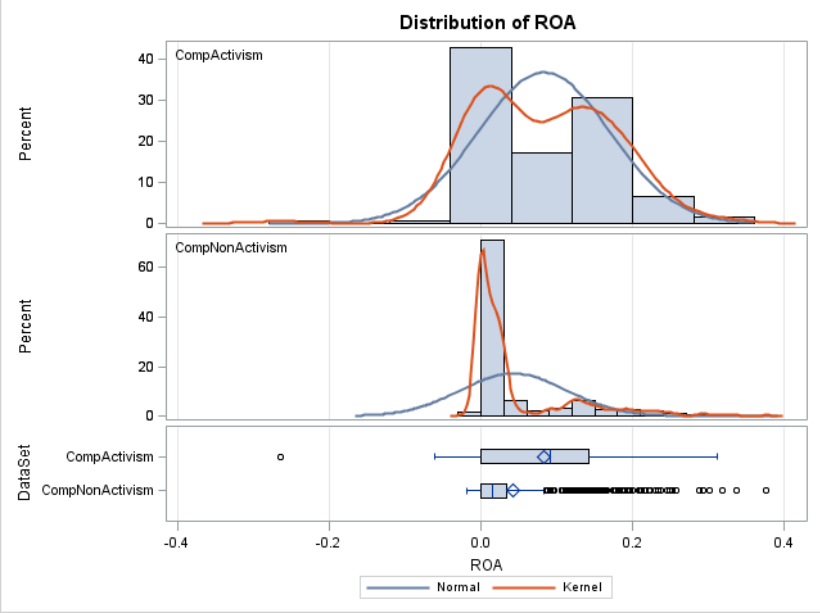


Figure 17: ROA Distributions



6.4.8. Spill-over effect: Comparable Non-Activism Vs All Non-Activism

Post-Effective Date Acquisition performance (SpillOver Effect of Activism on ComparableNonActivism cases) Cumulative Abnormal Returns using Market Model (MM) for ComparableNonActivism and OtherNotComparableNonActivism related MnA (Filter: consider CAR between -500% and 500%)

We divided the All Non-Activism cases into 2 groups: Comparable Non-Activism and Other Not-Comparable Non-Activism.
The assumption is that firms comparable to targets of activism would make similar improvements as those directly targeted by activists, and their acquirers shall thus benefit indirectly from Activism action elsewhere.
We expect to see better performance in Comparable Non-Activism cases than the Other Not-Comparable Non-Activism cases.

6.4.8.1.1. Table: Basic Statistics

Table 22. Statistics: Spill-over effect

Year (Relative to Effective Date)	Mean	Median	Variance	Skewness	Kurtosis	t Value	Pr > |t|
DataSet	**Comparable Non-Activism**						
-1y	-1.86%	-1.86%	0.0964	0.4560	3.7566	-1.58	0.1149
0y	-1.56%	-1.75%	0.0779	-0.0166	2.9806	-1.47	0.1408
1y	-4.74%	-1.27%	0.1915	-0.5101	2.4109	-2.86	0.0044
2y	-7.06%	-4.44%	0.4090	-0.4239	2.6420	-2.91	0.0037
3y	-9.40%	-8.14%	0.6732	-0.0131	3.1467	-3.02	0.0026
4y	-13.03%	-6.58%	0.9510	-0.2724	2.3488	-3.52	0.0005
5y	-17.25%	-7.19%	1.2343	-0.3829	2.1770	-4.09	<.0001
Dataset	**OtherNotComparable Non-Activism**						
-1y	-1.30%	-1.75%	0.1632	0.7799	9.8184	-2.98	0.0029
0y	-5.33%	-3.27%	0.1517	-0.2835	9.6695	-12.71	<.0001
1y	-10.72%	-5.99%	0.3268	-0.5210	4.4331	-17.41	<.0001
2y	-19.92%	-11.54%	0.7552	-0.4979	2.7682	-21.27	<.0001
3y	-26.89%	-15.66%	1.1712	-0.4142	1.7832	-23.06	<.0001
4y	-32.80%	-17.90%	1.5911	-0.3741	1.2643	-24.14	<.0001
5y	-39.29%	-21.63%	2.0697	-0.3724	1.0560	-25.35	<.0001

6.4.8.1.2. Figure: Distribution

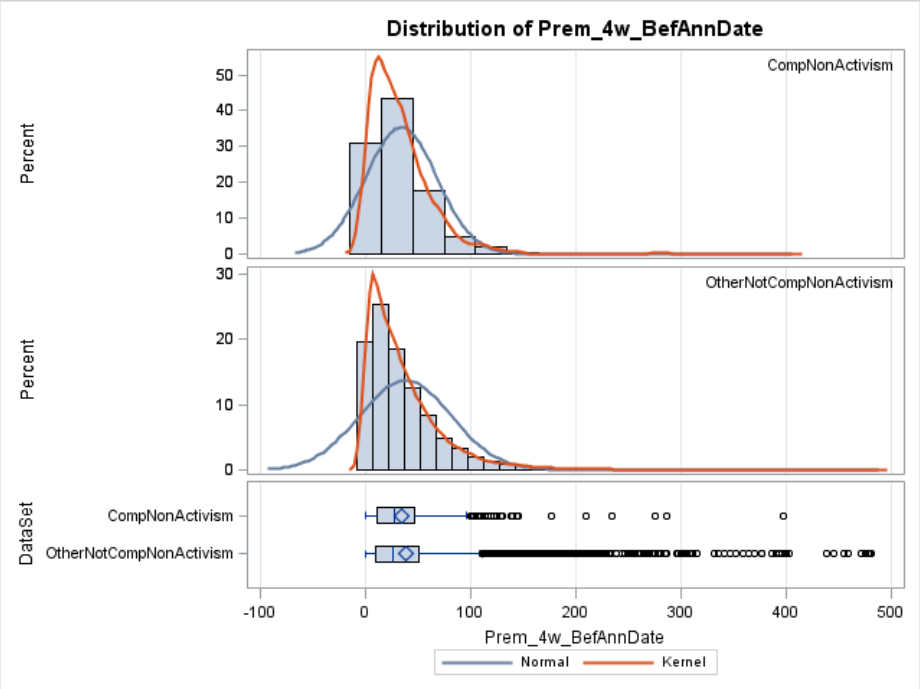
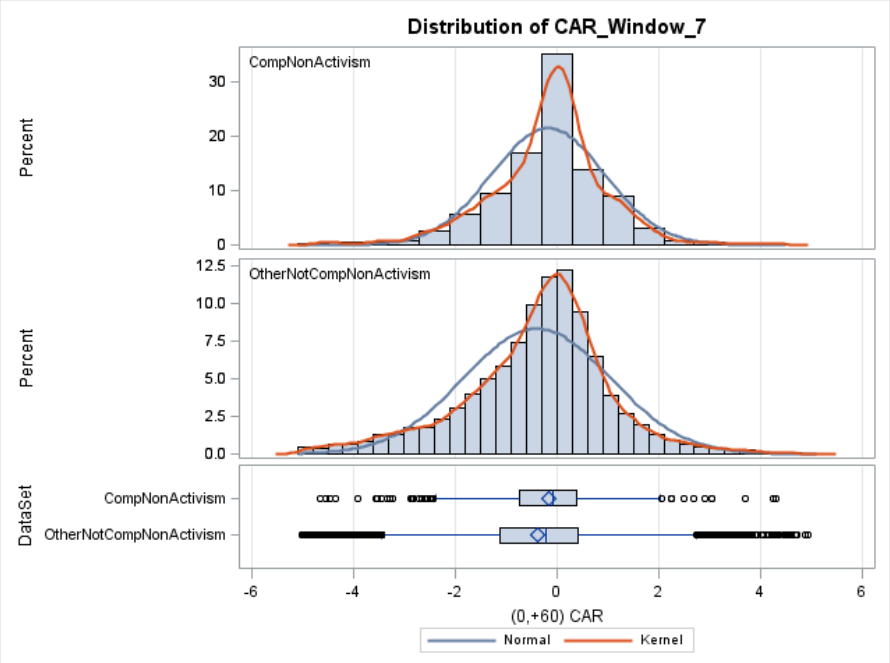


Figure 18. CAR: Spill-over effect chart



6.4.8.1.3. Table: Comparison of distributions

Post-acquisition performance: Spill-Over Effect of Activism on Comparable Non-Activism related M&A

Table 23. Post-acquisition performance: Spill-Over effect of Activism

Sample	N Considered / Total	Mean / Trimmed Mean (1%)	Median	T- test[1] Pooled / Satterthwaite	Wilcoxon test- Z statistic[2]	Kruskal-Wallis test- Chi Square[3]
Filter: consider Premium 4 weeks before announcement date between -500% and 500%						
Premium 4 weeks before announcement date						
Comparable Non-activism related M&A	779 / 1239	34.1673**** / 32.4260****	27.12			
Other Not-Comparable Non-activism related M&A	10322 / 22118	38.0963**** / 35.8413****	25.99	-2.46 (0.0140) / -3.05 (0.0023)	0.0179 (0.4929) (0.9657)	0.0003 (0.9857)
Filter: consider CAR between -500% and 500%						
1y after M&A Effective Date (CAR_Window_3 (0,+12m)): Market Model CAR						
Comparable Non-activism related M&A	695 / 1239	-0.0474*** / -0.0443***	-0.0127			
Other Not-Comparable Non-activism related M&A	8615 / 22118	-0.1072**** / -0.1033****	-0.0599	2.70 (0.0070) / 3.38 (0.0008)	2.26642 (0.0039) (0.0077)	7.0978 (0.0077)
2y after M&A Effective Date (CAR_Window_4 (0,+24m)): Market Model CAR						
Comparable Non-activism related M&A	695 / 1239	-0.0706*** / -0.0673***	-0.0444			
Other Not-Comparable Non-activism related M&A	8615 / 22118	-0.1992**** / -0.1953****	-0.1154	3.82 (0.0001) / 4.95 (<.0001)	3.6742 (0.0001) (0.0002)	13.5000 (0.0002)
3y after M&A Effective Date (CAR_Window_5 (0,+36m)): Market Model CAR						
Comparable Non-activism related M&A	695 / 1239	-0.0940*** / -0.0963***	-0.0814			
Other Not-Comparable Non-activism related M&A	8615 / 22118	-0.2689**** / -0.2658****	-0.1566	4.17 (<.0001) / 5.26 (<.0001)	3.7266 (<.0001) (0.0002)	13.8876 (0.0002)

4y after M&A Effective Date (BHAR_Window_6 (0,+48m)): Market Model CAR						
Comparable Non-activism related M&A	695 / 1239	-0.1303*** / -0.1287***	-0.0658			
Other Not-Comparable Non-activism related M&A	8615 / 22118	-0.3280**** / -0.3262****	-0.1790	4.04 (<.0001) / 5.02 (<.0001)	3.7007 (0.0001) (0.0002)	13.6953 (0.0002)
5y after M&A Effective Date (BHAR_Window_7 (0,+60m)): Market Model CAR						
Comparable Non-activism related M&A	695 / 1239	-0.1725**** / -0.1686****	-0.0719			
Other Not-Comparable Non-activism related M&A	8615 / 22118	-0.3929**** / -0.3917****	-0.2163	3.94 (<.0001) / 4.91 (<.0001)	3.7424 (<.0001) (0.0002)	14.0056 (0.0002)

6.4.8.1.4. Figure: Distributions (5Y)

Post-Effective Date Acquisition performance
(SpillOver Effect of Activism on ComparableNonActivism cases)
Cumulative Abnormal Returns using Market Model (MM) for
ComparableNonActivism and OtherNotComparableNonActivism related MnA
(Filter: consider CAR between -500% and 500%)

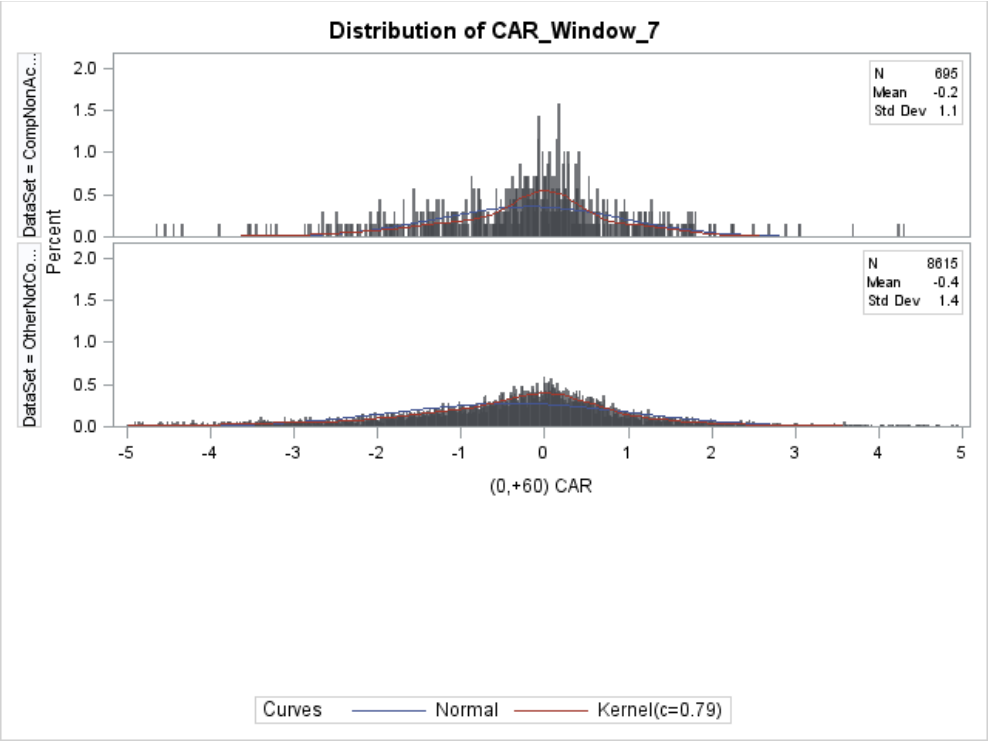


Figure 19: CAR Spill-Over effect Distributions

6.5. Appendix 5: Data Gathering Flow Diagram

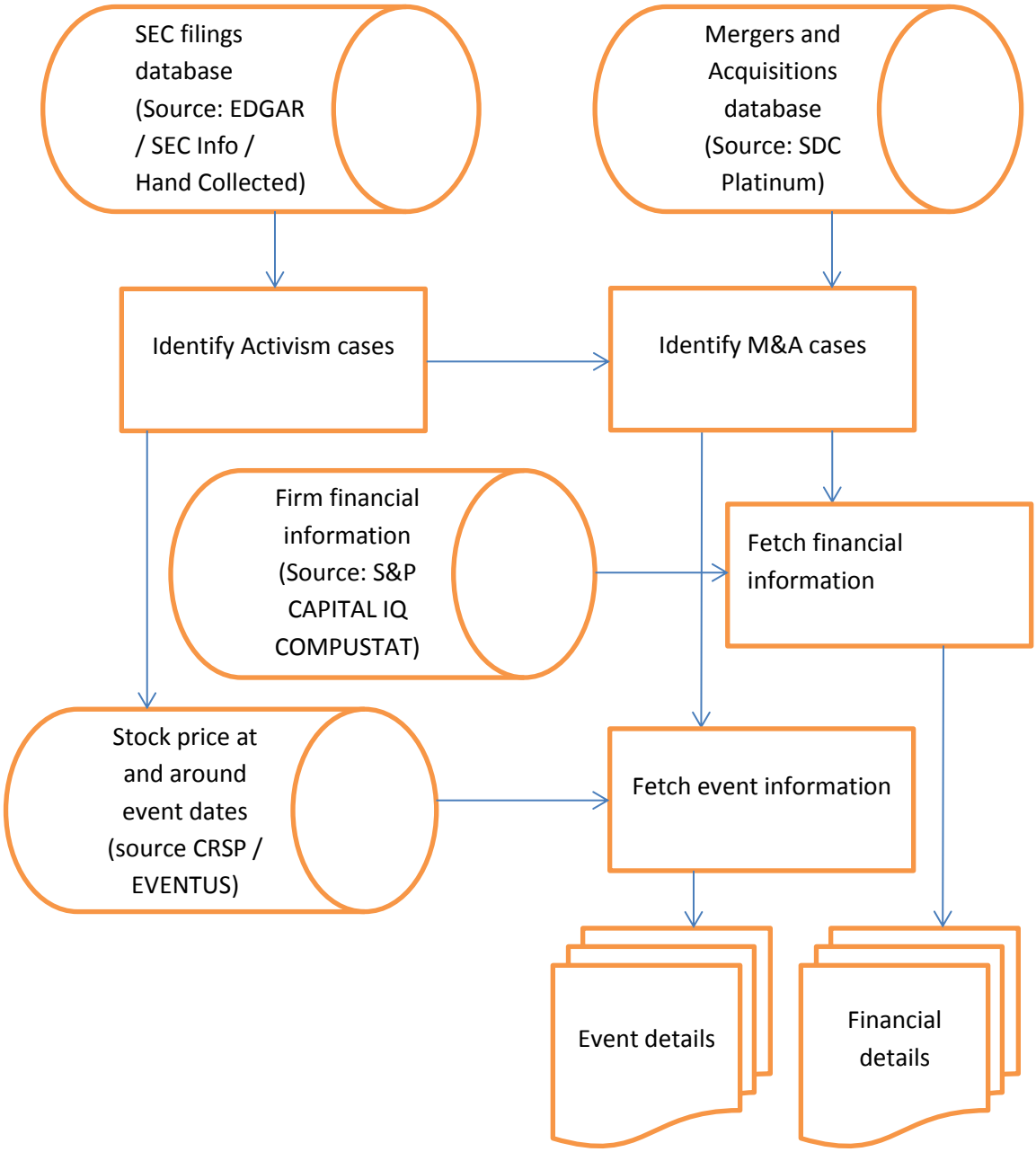


Figure 20: Data collection

VITA

Akshay Singh Gehlot

Candidate for the Degree of

Doctor of Philosophy

Thesis: ACTIVISM AND MERGERS AND ACQUISITIONS (M&A)

Major Field: Business Administration

Biographical:

Education:

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

Completed the requirements for the Master of Computer Applications at J.N.V. University, Jodhpur, Rajasthan, India in 1994.

Completed the requirements for the Bachelor of Science in Computer Science, Mathematics and Physics at Jodhpur University, Jodhpur, Rajasthan, India in 1990.

Experience:

Twenty years professional experience managing quantitative analytic models and applications used for trading and risk management.

Publication:

Goodwin, Shane; Akshay Singh; Walter Slipetz; and Ramesh P. Rao (2014). Myopic Investor Myth Debunked: The Long-Term Efficacy of Shareholder Advocacy in the Boardroom. http://ssrn.com/abstract=2555701

Professional Memberships: None.