SHAREHOLDER ACTIVISM: DOES GENDER DIVERSITY AMONG HEDGE FUND MANAGERS AFFECT ACTIVISM RETURNS?

by

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ABSTRACT

Shareholder activism: Does gender diversity among hedge fund managers affect activism returns?

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Divergent and often contradictory arguments appear in organizational research on the relationship between gender-diverse top management team and performance. In the present study, I integrate several distinct literatures to test a theoretical model that examines the influence of gender diversity among hedge fund executives on the performance of the target firm. Specifically, I argue that gender diversity among hedge fund executives weaken the performance consequences because females are perceived to possess traits less suited for the leadership position, which in turn influence their performance. I further argue that because of stereotypes gender-diverse hedge funds are perceived negatively and hence are more likely to face resistance from the managers of the target firms and are less likely to gain support from other shareholders, as compared to all-male hedge funds. Finally, I propose that gender-diverse hedge funds act differently as compared to all-male hedge funds, i.e., they are less aggressive in their activism campaign and they fail to target the "right" firms. I test my theory using 924 activism campaigns in the U.S. between 2010 and 2017 and find supporting results. I find that gender-diverse hedge funds have lower activism returns as compared to all-male hedge funds. A significant and positive support was found for resistance, which implies that gender diversity leads to more resistance from the managers. The results also show a significant and negative

support for wolf pack, indicating that gender diversity among the hedge fund executives fail to garner support. Furthermore, the results suggest that gender-diverse hedge funds are less likely to employ more aggressive tactics, as compared to all-male hedge funds. Finally, I find that both gender-diverse and all-male hedge funds target firms with similar characteristics, contrary to what I posited.
Key Words: hedge fund activist, gender, activism return, aggressiveness, managerial resistance, wolf pack

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CHAPTER 1 INTRODUCTION

Hedge fund activism, defined as a strategy in which a hedge fund purchases stake in a publicly-traded firm with the stated intent of influencing the firm's policies (Klein & Zur, 2009), has become commonplace. This is evident from the significant growth in number of hedge funds from as few as 300 in 1990 to 10,000 in 2017. Also, there is a tremendous increase in the number of firms being targeted by these activists and number of campaigns launched by them. It was reported that between 2011 and 2015, activist hedge funds showed on the share register of one in two companies listed on the S&P 500 index and one in seven of these firms were eventually attacked by them (Chen & Feldman, 2018). Years 2014 and 2015 witnessed the launch of more than 300 campaigns by them (Benoit, 2015; Chen & Feldman, 2018; Economist, 2015). Yet, hedge funds are mainly boys' clubs, with women constituting under 12% of all hedge fund top management (Prequin, 2017). However, in 2019, many of the highest-profile activism hedge fund campaign launches were led by women, including Impactive Capital, Snowcat Capital, Bayberry Capital, and Martlet Asset Management (Fortado, 2019).

In a recent interview by Childs (2018), Jane Buchan, co-founder of Pacific Alternative Asset Management, was asked about position of women in hedge funds, to which she responded: "Women are not hired in hedge funds because of biases and even if they are, they have to outperform men, as much as 100 basis points, to build the same kind of business." Despite the underrepresentation of women on hedge funds and difference in performance expectations among male and female hedge fund executives, there is a lack of research on the role of women executives in hedge funds. There are some puzzling questions that need to be answered to explore their role. Do gender-diverse hedge funds have different impact on the performance of

the target firms, as compared to all-male hedge funds? If so, is there any difference in the way gender-diverse hedge funds are perceived? Or is there any difference in their actions?

During the last few decades, U.S. equity markets have witnessed a surge in shareholder activism (David, Kochhar, & Levitas, 1998; Greenwood & Schor, 2009; Goranova & Ryan, 2014; Ryan & Schneider, 2002; Wahal, 1996), described as the exercise and enforcement of rights by minority shareholders with the objective of enhancing shareholder value over the long-term (Low, 2004). Shareholder activists have been engaging with major companies around the world. Usually, an activist targets a firm due to three reasons. First, they may target a firm when they feel dissatisfied with the performance of the firm (Becht, Franks, Grant, & Wagner, 2017; Brav, Jiang, Partnoy, & Thomas, 2008). Second, the activists may target a firm in order to bring governance changes in areas such as CEO compensation (Brick, Chen, Kang, & Kim, 2018; Zhu, 2013), CEO replacement (Brav, Jiang, Partnoy, & Thomas, 2008; Kim, 2018; Khurana, Li, & Wang, 2017), and board composition (Boyson & Mooradian, 2011). Finally, the activists might be seeking to bring strategic changes in the targeted firm, such as payout ratios (Gow, Shin, & Srinivasan, 2014; Kim, 2018; Zhu, 2013), cash holdings (Zhu, 2013), layoffs, R&D expenditure (Brav, Jiang, Ma, & Tian, 2014; Cremers, Giambona, Sepe, & Wang, 2015; Zhu, 2013), and divestiture (Hege & Zhang, 2018), in order to increase firm value.

Despite the increase in interest in shareholder activism by both corporations and research scholars alike, there is considerable controversy surrounding whether such interventions, particularly by hedge fund activists, create, capture, or destroy corporate value (Goranova & Ryan, 2014). Many empirical studies in the past measured the effects of hedge fund activism on corporate decision-making and ultimately, the performance of the targeted firms. The research, however, appears to produce contradictory results. Clifford (2008)

concluded that hedge fund activism is largely successful in changing performance of the targeted firm, a conclusion also reached by Bebchuk, Brav, and Jiang (2015), Becht, Franks, Grant, and Wagner (2017), Brav, Jiang, Partnoy, and Thomas (2008), Brav, Jiang, and Kim (2015), Brick, Chen, Kang, and Kim (2018), and Zhu (2013). In contrast, another set of studies concluded that activism by hedge fund tends to have little impact on the target companies (Coffee & Palia, 2016; Cremers et al., 2015; Gillan & Starks, 2000).

Researchers have begun to identify specific attributes of hedge funds that might provide them a competitive advantage to explain why some hedge funds are more successful in realizing returns from activism than others, e.g., differences in hedge funds' performance objectives (Boyson & Mooradian, 2011; Brav, Jiang, & Kim, 2010), reputation for aggressiveness (Ahn, Wiersema, & Zhang, 2018; Hamao, Kutsuna, & Matos, 2011), liquidity profile (Clifford, 2008), and proximity to (Teo, 2009) and size of investment (Becht et al., 2017; Huang, 2010; Johnson & Swem, 2015). Yet, surprisingly, little attention has been paid to how the characteristics of hedge fund executives might influence the returns to activism. Combining Hambrick TMT insights with hedge fund activism, this is a puzzling oversight, considering that a vast body of work on teams, executives, and boards of directors in organizations has shown that top management teams can have consequential implications on organizational decisions, actions, and performance (Hambrick, 2007). This is an especially important consideration for hedge funds, which are essentially teams of managers that use their specialized talents to generate economic rents from a unique investment strategy (Grossman, 2005). The purpose of this study is to address this important gap in the literature on hedge fund activism and examine whether the gender of the hedge fund executive affects performance of the target firms.

Many researchers have examined the relationship between gender-diverse TMT and performance. However, the findings are inconclusive (Zhang, 2020), indicating positive, negative, and no impact of gender diversity at the TMT level on the performance. One line of thinking argues that there is no impact of gender-diverse TMT on the performance, as women who reach TMT level are no different than men in terms of qualification, experience, and achievements and therefore, they will act in a similar way (Adams & Funk, 2012; Powell, 1990). A different perspective suggests that a gender-diverse team fosters performance of the firm. The argument is that females who reach senior roles are generally considered better than males, as they have to face far more physical and psychological barriers to advance to the top levels of the organization (Krishnan & Park, 2005) and have to be even more experienced and qualified. Furthermore, it is suggested that the presence of women on the top management team offers different perspectives, knowledge, and information (Ben-Amar, Francoeur, Hafsi, & Labelle, 2013; Hagendorff & Keasey, 2012; Parola, Ellis, & Golden, 2015) that can lead to better decision making, thereby enhancing performance. Lastly, those advocating a negative relationship between TMT gender-diversity and performance asserts that women are different from men in terms of traits, i.e., they are considered more communal (e.g., affectionate, warmth, nurturance), rather than agentic (e.g., competent, confident, assertive) (Cejka & Eagly, 1999; Schein, 1973), therefore, possessing traits less suited for the leadership position (Schein, 2001). Furthermore, TMT heterogeneity poses other challenges, including communication difficulties among executives, less effective executive decision-making, and less positive organizational outcomes (Miller, Burke, & Glick, 1998; O'Reilly, Snyder, & Boothe, 1993).

Despite the presence of conflicting arguments regarding the relationship between gender-diverse TMTs and performance, there is a paucity of empirical research in this area in the

context of hedge funds. I address this lack of research by examining the influence of gender diversity among hedge fund executives on activism returns. Specifically, the purpose of this study is to explore three questions. First, does gender-diversity among the hedge fund executives influence shareholder returns? Second, are gender-diverse hedge funds perceived differently as compared to all-male hedge funds, i.e., whether gender-diverse hedge funds are less likely to be supported by stakeholders, including managers of the target firms. Third, are the actions of gender-diverse hedge funds different from all-male hedge funds, i.e., whether gender-diverse hedge funds are less aggressive in their tactics and fail to target the 'value firms'?

I argue that gender-diverse hedge funds would be less effective in improving the performance of the target firm as compared to all-male hedge funds due to difference in their actions on account of their stereotypical attributes, i.e., they will be less aggressive in their activism campaigns. Also, gender-diverse hedge fund would not be inclined to restructuring or selling off underperforming assets, actions conducive to improve activism returns. Thus, they might fail to target 'right' firms, i.e., value generating firms. This would adversely impact their decision-making and contribution to activism. Also, gender-diverse hedge funds might face greater scrutiny and criticism on account of role incongruity if they do not perform stereotypically and therefore they might get less support from various stakeholders. That is, they might face more resistance from the managers of the target firm and may get less support from other shareholders in their activism campaigns.

This study offers a novel perspective to the existing research by examining the role of gender of the activists on the performance of the target firms. Most of the research on hedge fund activism is based on exploring the impact of target firm characteristics on the outcomes of activism. However, recently scholars have started investigating the impact of characteristics of

the hedge fund activists like their risk-taking behavior (Brown, Lu, Ray, & Teo, 2016), reputation (Ahn, Wiersema, & Zhang, 2018; Johnson & Swem, 2015), and their demographics, including past experience (Brick, Chen, Kang, & Kim, 2018) and education (Li, Zhang, & Zhao, 2011), on the performance of the target firms. This stream of research is still embryonic, however, and far more needs to be known. This study will help in providing a clearer picture of the role of demographics of the hedge fund activists on the performance of targeted firms which would provide directions for future scholarly work. Also, building on earlier research (e.g., Becht, Franks, Grant, & Wagner, 2017; Boyson, Gantchev, & Shivdasani, 2017; Brav, Jiang, Ma, & Tian, 2014; Clifford, 2008; Gantchev, Gredil, & Jotikasthira, 2018; Greenwood & Schor, 2009; Klein & Zur, 2011; Stokman, 2007; Zhu, 2013) examining the antecedents and outcomes of hedge fund activism, I develop hypotheses both on the impact of activism by gender-diverse hedge funds on firm performance and whether gender-diverse hedge funds are perceived differently or do they act differently as compared to all-male hedge funds.

The remainder of the study is organized in the following order: Chapter 2 gives the literature overview of hedge fund activism in general, along with providing answers to two specific questions. First, why is it important to study the impact of hedge fund activists as compared to other types of institutional investors, e.g. pension fund, mutual fund etc. Second, why examining the role of gender of the hedge fund activists on the performance of the target firms is important. Chapter 3 provides the theoretical development. Chapter 4 discusses the methodology. In this chapter I will describe the sources of data collection, sample size, conceptualization of various variables, research methods employed to test the hypothesized relationships, and finally the results. Chapter 5 offers discussion of the results, limitations of the study, and directions for future research.

CHAPTER 2 LITERATURE REVIEW

Shareholder activism has become a major corporate governance phenomenon with the media proclaiming the current era as the 'golden age of activist investing' (Squire, 2009). A recent review by Denes, Karpoff, and McWilliams (2017) and earlier by Goranova and Ryan (2014) indicate that there has been a revamp of the nature of shareholder activism over time. This can be attributed to rise in the number of activists; increase in their stakes in the targeted firms; their use of more aggressive strategies to put pressure on the managers of the targeted firm; and their ability to garner support from other stakeholders. Gillan and Starks (2007) defined activist shareholders as 'investors who, dissatisfied with some aspect of a company's management or operations, try to bring about change within the company without a change in control'. Generally, the measures used to evaluate the impact of shareholder activism includes short-term market reaction, long-term operating performance, and changes in governance structure and corporate strategies of the target firms (Gillan & Starks, 2007). However, recently scholars have also started examining the impact of shareholder activism on the corporate social and environmental activities of the target firms (David, Bloom, & Hillman, 2007; Tkac, 2006; Valentini, 2018).

Growth of hedge fund activists

The passage of the rule 14a-8 by U.S. Securities and Exchange Commission (SEC) led to the rise of shareholder proposals by shareholder activists in 1942 (Gillan & Starks, 2007; Reid & Toffel, 2009) and since then there has been a flood of such resolutions. Eventually, different types of shareholder activists emerged, who had different agendas for investment in the targeted firms and used different strategies to put pressure on the managers of the targeted firm. The period between 1942 and 1970s witnessed the growth of individual investors, commonly known

as ‘corporate gadflies’ (Goranova & Ryan, 2014), who had very little incentives to generate higher returns from activism (Eisenhofer & Barry, 2013). In the mid-1980s, there was an increase in institutional investors (Denes et al., 2017), mainly public pension plans and private pension plans. They pressed issues such as rescinding of antitakeover amendments, increasing the board independence, and changing the voting rules in favor of shareholders (Gillan & Starks, 1998; Stokman, 2007).

They were followed by labor union funds in the 1990s (Agrawal, 2012; Goranova & Ryan, 2014; Thomas & Martin, 1998), who made active use of media to pressure management of the targeted firms to bring about governance changes (Gillan & Starks, 2000). At the same time, mutual funds became active (Goranova & Ryan, 2014). Mutual funds are managed by investment companies that buy and sell shares to customers in any quantity demanded (Ryan & Schneider, 2002). They also focused primarily on governance-based financial activism (Gillan & Starks, 2000, 2007). The last one to enter the activism space are the hedge funds. They became active in the late 1990s, and rapidly gained a prominent position (Greenwood & Schor, 2009) due to their focus on shareholder-value maximization (Cheffins & Armour, 2011).

Why is it important to study hedge fund activism?

Hedge fund activists have revolutionized the nature of activism, by not only ensuring improvement in the governance and performance of the targeted firms (Boyson, Gantchev, & Shivdasani, 2017; Brav, Jiang, & Kim, 2015; Clifford, 2008; Cremers et al., 2015; Klein & Zur, 2009), but also by making corporate managers accountable towards both shareholders (Becht, Franks, Grant, & Wagner, 2017; Boyson & Mooradian, 2011) as well as stakeholders (Gerde, 2018; Reid & Toffel, 2009; Valentini, 2018). In contrast to the largely ineffective results of the traditional activists, many scholars argue that hedge fund activists appear to generate significant

positive impact because unlike traditional activists, who relied solely on tactics such as direct negotiation with the management of the targeted firms or filing formal shareholder proposals, hedge funds use these strategies to escalate their agenda and then incorporate them with other aggressive tactics such as proxy contests, lawsuits, and takeover bids (Carrothers, 2017; Gantchev, 2013; Gillan & Starks, 2007).

Hedge fund activists are able to exert positive influence on the performance of the target firms because of their stronger financial incentives to make profits, as they have their personal wealth at stake along with the significant proportion of excess returns as performance fees on top of fixed management fees (Boyson & Mooradian, 2011; Brav, Jiang, & Kim, 2010; Brick et al., 2018; Li et al., 2011). Another reason why hedge fund activists are successful in influencing the management of the target firms is that they are not as strictly regulated as compared to other institutional investors (Agarwal et al., 2015; Boyson & Mooradian, 2011; Clifford, 2008; Li et al., 2011). They are not required to maintain diversified portfolios or disclose information about their investment strategies and therefore they can take large and concentrated stakes in target firms and can use derivative securities to leverage their stakes (Agarwal et al., 2015; Brav, Jiang, & Kim, 2010; Clifford, 2008). Also, they have fewer conflicts of interest which enable them to change the balance of power vis-à-vis the current management (Boyson & Mooradian, 2011; Brav, Jiang, & Kim, 2010; Brick et al., 2018; Stokman, 2007). Finally, the actions of the hedge fund activists are more likely to result in a credible threat to the target firm management, as they have the ability to ultimately acquire the target firm if the management does not acquiesce to their demands (Clifford, 2008).

What are the antecedents of hedge fund activism?

Although the motivation to engage in activism might be deeply embedded in hedge fund characteristics such as their reputation, size, and demographics of hedge fund managers, it is the target firm characteristics that has attracted most attention in prior studies. Most of the papers that examined the impact of target firm characteristics on activism relied on the basic tenets of agency theory. The first tenet of agency theory that bolsters the relationship between target firm characteristics and activism is that hedge fund activists will be more likely to target firms with poor performance. The argument is that activists seek out underperforming companies and by targeting these firms, activist try to improve their market value (Brav et al., 2008; Bebchuk et al., 2015; Greenwood & Schor, 2009). Extending the research on the relationship between performance of the target firms and attraction of activists, Becht and colleagues (2008) observe that the Hermes UK Hedge Fund selected targets with an expectation of increasing the value by at least 20 percent. However, the findings of a few studies suggest a nonsignificant relationship between target firm performance and likelihood of activism (Clifford, 2008; Gantchev, 2013; Klein & Zur, 2009).

The second tenet of agency theory that can help explain the actions of the activists is the level of concentration of institutional ownership. Consistent with agency theory, some scholars argue that ownership concentration is expected to reduce agency costs, as activists would have greater incentive and ability to monitor and influence the management (Shleifer & Vishny, 1986). Therefore, hedge fund activists seek out targets with high institutional ownership (Becht et al., 2017; Brav et al., 2008; Gantchev & Jotikasthira, 2018; Hamao, Kutsuna, & Matos, 2011). Similarly, some scholars found that hedge fund activists target firms with low level of leverage, as high levels of debt help in restricting the opportunistic behavior of the managers (Grossman &

Hart, 1982; Jensen, 1986; Goranova & Ryan, 2014). Scholars have also examined the impact of cash flow of the target firms on the threat of activism. The results of these studies inform that activism by hedge fund reduces excess cash flows in order to ensure an increase in distribution to the shareholders (Bratton, 2006; Brav et al., 2008; Hamao et al., 2011).

Another firm-level driver of hedge fund activism that has received attention by the scholars in the past is the size of the target firms. Greenwood and Schor (2009) found that hedge fund activists target firms which tend to be small- or mid-sized. This result is in line with the findings of other studies (Brav et al., 2008; Gonzalez & Calluzzo, 2019; Klein & Zur, 2009). The argument is that hedge fund activists target small to medium size firms because they want to accumulate significant ownership with the given amount of capital (Brav et al., 2010). Other set of studies examined the impact of strategic changes by the target firms, such as their acquisition intensity and R&D investment, on the likelihood of being targeted by the hedge fund activists. Gantchev, Sevilir, and Shivdasani (2018) argue that firms that engage in acquisitions with motives other than shareholder wealth maximization are more likely to attract hedge fund activists. The results of this study indicate that firms conducting large and multiple stock-financed acquisitions have high ex-post probability of being targeted. Brav et al. (2008) argued that activist hedge funds are value investors and therefore they seek firms that have low levels of R&D.

Although characteristics of the target firms play a prominent role in attracting activism, hedge fund related factors are also central drivers of activism. The first determinant of activism is the demographic characteristics of the hedge fund activists. Three studies are of particular importance in examining this relationship (Boyson, Ma, & Mooradian, 2016; Brick et al., 2018; Krishnan, Partnoy, & Thomas, 2016). The first study was conducted by Krishnan, Partnoy, and

Thomas (2016). They examined the impact of reputation of the hedge fund activists on the likelihood of intervention. They used two measures of reputation- hedge fund's total assets under management and number of interventions in the past. Both Boyson, Ma, and Mooradian (2016) and Brick et al. (2018) argued that experience of the hedge fund activists, measured by running count of all activism campaigns and past experience as executive, analyst, or outside director in the same industry, respectively, can influence their decision to engage in activism and their choice of target firms.

Another activists level predictor of intervention by hedge fund activist is whether the activism is by a single activist or multiple activists, also known as wolf pack activism. Becht and colleagues (2017) argued that formation of wolf pack has a direct impact on the likelihood of activism. They found that among 1,740 activist engagements across 23 countries, almost one-quarter of engagements were initiated by multi-activists. Recently, Gonzalez and Calluzzo (2019) investigated the impact of proximity among the hedge funds on the likelihood of clustered activism. The authors argued that geographical proximity helps in establishing trust and the exchange of ideas among the activists and if activists cluster then they will be able to reduce not only the cost associated with the activism campaign, but also the cost of accumulating enough shares to pressure management. This in turn will increase the probability of the activists to engage in interventions.

How do hedge fund activists target the firms?

The activists use a wide range of strategies to raise their voice. Traditionally, shareholders voiced their dissatisfaction by loyalty (hold), exit (trade i.e. sale of shares if the company underperform), and voice (activism) (Davis & Thompson, 1994; Goranova & Ryan, 2014; Hirschman, 1970; Ryan & Schneider, 2002). The strategies used by the activists to raise

their voice can be divided into two ends of the continuum. On one hand, the activists are seen engaging in an interactive role wherein they negotiate privately with the management or board of the target firm or seek board representation, with an aim to work together with the management to bring improvements in the target firms. This approach is generally called a collaborative approach to activism. At the other extreme, hedge fund activists can make use of more hostile tactics such as the launch of a proxy fight, lawsuits, or the use of publicized letters and media campaigns (Chakrabarti, 2004; Gillan & Starks, 1998; Rojas et al., 2009; Ward, Brown, & Graffin, 2009) to publicly criticize the management of the target firms. This approach is called a confrontational approach to activism. Different scholars have used contrasting terminology to delineate the distinction between the two approaches to activism. Three most commonly used terms in the literature on activism are hostile versus non-hostile (Brav et al., 2008; Carrothers, 2017), offensive versus defensive activism (Cheffins & Armour, 2011), and constructivists or passive versus active activism (Appel, Gormley, & Keim, 2016; Clifford, 2008; Gapper, 2017; Roth, 2014; Vardi, 2013).

Many factors have been identified in the current literature on activism that explain the choice of a specific strategy by the hedge fund activists. The most cited reason is the objective of the hedge fund activist. For example, Cheffins and Armour (2012) argued that the choice of strategy employed by the hedge fund activists depend on their ultimate objective, i.e. to either ensure 'corporate influence' or 'corporate control'. 'Corporate influence' includes actions of the activists intended to bring governance or strategic changes within the company, without the legal authority to make corporate decisions (Rose & Sharfman, 2014). 'Corporate control', on the other hand, includes actions of the activists such as making an offer to buy the target or replacing the majority of the board members of the target firm in order to gain control over the company

(Bratton, 2006). Cheffins and Armour (2012) suggested that while activists seeking influence will be more likely to engage in aggressive means like proxy fights, activists pursuing control would employ less hostile strategies. Similarly, Ahn and colleagues (2018) argued that when an active hedge fund intent to claim corporate influence, they usually have higher return. Higher return gives these activists a unique and powerful position in the capital market which enables them to pursue confrontational activism strategies.

The choice of a particular strategy is also contingent on the discretion of the activists to commit financial resources in the process. This is an important consideration as activist shareholders have to bear all the costs associated with intervention and in return they receive only a small proportion of the improvements in shareholder return, as they own a minority stake in the targeted companies (Cheffins & Armour, 2011). While private negotiation with the management of the target firm does not require investment of resources, shareholder resolutions may require a minimal $2,000 investment by the activists (Ertimur et al., 2011). However, the initial negotiation between activist and managers of the target firm is rarely successful (Gantchev, 2013). Thus, activists resort to confrontational campaigns, such as proxy fights, lawsuits, and takeovers. The cost estimates for confrontational campaigns are way higher than collaborative campaigns. Gantchev (2013) estimates that the average U.S. public activist campaign that reaches the confrontational level of a proxy fight costs $10.5 millions. If the activists are not willing to employ a huge amount of financial resources, they may be more likely to use collaborative strategies.

Another related factor that impacts the decision of the activists to use a particular activism strategy is the investment horizon. The time consumed in soliciting a desired response or an acceptable compromise from the managers of the target firm is faster in the case of

confrontational form of activism. But when activists decide to engage in private negotiation with the managers of the target firm to improve the performance, they make a commitment for a longer time. Private negotiations may lead to a back-and-forth conversation between the managers and activists in which managers defend their business plan and attempt to persuade the shareholder activist (Bratton, 2006). Therefore, if the intention of the activists is to stay in the target firm for a longer duration of time, they would be more likely to adopt collaborative form of activism.

The choice between confrontational and collaborative form of activism can also be influenced by the governance structure of the target firms. Recently, Boyson and Pichler (2019) argued that hedge fund activists are less likely to engage in costly activism against target firms with high institutional ownership concentration, as it is relatively easy for the activists to seek support from a smaller number of influential shareholders without acquiring stakes in the firm. Under such circumstances, the activists would be more willing to employ a collaborative campaign. Boyson and Pichler (2019) further argued that if the CEO of the target firm is also the board chair then it will make the CEO more powerful and he/she will not easily acquiesce to the demands of the activists. Under such circumstances, the activists would rely on confrontational activism. Finally, they suggested that the choice of the form of activism can also be influenced by the actions of the managers of the target firms. They argued that when target firms resist, activists counteract by initiating a proxy contest, filing a lawsuit, or making an unsolicited tender offer.

How do target firm managers respond to activism?

When a firm is targeted by a hedge fund activist, the firm management faces a decision: they can ignore, negotiate with, accept, or resist the activist. Sometimes managers of target firms

engage in actions such as decreasing capital expenditure or increasing incidence of asset divestitures, restructuring or layoffs, following intervention by hedge funds (Denes et al., 2017). By doing so, managers of target firms strategically try to counter pressure from the activists (David, Bloom, & Hillman, 2007). When the managers negotiate or accept the demands of the activists, the activism is deemed to be successful. However, if the managers of the targeted firms decide to ignore the demands, reject the demand out right, or resist the demand, then the campaign ends up being unsuccessful in most of the cases.

Although past research suggests that the choice of the form of activism, i.e. collaborative versus confrontational, by the activists has direct implications on the response of the managers of target firms, the results are equivocal. Some authors suggest that activists employing collaborative approach are relatively more successful in achieving their goals (Bebchuk et al., 2015), as managers of the target firms are more responsive to the demands behind the closed doors, in order to avoid public humiliation and adverse impact on their reputations (Goranova & Ryan, 2014). The success of collaborative approach in eliciting positive response from the managers is evident from the fact that in 2016, hedge fund activists were able to place their nominees in 131 board seats and a vast majority of these seats were achieved through direct negotiation with the management of the target firms (Coffee, Jackson, Mitts, & Bishop, 2018). Similar results were indicated by Carleton, Nelson and Weisbach (1998). They examined 45 engagements related to governance change and found that in 95% of the cases activists were successful in fulfilling their demands by engaging in direct negotiation.

However, some studies indicate that aggressive activism is more likely to be successful (Bratton, 2006; Johnson & Swem, 2015) because it not only facilitates activist to elicit support from other stakeholders including media, but managers usually succumb to such demands due to

fear of losing their jobs or power (Boyson & Pichler, 2019). Ahn et al. (2018) suggested that target firm's board is more likely to agree to the demands of the hedge fund activists who have a reputation for being confrontational, as such campaigns can be time consuming and costly. Emphasizing the importance of confrontational means of activism in compelling the target firms to make the changes, Bratton (2006) found that the success rate of activism is 80% when hedge fund activists threaten to launch proxy fights.

The decision to accept, reject, or resist the demands of the activists is contingent upon many factors. Managers may resist the demands of the activists when investors attempt to remove them from their jobs (Brav, Jiang, Partnoy, & Thomas, 2008; Greenwood & Schor, 2009). Apart from job security, Boyson and Pichler (2019) suggested that managers may resist demands of the activists when they have concerns about reputational damage or changes to the board. The authors further added that target firm managers are more likely to engage in hostile resistance when the activist wants to buy the target or have high ownership or when they engage in a proxy fight or file a lawsuit. Sometimes managers decide to give in to the demands of the activists. Bratton (2006) suggested that when 13D filing sends a signal to other funds and they form a wolf pack, target firm management accepts the demands of the activist, as they see little chance of victory in such a contest. Similarly, Johnson and Swem (2015) found that target firm management usually acquiesce to the demands of a credible activist and they do it by increasing dividends, repurchasing shares, changing management, engaging in a merger or acquisition, or by altering their financial or governance structure to be more favorable for investors.

What are the outcomes of hedge fund activism?

The effectiveness of hedge fund activism on the performance of the target firm is the most debated topic in the extant literature on shareholder activism (Gillan & Starks, 2003). This

is because findings of the studies examining the relationship between activism and return have been equivocal. Much of the research suggests that activism positively impacts shareholder returns (e.g., Boyson & Mooradian, 2011; Boyson et al., 2016; González & Calluzzo, 2019; Klein & Zur, 2009; Krishnan et al., 2016; Zhu, 2013). However, some studies (e.g., Becht, Franks, Mayer, & Rossi, 2008; Brav, Jiang, Partnoy, & Thomas, 2008; Greenwood & Schor, 2009; Klein & Zur, 2011) found that activism fails to improve the performance of the target firm. Another controversy in the activism literature is about the time horizon of the activists. Some scholars argue that hedge fund activists are more interested in realizing short-term gains (Allaire, 2015; Coffee & Palia, 2016), which can be detrimental to the long-term interests of the company and its shareholders (Bebchuk, Brav, & Jiang, 2015; Cremers et al., 2015). Finally, sometimes it becomes difficult to measure the impact of activism, particularly when the managers of the targeted firms try to negotiate with the activists behind closed doors (Denes et al., 2017).

Returns from activism are typically gauged from the share price reaction to an activism event that captures the net present value of future cash flows (Bebchuk, Brav, & Jiang, 2015; Becht et al., 2017; Bessler et al., 2008; Boyson & Mooradian, 2011; Boyson et al., 2017; Carrothers, 2017; Clifford, 2008). However, some studies have also examined the impact of activist intervention on the operating performance of the target firms, using measures such as Tobin's Q, return on assets (ROA), and return on equity (ROE) (Alaire & Dauphin, 2016; Bebchuk, Brav, & Jiang, 2015; Clifford, 2008; Greenwood et al., 2009) and by measuring changes in governance structure and corporate strategies of the target firms (Gillan & Starks, 2007). Many studies found that the announcement of 'activist' intentions result in positive market reaction for the stocks of the targeted firms. While Brav et al. (2008) conclude that the abnormal return from activism is 5.10% for the event month and the three months afterward,

Klein and Zur (2009) report an average abnormal return of 7.2% for the [−30, +30] window around the announcement day. Similarly, Boyson and Mooradin (2007), Clifford (2008), and Greenwood and Schor (2009) reported positive average abnormal announcement-day returns.

However, the positive impact of hedge fund activism on the market reaction can be attributed to post-intervention strategic changes such as takeover of the targeted firms (Becht et al., 2017; Boyson et al., 2017; Greenwood & Schor, 2009; Krishnan, Partnoy, & Thomas, 2016) or selling off of firms after intervention (Brav et al., 2015). Researchers have also examined the impact of activist related characteristics on the market's reaction to activism, including reputation of the activists (Boyson, Ma, & Mooradian, 2015; Krishnan et al., 2016); activist's willingness to initiate a proxy fight (Johnson & Swem 2015); activism by a wolf pack (Wong, 2020) or clustered activism (González & Calluzzo, 2019); switch from passive (purchase of shares in the firms by hedge fund just for investment purpose) to active investors (purchase of shares in the firms by hedge fund with specific plans to either improve the firm or its managers) (Brav et al., 2015; Clifford, 2008); and sector specific and related industry experience of the hedge fund manager (Papageorgiou, Parwada, & Tan, 2018). Operating performance is also influenced by strategic changes, e.g. divestiture of under-performing assets (Clifford, 2008; Gantchev, Sevilir, & Shivdasani, 2018; Hege & Zhang, 2018) made by the target firms post intervention. Also, disciplining managers of the targeted firms through monitoring and curtailing their empire building behavior by reducing free cash flows (Brav et al., 2008) and increasing payouts (Zhu, 2013), positively impact the operational performance of the target firms.

Both market reaction for the stocks and operating performance can also be influenced by strategies and objectives of the activists. Hedge fund activists have heterogeneous objectives and they use a variety of strategies to fulfill those objectives. It has been found that the strategies

used by the activists have a direct impact on the performance of the target firms. For example, Brav et al. (2010), Hamao et al. (2011), and Krishnan et al. (2016) concluded that activism leads to positive performance of the target firm in the long-run when activists use hostile tactics. Similarly, Guo et al. (2018) found that both stock price and long-term operating performance are improved when activists engage in sell-offs/spin-offs because it increases managerial focus, i.e. it makes them more efficient, long-term value creator. Similar association is found between the objective of activism and performance of the target firm. Both Becht et al. (2017) and Stokman (2007) found that the returns were increased when the goal of the activists was to alter the board composition, followed by restructuring of the target companies. Similarly, the study by Boyson and Mooradian (2011) indicated that governance-related activism, such as changes in the board representation and reductions in excess cash, on average improved both short-term stock and long-term operational performance.

Interventions by hedge fund activists can also bring non-financial changes in the target firms, such as strategic, governance, and social and environmental changes. Among the various strategic investment options available to the hedge fund activists, divestiture is exercised the most (Allaire & Dauphin, 2016; Brav et al., 2015; Gantchev et al., 2018), as it results in higher announcement return. The factors which impact the decision of the hedge fund activists to engage in strategic investments include reputation of hedge fund managers (Johnson & Swem, 2015), likelihood of being targeted (Gantchev et al., 2018; Hege & Zhang, 2018; Zhu, 2013), and ownership stake in the target firm (Boyson, Gantchev, & Shivdasani, 2017). Strategic changes induced by the hedge fund activists play an important role in improving the financial performance of both target firms (Boyson, Gantchev, & Shivdasani, 2017; Clifford, 2008; Cremers et al., 2015; Greenwood & Schor, 2009) as well as the peer firms (Gantchev et al.,

2018), reducing agency problems by ensuring tight monitoring of the management and capital restructuring (Boyson & Mooradian, 2011; Brav et al., 2010; Gantchev et al., 2018), and improving growth and development of the target firms by facilitating innovation (Brav et al., 2015).

Hedge fund activism is also helpful in bringing improvements in the governance of the target firms. Governance-related outcomes generally include demands for change in executive compensation (Brick et al., 2018; Hamao et al., 2011; Sunder et al., 2014; Valentini, 2018; Zhu, 2013), board representation (Ahn et al., 2018; Brav et al., 2008; Greenwood & Schor, 2009; Valentini, 2018), CEO replacement (Ahn et al., 2018; Brav et al., 2008; Greenwood & Schor, 2009; Kim, 2018; Khurana, Li, & Wang, 2017; Zhu, 2013), rescinding takeover (Brav et al., 2008), etc. Although, past research reveals that among the governance changes, hedge fund activists are more likely to demand removal of CEO/directors (Brav et al., 2008; Greenwood & Schor, 2009), they are more successful in obtaining a seat on the board of the target firms. This is evident from the study conducted by Boyson and Mooradian (2011). They analyzed 418 filings and found that the activists were able to successfully obtain board representation in 69% of the targets.

However, obtaining a seat on the board of the target firm is a critical decision and is contingent upon many factors. First, activists are more likely to gain board seats at smaller firms and in firms with weaker stock price performance (Gow, Shin, & Srinivasan, 2014). Second, the likelihood of gaining a seat on the board is contingent upon the reputation of the hedge fund activists (Krishnan, Partnoy, & Thomas, 2016); use of confrontational campaigns, for example number of proxy fights and lawsuits initiated in the past (Klein & Zur, 2009; Krishnan, Partnoy, & Thomas, 2016); and previous executive and/or outside director experience of the hedge fund

managers (Brick et al., 2018). It also depends on whether the activism is initiated by a single activist or group of activists, commonly known as wolf pack (Briggs, 2007, Coffee & Palia, 2016; Wong, 2020).

Finally, scholars have just begun to investigate the impact of hedge fund activism in bringing social and environmental changes in the target firms. However, only a handful of studies have examined this relationship. It is because of the ongoing debate on the nature of investment horizon of hedge fund activists. The investment horizon of the activists can be either short-term or long-term. Some scholars argue that hedge fund activists have short-term investment horizon (Allaire, 2015; Bebchuk, Brav, & Jiang, 2015; Cremers et al., 2015). Given the transient nature of the relationship between the short-term investors and the firm, one would expect that hedge fund activists would not be motivated in bringing social changes in the targeted firms, as such investments are costly and have limited benefits in the near term. Also, these changes are based on building effective and sustainable relationships with customers and suppliers, fostering a productive corporate culture, and maintaining a history of positive interactions with local communities and other critical stakeholders, which require long-term investments over many years. And since hedge fund activists hold shares for a shorter period of time in multiple firms, they would not be willing to invest time and resources in building and maintaining relationships with other stakeholders.

On the contrary, some scholars argue that hedge fund activists have longer investment horizons because they make huge investments (Gantchev, 2013), as they do not face any regulatory mandate on the amount of stakes they can purchase in a target corporation (Brav et al., 2010). Also, these activists usually invest for a longer duration of time, as they have longer lock-up period and have to give notice well in advance of any withdrawal (Clifford, 2008). Therefore,

hedge fund activists will be more likely to support investments in long-term activities (Kochhar & David, 1996) and would view social and environmental outcomes as necessary for sustainability and gaining competitive advantage. Also, since these activists hold stakes in the target firm for longer duration, they would be able to build and maintain good relationship with the stakeholders, which can ensure effective implementation of social and environmental changes in the targeted firm.

Although the research is in nascent stage, two studies are noteworthy in examining the role of hedge fund activists in bringing social and environmental changes in the targeted firms. Valentini (2018) posited a positive relationship between Environmental, Social, and Governance (ESG) change and activism by hedge fund and found that higher level of ESG changes resulted in higher performance of the targeted firms and greater likelihood of getting support from others. The results also indicated that an activist campaign regarding ESG is more likely to be successful when a target has large passive shareholder investors. Another study was conducted in the same year by Gerde (2018). She presented conflicting hypotheses between ESG performance of the firms and likelihood of being a target. On one hand, she argued that hedge fund activists are more likely to target companies with higher than average ESG performance in order to redirect slack resources towards shareholder value maximization and to improve short-term financial performance of the target firms. On the other hand, she posited that hedge fund activists are more likely to target firms with lesser ESG performance to ensure improvement in the firm's management of resources that is reducing wealth and ESG performance. She found that while the environmental weaknesses of the targeted firms decreased, corporate governance strengths increased, after the activism. The results further indicated that the social performance generally deteriorated after being targeted.

Why is it important to examine the role of gender on the outcomes of activism?

There has been a surge of interest in top management team (TMT) research during the last several decades since the publication of the seminal papers by Pfeffer (1983) and subsequently by Hambrick and Mason (1984) on organizational demographics. Pfeffer (1983) redirected the attention of the research scholars from unobservable psychological states in explaining organizational phenomena to objective demographics of the organization. A year later, Hambrick and Mason (1984) argued that an organization is a reflection of its top managers and urged the researchers to investigate the consequences of difference in the composition of TMTs. Strategic management researchers have studied diversity primarily in terms of tenure, education, and functional background. However, the domain of work force diversity is much broader (Cox, 1994). Demography refers to the distribution of organizational members along any demographic trait or any set of demographic traits (Pfeffer, 1983), including education, tenure, gender, ethnic background, and age.

TMT diversity plays an important role in influencing organizational processes and outcomes. Although many studies investigated the association between TMT heterogeneity and firm performance, findings are not conclusive. While some studies found a positive impact of TMT diversity on performance (Bantel & Jackson, 1989; Carter et al., 2003; Erhardt, Werbel, & Shrader, 2003; Gupta & Govindarajan, 1984; Michel & Hambrick, 1992; Thomas et al., 1991), others found a negative influence (Lee & James, 2007; Shrader et al., 1997). Prior research further suggests that diverse TMTs possess a broader range of capabilities and will bring varied information, knowledge, experience, and perspectives (Cox & Blake, 1991), which in turn will improve the problem solving and decision making skills (Hambrick et al., 1996) and hence, the performance. Furthermore, diverse TMT helps a business to cope with the changing environment

(Cannella, 2001), as it is better equipped to identify opportunities and threats in the external environment. TMT diversity also impacts other decisions, including strategy (Finkelstein & Hambrick, 1990; Gupta, 1984; Wiersema & Bantel, 1992), executive turnover (Wagner, Pfeffer & O'Reilly, 1984), and innovation (Bantel & Jackson, 1989).

Despite the quantity and quality of existing TMT diversity research and recognition of the influence of demographics of TMT on organizational strategies and outcomes (Finkelstein & Hambrick, & Cannella, 1996), little is known how the demographic characteristics of hedge fund executives might influence the strategies and outcomes of activism. Perhaps, one reason for the dearth of research on the relationship between gender-diverse hedge fund and performance could be the absence of women in the upper echelons in the hedge fund industry. Many European countries such as Norway, Spain, and Sweden have passed laws to increase women representation at the board level (Adams & Funk, 2012; Upadhyay & Zeng, 2014). Even companies in U.S. are facing push from regulators and large institutional investors, including CalPERS and TIAA-CREF, to increase women representation. Despite this, only a few women hold management positions in big corporations, particularly in the finance sector. For example, the percent of women executives in the top 20 global financial service firms is only 20% (Catalyst, 2019[1]) and the percentage is even worse in case of hedge funds.

The purpose of this study is to fill this void in the literature by investigating the effect of gender of the hedge fund activists on financial outcomes of activism. I examined this relationship by fully exploring two issues. First, are female hedge fund activists different from male hedge fund activists? Exploring this issue will help to understand whether the presence of women

[1] https://www.catalyst.org/research/women-in-financial-services/

changes the actions of the hedge funds, and hence, their decision making and contribution to activism. Second, are gender-diverse hedge funds perceived differently by other stakeholder as compared to all-male hedge funds? This is important to explore as it will suggest whether gender-diverse hedge funds face more resistance from the managers of the firm they target and get less support from other stakeholders, as compared to all-male hedge funds. To explore whether female hedge fund activists are different from male hedge fund activists, it is important to understand gender stereotypes. Stereotypes are 'the beliefs about the characteristics, attributes, and behaviors of members of certain groups' (Hilton & von Hippel, 1996). Stereotypes lead to identification and categorization of people to a larger group.

According to social role theory, stereotypes may be used for the division of labor, i.e. the differential social roles ascribed to men and women (Eagly & Karau, 2002; Powell et al., 2002). These stereotypical beliefs result from recurrent observations of women and men in roles that require different types of activities (Bosak et al., 2008). Based on this assumption, the perceived differences between the roles of homemaker and breadwinner transform into gender-stereotypical agency-communion differences between women and men (Bosak et al., 2008; Eagly & Steffen, 1984). The longer work history of men and their greater involvement in the leadership roles usually portray them as individuals possessing agentic characteristics (Eagly, 1987; Eagly & Karau, 1991, 2002). In contrast, women's involvement in domestic work and employment in roles requiring social skills (Cejka & Eagly, 1999) portray them as individuals possessing communal characteristics.

The concepts of agency and communion date back to the work of Bakan (1966) who characterized the different roles of men and women as a fundamental reason for human existence. Later on Helgeson (1994) developed a theoretical model of the relations among

gender, gender-linked personality traits, and physical and psychological health. This model is based on the assumption that men and women possess somewhat different personality traits and engage in different social roles and that these differences affect well-being. According to this model, men are more likely to develop personality traits related to agency, which are defined as a focus on the self and autonomy. Conversely, women are more likely to develop personality traits related to communion, which is defined as a focus on other people and relationships. The stereotypical belief about the differences in traits and behaviors among men and women was further developed by the work of Eagly and Karau (2002). They argued that these beliefs about the gender differences pertain to communal and agentic attributes. The female stereotype usually portrays them as communal nurturers, i.e., affectionate, gentle, friendly, and kind, based on the traditional role of a homemaker (Eagly, 1987; Eagly & Karau, 1991, 2002). In contrast, the male stereotype portrays them as agentic, i.e., aggressive, ambitious, dominant, forceful, and independent, based on the traditional role of a breadwinner (Eagly & Karau, 2002).

The gender-stereotypical agency-communion differences between men and women often lead to occupational sex typing, a phenomenon in which majority of people in an occupation belong to one sex and then there is a normative expectation about the behavior and actions among the people belonging to that occupation (Epstein, 1970). The distinction between agency and communion as traits has served to organize many studies of gender stereotypes wherein men and women were found to behave differently. One such difference often researched is that women are more risk averse than men. For example, Jianakoplos and Bernasek (1998) examined the relationship between gender and financial risk-taking and found that due to greater financial risk aversion, women have lower levels of wealth as compared to men. Similarly, Martin, Nishikawa, and Williams (2009) argued that market perceives female CEOs to be more risk

averse than male CEOs and found that appointment of female CEOs leads to reduction in capital market risk.

Another trait ascribed to agency-communion differences between men and women is that women are less confident than men, which in turn affects their trading behavior. Barber and Odean (2001) argued that men are more overconfident than women and therefore they will trade more than women. However, the excessive trading by men can have negative affect on their performance. They found that while both men and women reduce their net returns through trading, the reduction in net returns is 0.94 percentage points higher for men than women. Recently, Cumming, Leung, and Rui (2015) investigated the relationship between board gender diversity and financial fraud. They argued that a risk-averse individual is typically less willing to commit fraud due to the fear of being caught. Since women are generally less overconfident than men, they would be more likely to engage in the strategies that avoid the worst outcomes and maintain their security.

Past research has also identified difference between men and women in terms of their investment behavior. Two reasons are identified in the literature why men have short-term investment horizon than women investors. First, since women are more risk averse (Atkinson, Baird, & Frye, 2003; Jianakoplos & Bernasek, 1998; Martin, Nishikawa, & Williams, 2009; Powell & Ansic, 1997), they would be less likely to invest for short term. Second, past research also suggests that men and women behave differently when it comes to their investment decisions, due to the difference in the level of financial knowledge and experience possessed by them (Atkinson, Baird, & Frye, 2003). Men are usually considered more financially informed and they possess diversified portfolios (Barber & Odean, 2001) for short-term, as compared to their female counterparts.

These individual differences between men and women are manifested at the group level, i.e. top management team, which leads to differences in the strategies of a gender-diverse TMT, as compared to an all-male TMT. One school of thought is that diversity at the top management level is beneficial. TMT diversity is more likely to have a positive impact on the decision-making and problem-solving styles (Perryman, Fernando, & Tripathy, 2016). The quality of the decision-making process is improved in the presence of gender-diverse teams due to an increase in the flow of information. It also strengthens the ability of the TMT to scan the environment, preferential access to resources and legitimacy (Ben-Amar, Francoeur, Hafsi, & Labelle, 2013; Hagendorff & Keasey, 2012; Parola, Ellis, & Golden, 2015), and increase in questioning, criticizing, advising, and counselling (Ben-Amar, Francoeur, Hafsi, & Labelle, 2013). Constructive criticism increases awareness of the team members and therefore they would be more likely to propose alternative courses of action. Gender-diverse TMTs are more likely to result in higher returns on investments due to insight and cultural sensitivity brought by the female managers to the table, due to their increased scope of perspectives, and potential ties to different stakeholders in the external environment (De Cabo, Gimeno, & Nieto, 2012). Having women on the TMT is also associated with long term success of the company and sustained competitive advantage, as women add value through their distinctive set of skills (Green & Cassell, 1996), and by creating cultures of inclusion through a diverse workforce. Diversity of directors also brings a variety of skills and heuristics to the boardroom which facilitates effective monitoring of management (Anderson, Reeb, Upadhyay, & Zhao, 2011).

Despite the potential positive effects of TMT diversity on some attributes, several theorists, such as Murray (1989) and Miller et al. (1998), have challenged the notion that TMT diversity is always beneficial and have argued that diversity often comes at the price of social

integration. Miller et al. (1998) proposed that diversity at the upper-echelon level may inhibit rather than promote long-range planning. The cognitive heterogeneity among the executives may increase disagreement which may have two negative effects. First, it may lead to an increase in cost, both in terms of difficulty in coordination (Murray, 1989) as well as excessive utilization of resources in elaborative discussion. Second, it may decrease cohesion and increase communication failure. The added cost and communication failure might impede performance of the executives and lack of cohesion may result in higher levels of dissatisfaction and turnover (Wagner, Pfeffer, & O'Reilly, 1984). This finding is consistent with the literature on team diversity, which has demonstrated that gender diversity can cause issues pertaining to cohesion as well as cooperation and can lead to conflict that may affect decision making of the team (Triana, Miller, & Trzebiatowski, 2013; Webber & Donahue 2001). Also, a heterogeneous team might take longer to make a decision due to multiplicity of choices, as compared to a homogeneous team (Triana, Miller, & Trzebiatowski, 2013). Similarly, Upadhyay and Zeng (2014) suggested that board diversity could cause communication problems among directors, which may affect interactions between the board and external stakeholders such as analysts, bankers, and investors.

While the academic literature documents the impact of the difference between men and women at the individual and group levels on the strategies and performance of the firm, the relationship between gender diversity and firm performance is under researched in the hedge fund activism literature at the moment. However, it is important to investigate this relationship because most of the studies in the past have examined the impact of board/TMT heterogeneity on the performance of the firm (Bantel & Jackson, 1989; Carter et al., 2003; Erhardt et al., 2003; Gupta & Govindarajan, 1984; Krishnan & Park, 2005; Michel & Hambrick, 1992; Murray,

1989). Past research suggests that stakeholders also play a prominent role in influencing organizational performance. It is based on the premise that by managing the interests of all the stakeholders, a firm can create value, which in turn can enhance performance (Berman et al., 1999; Donaldson & Preston, 1995; Freeman, 1984). Since, hedge funds are important external stakeholders and function as TMTs by using their specialized talents to generate economic rents from a unique investment strategy (Grossman, 2005), their interventions can impact the performance of the targeted firms.

Also, understanding whether firm performance can be expected to change with more female board representation is particularly important with the increasing trend to enact laws to increase gender quotas among the top executives. Norway enacted a law in 2003 requiring firms to have 40% female directors by 2008. Similar laws were passed in other European countries, including Spain and France. In U.S., California became the first state to enact a law requiring the companies to have at least one woman on the board (Fuhrmans, 2018; Smith, 2018). Although hedge funds are not mandated by such laws, but in the light of changing business milieu due to the enactment of laws pertaining to gender quota, it becomes important to examine how gender diversity among the hedge fund top management teams can add value to the boardroom of the target firms and thereby enhance returns from activism. It is also essential to explore the relationship between gender of hedge fund executives and performance of the target firms, as past research suggests that demographic variables are likely to be more objective, yield parsimonious explanations of organizational phenomena, and can be easily tested, as compared to cognitive variables (Hambrick & Mason 1984; Pfeffer 1983). Furthermore, it is found that women directors bring in different knowledge, skills, and experience, contribute to better quality decision making, and are more concerned about employee and environmental issues, than male

directors (see Terjesen et al., 2009 for a review). Therefore, their presence on the top management teams of the hedge fund will enhance performance of the targeted firms.

CHAPTER 3 THEORETICAL DEVELOPMENT AND HYPOTHESES

Since Hambrick and Mason's (1984) seminal work on upper echelons, there has been a surge of empirical studies examining the relationship between the characteristics of the top management teams and their impact on organizational processes and outcome. Scholars using this framework have argued that managers' demographic characteristics (e.g., tenure, age, gender, nationality, functional, and educational background) represent proxies for their cognitive orientation and knowledge base (Finkelstein, Hambrick, & Cannella, 1996) and, consequently, influence a variety of organizational outcomes, including performance (Gupta & Govindarajan, 1984; Michel & Hambrick, 1992; Thomas et al., 1991), strategy (Finkelstein & Hambrick, 1990; Gupta, 1984; Wiersema & Bantel, 1992), executive turnover (Wagner, Pfeffer & O'Reilly, 1984), and innovation (Bantel & Jackson, 1989).

One of the earlier issues investigated in this area involves the relationship between TMT gender diversity and firm performance. Hambrick et al. (1996) argue that a diverse TMT is better equipped to observe opportunities and threats in the environment and possesses a broader range of skills and capabilities for effective problem solving and decision making. However, studies examining the impact of TMT gender diversity on firm performance have produced decidedly mixed results (see Terjesen et al., 2009 for a review), with some finding positive (Carter et al., 2003; Erhardt, Werbel, & Shrader, 2003), some negative (Lee & James, 2007; Shrader et al., 1997), and others nonsignificant (Dwyer et al., 2003, Miller & Triana, 2009) relationships, highlighting both the positives and negatives of gender diversity in top management teams. Empirical literature examining the impact of TMT gender diversity on

performance became increasingly equivocal overtime. However, theoretical and empirical evidence suggests the existence of a relationship between TMT gender diversity and firm performance. Extending this line of inquiry, in the present study I examine the role of gender diversity among hedge fund managers on the activism returns.

Since the compelling argument made by Freeman (1984), a number of articles with primary emphasis on the critical role played by the stakeholders in the success of the firm have surfaced. Freeman (1984) suggested that if the stakeholders can affect the determination of the objective of a firm, then the firm's decisions and therefore its performance, is likely to be affected by the activities of the stakeholders (Berman, Wicks, Kotha, & Jones, 1999). Groups typically cited as stakeholders include (but are not limited to) customers, investors, suppliers, political groups, employees, local communities, trade association, and government (Berman, Wicks, Kotha, & Jones, 1999; Donaldson & Preston, 1995). Subsequently, many studies explored the role of stakeholders on important organizational outcomes. For example, Hillman and Keim (2001) found that building better relations with primary stakeholders can lead to development of intangible, valuable assets, which in turn can be the source of competitive advantage and hence, increased shareholder wealth. Similarly, prior research has examined the impact of stakeholder friendly environment on other organizational outcomes, including innovation (Flammer & Kacperczyk, 2015), corporate reputation (Soleimani, Schneper, & Newburry, 2014), sustainability practices (Sharma & Henriques, 2005), organizational learning (Roome & Wijen, 2006) and many more.

Although, the impact of stakeholders on the strategies and performance of the firm have been extensively studied, less frequently studied is the link between demographics of the stakeholders and organizational outcomes. The purpose of this study is to bridge this gap in the

literature by examining the impact of gender of hedge fund activists on activism returns. Activism by hedge funds is the perfect setting to explore this relationship for two reasons. First, hedge fund managers are important stakeholders and they operate like top management teams and their strategies and actions have implications for the performance of the firms they target (Boyson, Gantchev, & Shivdasani, 2017; Boyson & Pichler, 2019; Brav, Jiang, Ma, & Tian, 2014; Cremers, Giambona, Sepe, & Wang, 2015; Greenwood & Schor, 2009). Furthermore, although top-level managers of the target firms are responsible for defining the overall strategic goals and contexts, hedge fund activist's contribution to the strategy process and performance of the target firms is also crucial due to the power and influence they possess either due to acquisition of stakes or board seat in the target firms.

As mentioned above, the findings of the studies examining the relationship between TMT gender diversity and performance have generally been mixed. Consequently, scholars have suggested that intervening or mediating variables between gender diversity and performance must be examined to uncover when and how gender diversity influence performance. In an attempt to explain these contradictory results, I examine the relationship between gender-diverse hedge funds and returns from activism. To fully understand the relationship, I study the intervening factors that can have an influence on activism return when the campaigns are initiated by gender-diverse hedge funds versus all-male hedge funds. Thus, I explore the influence of target firm and activists level characteristics on the relationship between gender diversity among hedge fund executives and activism return. Taking the upper-echelons perspective, this study examines the effects of gender heterogeneity among the hedge fund activists on perception of the stakeholders and actions of the activists and on ensuing value creation for the shareholders of the target firms. I expect that gender heterogeneity, a central

construct in the literature on top management, would be important in influencing the perception of the stakeholders and actions of the activists.

In this study, I focus on whether gender-diverse hedge funds are perceived differently by the managers of the target firms and other stakeholder and whether they act differently as compared to all-male hedge funds, i.e., whether they employ aggressive tactics to pose their demands or target 'value' firms, because prior research shows that these variables are important predictors of firm performance. It has been found that activism that elicits support from other stakeholders and leads to formation of wolf pack, i.e., when activists are joined by other hedge funds in coordinated efforts, generates higher returns (Wong, 2020). Past research also demonstrates that the response from the managers of the targeted firms can have impact on the returns from activism (Boyson & Pichler, 2019). Furthermore, research has both theorized and empirically found that aggressiveness, i.e. tactics which include open criticism and opposition of the firm's ongoing strategic initiatives, threats and initiation of proxy fights, lawsuits, and tender offers, can lead to changes in the governance and strategy of the target firms that improve firm performance (Boyson & Pichler, 2019). Similarly, past research indicates that activism can generate higher returns when activists target firms with underutilized resources and engage in the sale of the target firm and bring change in the business strategy (Brav et al., 2010). In the following sections, I present arguments for why gender diversity among hedge fund managers influence both perception of the stakeholders and actions of the activists, and ultimately firm performance.

Hedge fund gender diversity and returns from activism

Although several studies have examined the relationship between gender-diverse TMT and performance, findings are not conclusive (Terjesen et al., 2009). Extant theories imply that

there are two opposing predictions regarding the impact of TMT gender heterogeneity on firm performance. On the one hand, prior research has suggested that gender-diverse teams will have a positive impact on the performance of the firm for two reasons. Women who reach the top positions are better than men, as they have to face more challenges to climb the ladder, as compared to men. Therefore, they are more likely to have better qualification, skills, and experience than men and hence would be put into different cognitive category than average women. This difference between men and women would translate into higher performance. Second, increased team diversity will bring diverse information, knowledge, experience, and perspectives, which in turn will impact the problem-solving and decision-making skills of the team and hence, the performance (Cox & Blake, 1991).

On the other hand, a number of studies have shown that gender-diverse teams will have a negative impact on the performance of the firms, as women who occupy senior positions, are likely to face greater scrutiny and criticism due to role incongruity i.e. not conforming to the stereotypical attributes and behavior and therefore would be treated differently, which will negatively impact the performance. Also, diversity in member attributes can disrupt effective communication and cohesion and can increase tension and conflict which might result in lower performance. There is also a third perspective on the relationship between gender-diverse teams and performance. There might be no influence of gender diversity of teams on the performance, as women who are promoted to leadership positions in an organization are not average women and are no different than men in terms of qualifications and experience and therefore would act and behave very similar to male executives and would be perceived in a similar way, leading to no significant difference in performance.

The presence of these conflicting arguments on the relationship between team diversity and performance limits our abilities to understand when and how team diversity influence performance outcomes. To address this limitation, I examine the relationship between gender diversity among hedge fund executives and performance of the target firms by developing my theoretical arguments around two questions: 1) Are female hedge fund managers better than male managers in decision-making and contribution to activism? 2) Are gender-diverse hedge fund teams perceived better by other stakeholders and therefore are supported more?

Appointment of women to the senior positions has not been found conducive to the effective functioning of the organizations. For example, Ahern and Dittmar (2012) found that firm value decreased following the introduction of the new law requiring 40% of Norwegian firms' directors to be women. The negative association between TMT gender heterogeneity and organizational performance can be explained by the dynamic interplay between macro and micro theories. Gender role theory demonstrates that women are different from men in terms of traits and personality, which negatively impacts their performance. For example, women are generally found to be more risk averse (Eckel & Grossman, 2008) and less keen on being exposed to competition (Gneezy, Niederle, & Rustichini, 2003). This is because they are considered to possess more communal qualities (e.g., affectionate, warmth, nurturance) rather than agentic qualities (e.g., competent, confident, assertive) (Cejka & Eagly, 1999; Schein, 1973). The finding on the negative impact of gender stereotypes on the performance of women is consistent with arguments from resource based view, which contends that due to negative stereotypes, women lack social and organizational support (Cook & Glass, 2014) and therefore are less likely to receive organizational information and help from others (Taylor, 2010). Their lack of control over critical organizational resources have a negative impact on their performance.

The impact of gender differences on performance can also be explained from inclusiveness literature perspective. Richard, Kirby, and Chadwick (2013) found that women are more likely to have a positive impact on performance when the organization encourages and values their contribution. However, female managers are considered less capable to run the organization as compared to male managers (Carton & Rosette, 2011; Rosette, Leonardelli, & Phillips, 2008). Therefore, female managers feel excluded, which in turn negatively impacts their performance. It is further argued that even if female managers possess equal qualification, experience, and expertise as male managers, they are often subject to excessive scrutiny, their differences from male managers are emphasized and exaggerated, and their positive attributes are distorted (Bilimoria & Piderit, 1994). This limits their probability of success (Kanter, 1977).

The difference between female and male managers not only exists at the individual level. A range of micro and macro theories converge together to demonstrate that the difference remains at the team level too. Past research suggests that gender-diverse TMTs might not be perceived as being better than all-male TMTs. Upper echelon theory supports this assertion. Applying upper echelon perspective, Murray (1989) argued that diversity increases the problems of social integration, as diverse TMTs are more difficult and costly to coordinate. TMT heterogeneity also pose other challenges, including communication difficulties among executives, less effective executive decision-making, and less positive organizational outcomes (Miller, Burke, & Glick, 1998; O'Reilly, Snyder, & Boothe, 1993). The negative performance outcomes of the presence of women in TMT can also be explained by social categorization theory. According to this theory, various demographic variables contribute to social categorization, as individuals positively see the groups with which they identify (Tajfel, 1974) and then assign themselves and others to different categories (Hogg, 1996). This might result in

intergroup bias. Under this situation, demographic diversity is negatively related to team performance (van Knippenberg et al., 2004). Applying this argument in the context of TMT gender diversity, one may say that if addition of women on TMT leads to social categorization and intergroup bias, it might adversely impact the performance.

Ineffectiveness of gender-diverse TMTs can also be explained by the limited experience of women in leadership positions (Abdullah, Ismail, & Nachum, 2016; Dargnies, 2012). Generally, women face major physical and psychological barriers to advancement to the top levels of the organization (Krishnan & Park, 2005), including lack of opportunities (Ragins, Townsend, & Mattis, 1998). This is because firms are less willing to invest in women due to the perception that they will be less committed to the organization because of family responsibilities (Graddy & Pistaferri, 2000), including anticipated child bearing (Goldin & Polachek, 1987). Due to this, women usually have limited experience and acquire less human capital and firm-specific skills required to perform senior roles (Ragins, Townsend, & Mattis, 1998), which in turn adversely impact the performance outcomes of a gender-diverse team. Gender-diverse teams are also perceived as less valuable in the workplace (Ostroff & Atwater, 2003), as women are generally not perceived to possess qualities such as leadership ability, self-confidence, objectivity, and ambition, which are essential for success in management positions (Schein, 1973).

Further, even if women manage to climb up the ladder, there is a difference in the ways in which actions and behavior of men and women at senior roles are evaluated (Case, 1993). Women are evaluated negatively when they behave autocratically in senior roles because of role incongruity, which poses restrictions on their success (Jago & Vroom, 1982; Nieva & Gutek, 1980). Additionally, qualification and experience of women are usually discounted and they are

perceived to be incompetent for senior level jobs, as it is assumed that women are hired not because of their qualification or experience, but simply as 'tokens' or window-dressing, i.e. they are appointed by the firms to fulfill gender quota requirements or due to the specific efforts of the firm targeted at hiring from a demographic group (Heilman, Battle, Keller, & Lee, 1998; Heilman, Block, & Lucas, 1992).

Also, past research suggests that the benefits of gender diversity on performance largely depends upon the actual number of women on the TMT, rather than just their mere presence. Researchers have argued that a certain percentage of representation from a particular minority group is required to have their positive impact on performance. While some studies found that 'a paired minority composition', i.e., presence of two women in an all-male dominated teams (Laughlin, 1999), will have a positive influence on performance, as the paired minority would form coalition with the non-minority members and affect the functioning of the team (Kanter, 1977). Others have suggested that a 'critical mass', which is predicted to be about thirty percent (Cohen, Broschak, & Haveman, 1998), is the ideal number to ensure increase in the performance of the team on account of gender heterogeneity. Scholars have argued that minority members less than 2 or any number that is less than the critical mass would not make any difference on performance (Kramer, Konrad, Erkut, & Hooper, 2006), as they will either be less active overall or their actions will predominantly favor the minority groups rather than directed towards improving the performance of the team. This in turn will negatively impact the outcomes of the team.

Taken together, the literature review indicates that TMT gender heterogeneity is more likely to have negative impact on organizational performance. Based on the arguments presented above, I propose that there is a negative relationship between gender-diverse hedge funds and

returns from activism. Although, literature on activism generally demonstrates a positive relationship between hedge fund activism and returns (e.g., Boyson & Mooradian, 2011; Boyson et al., 2016; Klein & Zur, 2009; Krishnan et al., 2016; Zhu, 2013), some studies (e.g., Becht, Franks, Mayer, & Rossi, 2008; Brav, Jiang, Partnoy, & Thomas, 2008; Greenwood & Schor, 2009; Klein & Zur, 2011) found that activism fails to improve the performance of the target firm. The argument is that activists engage in actions that are profitable in the short run, force the management of the target firms to fulfill the quarterly targets, and deliberately cut the expenses that reap benefits in the long run, such as research and development expenses or capital expenditures (Bebchuk, Brav, & Jiang, 2015).

In this study, I propose that the negative impact of activism on shareholder returns will be impacted by gender-diverse hedge funds. This is because female hedge fund managers might not be as effective as male hedge fund managers in their decision-making pertaining to activism for two reasons. First, as stated above, confrontational activism approach is more likely to generate positive returns, as compared to collaborative approach. However, research on gender diverse teams demonstrate that gender diversity is somewhat antithetical to such adversarial engagement (Adams, 2016), as gender role theory ascribes women as more communal (caring and kind) (Eagly & Karau, 2002). This in turn would negatively impact activism returns. Also, due to the communal nature of the women hedge fund managers, they would be more likely to encourage long-term investment, i.e. investment in research and development and refraining from restructuring of assets, and would be more committed to preserve stakeholder ties, actions not conducive to activism returns.

Second, due to the underrepresentation of women at hedge funds, they might not have the required expertise and skills to perform at the senior roles and therefore their presence on the

hedge fund teams might negatively impact activism returns. The percentage of women employed by hedge fund managers worldwide was 19.3% in 2019, with only 11 percent of women hedge fund employees holding senior positions, while 29 percent were holding junior positions (Williamson, 2019). Women have limited experience both in senior as well as junior positions in hedge funds. Therefore, their presence might adversely impact the effectiveness and decision-making of the hedge fund teams.

Social categorization theory can also be applied to explain the negative impact of the presence of women hedge fund managers on the return from activism. Gender diversity among the hedge fund managers can lead to identification of hedge fund managers with a particular group and assigning of individual managers to different gender groups. This may result in formation of intergroup bias within the hedge fund teams, which would adversely impact the decision-making skill of the team and hence, their actions. The difference in actions of the female hedge fund managers on account of gender differences, lack of experience, and formation of intergroup bias can lead to actions which might lower returns from activism.

I further propose that gender-diverse hedge fund teams might not get adequate support from stakeholders, including managers of the targeted firms, as they might not be perceived as being as effective as all-male hedge fund teams. This negative perception would lead to lower performance consequences. Although, hedge funds are traditionally male-dominated fields (Jones, 2015), some women are still able to make it to the senior management positons in hedge funds. Since these women are not appointed just to ensure gender diversity quota at the top management level, as hedge funds are not highly regulated unlike public corporations, they might be as good as male hedge fund managers in terms of qualification and skills. Despite that these women managers may still be stereotyped as being incompetent. This is because in a male-

dominated field, the presence of women may appear less usual or natural and, thus, regardless of their actions, women hedge fund managers would be perceived as a bad fit for the position.

Furthermore, leadership literature demonstrates that agentic male attributes are considered more aligned with leadership roles than are communal female attributes (Eagly & Karau, 2002). Thus, women in leadership positions may seem 'inappropriate' when they display the agentic behaviors often required in these roles, especially in 'all boys' clubs' such as hedge funds (Jones, 2015). The gender stereotyping results in role incongruity and women, therefore, receive greater scrutiny and criticism than men and are evaluated less favorably, even when they perform exactly the same leadership roles as men (Ryan et al., 2005). Thus, the reactions by other stakeholders pose challenges for gender-diverse teams in eliciting favorable manager response and stakeholder support for activism, thereby undermining their effectiveness, and reducing returns from activism.

In sum, I argue that gender-diverse hedge funds would be less effective due to difference in the actions on account of stereotypical attributes of women managers, i.e., they will be less aggressive, they possess inadequate experience due to lack of exposure to the senior roles, and formation of intergroup bias is inevitable. This would adversely impact their decision-making and contribution to activism. Also, gender-diverse hedge funds would face greater scrutiny and criticism on account of role incongruity and therefore would get less support from various stakeholders, i.e., managers of the targeted firms may not be as responsive of the female hedge fund managers as they are of male hedge fund managers and other stakeholders might be less willing to coordinate with them. These arguments lead to my first research hypothesis:

H1. Gender-diverse hedge funds have lower returns from activism as compared to all-male hedge funds.

Managerial resistance

When a firm is targeted by a hedge fund activist, the firm management faces a decision: they can ignore, negotiate with, accept, or resist the demands of the activist. Sometimes managers of target firms engage in actions such as decreasing capital expenditure or increasing incidence of asset divestitures, restructuring or layoffs, following intervention by hedge funds (Denes et al., 2017). By doing so, managers of target firms strategically try to counter pressure from the activists (David, Bloom, & Hillman, 2007). When the managers negotiate or accept the demands of the activists, the activism is deemed to be successful. However, if the managers of the targeted firms decide to ignore the demands, reject the demand out right, or resist the demand, then the campaign ends up being unsuccessful in most of the cases.

Rehbein et al. (2013) grouped the types of response of the targeted firm to shareholder resolutions under four categories: omission response, let-it-go-for-the-vote response, acquiescent response, and dialogue response. Under omission response, managers of the targeted firms seek for 'no-action letter' from U.S. Securities and Exchange Commission (SEC). If SEC issue the letter, the managers can omit the resolution from its proxy statement (Rehbein et al., 2013). However, if the managers choose not to address the demands and could not omit the resolution, then they opt for let-it-go-for-the-vote response, wherein the resolution is printed on the proxy statement and is sent to all the shareholders to vote in the company's annual meeting (Rehbein et al., 2013). The managers of the targeted firm can also request the activists to withdraw the resolution by agreeing to acquiesce to their demands, either partially or completely (Rehbein et al., 2013). Finally, the managers can also engage in 'dialogue' with the activists, wherein both the parties, including managers of the targeted firms and activists, agree to engage in ongoing communication to deal with the issues (Logsdon & van Buren, 2009; Rehbein et al., 2013).

Resistance by managers neutralizes the influence of activist hedge funds, thereby avoiding governance and strategy adjustments that can potentially enhance performance following activism. Past research on shareholder activism has stated various factors that influence the decision of the managers to accept, reject, or resist the demands of the activists. For example, Bebchuk et al. (2015) argued that managers usually resist the demands when the activists employ collaborative approach. The managers may also resist when investors attempt to remove them from their jobs (Brav, Jiang, Partnoy, & Thomas, 2008; Greenwood & Schor, 2009) or in order to preserve their autonomy (Westphal, 1998). Extending this argument, recently, Boyson and Pichler (2019) suggested that managers resist demands of the activists, when they have concerns about salary/ job security, reputational damage, or changes to board. The authors further added that target managers are more likely to engage in hostile resistance when the activist wants to buy the target or have high ownership or when they engage in a proxy fight or file a lawsuit.

Despite extensive research on managerial response to the demands of the shareholder activists, this field of research has failed to explore the influence of the composition of hedge fund team on the response of managers to the demands of the activists. The purpose of this study is to fill this void by examining whether the relationship between gender-diverse hedge funds and activism returns is influenced by the perception of the managers of the target firms towards activism campaigns initiated by gender-diverse hedge funds. Specifically, the question of interest is whether gender-diverse hedge funds fail to garner support from the managers of the target firm.

I propose that gender-diverse hedge funds would be perceived by managers of the targeted firms as being less effective. Therefore, gender-diverse hedge fund teams would face

more resistance from the managers, as compared to all-male hedge fund teams, which would negatively impact the returns from activism. There are two reasons to support this assertion. First, due to stereotypical differences between men and women, women are perceived to possess communal traits, and they usually score less on managerial attributes such as aggression, leadership, risk-taking, etc. Female hedge fund managers may also be considered demographically different from the population due to their lower representation. Therefore, managers of the target firm may believe that they have more discretion to decide whether and how to respond to the demands of the gender-diverse hedge funds. Also, diversity in member attributes can disrupt effective cohesion in the team and can increase tension and conflict which might impact the effectiveness of the team as a whole. Moreover, the presence of women in the senior positions will lead to role incongruity, i.e., not conforming to the stereotypical attributes and behavior and therefore the gender-diverse teams would be treated differently. Due to lack of cohesion and role-incongruence, gender-diverse hedge fund teams may be perceived by the managers as being less effective and therefore the managers may be less responsive towards them, as compared to all-male hedge fund teams.

The positive relationship between hedge fund gender diversity and resistance from the managers of target firms, i.e., gender-diverse hedge funds are less likely to gain positive managerial response, can be explained by both micro and macro theoretical lenses. In this study, I assert that women hedge fund managers are perceived to be less effective than male hedge fund managers and therefore they will face more resistance from the managers of the targeted firms. This is because of the stereotypical differences between men and women. Gender stereotypes consider men to be agentic (aggressive and confident) and women as more communal (caring and kind) (Schein, 2001). Past research demonstrates that managers often resist activists'

influence in order to preserve their autonomy (Westphal, 1998) and safeguard their salaries and job (Boyson et al., 2017; Boyson & Pichler, 2019). As women are more communally-oriented, the managers may feel less threatened to lose their jobs or autonomy. Thus, they may think they can get away with doing less when hedge funds are led by females than when they are led by males. Hence, they will ignore the demands of gender-diverse hedge funds.

The nature of response of the manager towards female hedge fund activists can also be explained using token status theory. According to this theory, majority members in the organization are usually uncomfortable with the members who are demographically different from the broad population of employees (Pfeffer, 1983) and this dissimilarity may hinder cooperation among the majority members and demographically different members (Tolbert & Oberfield, 1991). Similarity-attraction paradigm (Byrne, 1971; Byrne & Neuman, 1992) similarly argues that people are more attracted to and thereby prefer to be associated with people whom they see as similar to themselves, which in turn leads to interpersonal attraction and agreement (Graves & Powell, 1995). Although, in the last decade we have seen prominent appointments of women to top levels of hedge funds such as Michele Krieger of BeaconLight Capital, Stephanie Darling of Bulldog Investors, Lorelei Martin of Jana Partners, and Kathleen F. Crane of Karpus Investment Management, women still remain significantly underrepresented at the top of the corporate hierarchy of the hedge funds. Due to their lower representation, female hedge fund managers will be viewed as different from the population and hence, managers of the targeted firm would be more resistant towards them.

Many other micro and macro theories can explain why gender-diverse hedge fund teams might gain less response from the managers of the targeted firm. The leadership literature suggests that gender stereotyping might result in role incongruity as agentic male attributes are

considered more aligned with leadership roles than are communal female attributes (Eagly & Karau, 2002), especially in traditionally male-dominated fields such as hedge funds (Jones, 2015). Thus, even if female hedge fund managers' actions do not conform to stereotypical communitarian attributes, they may be stereotyped by the managers for performing a managerial role that is incongruent with their gender, and will therefore receive greater scrutiny and criticism than male hedge fund managers, and would be evaluated less favorably (Ryan et al., 2005). Also, gender-diverse hedge fund teams might fail in eliciting favorable managerial response as women might not be considered as competent as men and this might lead to gender-related evaluation bias. Status characteristics theory provides support for this assertion. According to this theory, people form expectations about the competence of others based either on information about their past performance or inferences drawn from the status value assigned to them (Berger, Fisek, & Norman, 1998). Since women managers are usually considered to have a lower status in society (Glick & Fiske 1996; Ragins & Sundstrom 1989), they might be considered as less competent even when performing exactly the same leadership roles as men. Hence, managers of the target firms would be more likely to resists to the demands of the gender-diverse hedge funds.

Further, several theories support the argument that gender-diversity among the team members negatively affect the cohesion among the members (Milliken & Martins, 1996; Watson, Kumar, & Michaelson, 1993) and hence, the decision-making. Applying upper echelon perspective, Murray (1989) argued that diversity among the team members increases the problems of social integration and might pose other challenges, including communication difficulties among executives and less effective executive decision-making (Miller, Burke, & Glick, 1998; O'Reilly, Snyder, & Boothe, 1993). Similarly, TMT behavioral theory suggests that

mutual and collaborative interaction among the group members will lead to effective information exchange, collaborative behavior, and joint decision-making (Hambrick, 1994, p. 188). However, past research indicates that diversity among TMT may lead to lower behavioral integration among the members, resulting in an increase in discomfort and distrust and decrease in collaboration among members of the group (Jackson et al., 1991). Therefore, gender-diverse hedge fund is more likely to have lower behavioral integration and cohesion, which may negatively impact their decision-making skills. Ineffective decision-making due to lack of cohesion among the gender-diverse hedge funds might lead to setting of demands not deemed to represent sufficient progress in the target firms. Under such circumstances, managers of the target firms would be less responsive towards the demands of the gender-diverse hedge funds.

In sum, I hypothesize that managerial resistance would be high towards gender-diverse hedge funds as compared to all-male hedge funds. This is because managers might stereotype women as more communal and less aggressive and therefore may believe that they need not have to be responsive to the requests of the activists. Further, due to lower representation, female hedge fund managers will be viewed as different from the population and hence, would be resented more. Finally, gender diverse teams might be perceived by the managers as being less effective due to lack of cohesion and role-incongruence, and therefore managers may not respond positively to the demands of gender-diverse hedge funds. These arguments lead to my second hypothesis:

> ***H2. Gender-diverse hedge funds are more likely to face resistance from the managers of the target firms as compared to all-male hedge funds.***

Shareholder support

Hedge fund activism is more likely to elicit change when it is supported by other shareholders. One way to gain support is when activists are joined by other hedge funds in

coordinated efforts, termed "Wolfpack" attacks, that have been shown to be more successful in disciplining managers (Becht et al., 2017; Wong, 2020). Coffee and Palia (2016) defined wolf packs as, "a loose network of activist investors that act in a parallel fashion, but deliberately avoid forming a "group" under Section 13(d)(3) of the Securities Exchange Act of 1934." Activists can also gain support from proxy advisory firms. Proxy advisory firms provide advice to institutional investors about how to vote on proxy issues such as proxy contests, board elections, and shareholder proposals (Valentini, 2018). Institutional investors often follow the lead of proxy advisors in their voting (Valentini, 2018). Hedge funds are more likely to succeed in their proxy bids and getting their director nominated if they get support from proxy advisory firms.

Wolfpack activism is premised on the likelihood that other shareholders follow the lead of activists. Gonzalez and Calluzzo (2019) highlighted two important characteristic of wolf pack activism. First, wolf pack activism is more prevalent against larger firms and among geographically proximate activists. Second, wolf pack activism creates more value, than solo activism, a finding also supported by other research scholars (Becht et al., 2017). Wong (2020) suggested that a wolf pack can be formed when investors who are willing to accumulate shares and support the campaign are recruited before the campaigning is formally announced through 13D filing or the formation can be spontaneous when investors independently monitor and target the same firms at about the same time.

Although past research has investigated the antecedents and consequences of wolf pack activism, little is known how the composition of hedge fund teams influence the formation of wolf pack. The purpose of this study is to address this important gap in the literature on activism. Specifically, the research question that I explore through this study is whether the demographic

composition of the hedge fund teams based on gender support or restrain the formation of wolf pack. I propose that gender-diverse hedge funds would fail to garner 'wolf pack' support, particularly when gender diversity leads to stereotypical biases or less networking in the field. Also, presence of women on the hedge fund teams would be perceived negatively due to the perception that leadership often requires stereotypically masculine gender traits and women lack such traits. Furthermore, since women have limited experience in leadership roles, their performance could not be compared and hence, they are usually viewed as riskier by the shareholders. Hence, gender-diverse hedge fund may face barrier in eliciting coordinated support.

Gender diversity among the hedge fund managers can reduce the likelihood of coordinated 'wolf pack' support for activism. This assertion is supported by gender stereotype and networking theories. Gender stereotyping literature suggests that women are perceived negatively when they acquire senior titles, due to the presence of nonconscious gender biases (Greenwald & Banaji, 1995; Heilman et al., 1989). Nonconscious gender biases are triggered as a result of the assessment based on the perception that leadership often requires stereotypically masculine gender traits (Powell & Butterfield, 1989; Schein, 1975), including power, authority, and control (Abdullah, Ismail, & Nachum, 2016), and women lack such traits. Furthermore, negative perception of the shareholders against women as leaders might not only be the result of their own attitude, but might be due to their assumption that other stakeholders are likely to be biased against women in top positions (Cook & Glass, 2011). Also, rarity of female appointments on TMT reduces precedent on which the performance of the female managers can be compared (Lee & James, 2007), thereby increasing perceived risk associated with their

employment on TMTs (Abdullah, Ismail, & Nachum, 2016). Hence, women hedge fund managers may not be able to elicit adequate support from other stakeholders.

Similarly, social identity theory suggests that females are less networked (Brass, 1985) and therefore they may face barriers in eliciting coordination. According to this theory, managers consider themselves and others as members of either in- or out-group based on demographic variables such as age, gender, and race (Kent & Moss, 1994; Tajfel & Turner, 1986). Women are usually considered out-group TMT members, as they face major hurdles on their way up in organizations (Eagly, 2007), including lack of job and training opportunities. However, when they manage to reach the TMT level, they are usually not part of the networks that male executives are (Krishnan, 2009). Due to their perceived belongingness to the out-group and exclusion from elite networks, female hedge fund managers find it difficult to elicit support from fellow hedge funds and other stakeholders. Similarly, social network literature can be used to explain why female managers are less likely to form association with other stakeholders. Social networks are the system of relationships for mobilizing resources and acquiring power (Brass, 1985). Women are considered to hold a less central position than men in networks in which power resides and resource allocation decisions are made (Ostroff & Atwater, 2003), as they do not possess the relevant experience, training, and endorsement. Therefore, the groups in which females are present may receive less support for their arguments and requests for resources and alliances (Hultin & Szulkin, 1999; Ibarra, 1993).

In sum, I hypothesize a negative association between gender-diverse hedge funds and 'wolf pack' support. Because of stereotypical biases against women, perceived risk due to lack of experience, and belief that other hedge funds would also not form association with gender-diverse hedge fund, gender-diverse hedge funds may face barrier in eliciting coordinated support.

Furthermore, since women hedge fund managers are less networked in the field as they are considered out-group members and they do not hold central position in the networks in which power and resources reside, they may have lower "followership". These arguments lead to my third hypothesis:

> ***H3. Gender-diverse hedge funds are less likely to garner support from other shareholders/form a wolf pack as compared to all-male hedge funds.***

Hedge fund aggressiveness

The literature on shareholder activism emphasizes two major kinds of approaches to activism: confrontation and collaboration. The confrontational form of activism, also called hostile interventions, usually includes aggressive means such as proxy fights, lawsuits, hostile offers/takeover, and in the extreme case selling of the company (Aslan & Kumar, 2016; Boyson & Mooradian, 2007; Boyson & Pichler, 2019; Brav et al., 2008; Gantchev, 2013; Klein & Zur, 2009). This form of activism is generally adopted by the activists to raise their demands or to put pressure on the management of the target firm. Under the collaborative form, activists engage in passive means, such as direct negotiation and seeking seat on the board, with an aim to work together with the management to bring improvements in the targeted firms.

Firms resort to a confrontational approach to activism, commonly known as aggressive activism, for two reasons. First, past research suggests that the management of the target firms are more likely to acquiesce to the demands of the activists who adopts hostile tactics, so activist generally chooses a more hostile tactics when the less confrontational approaches fail (Brav et al., 2010; Gantchev, 2013). Second, hostile engagements have larger abnormal returns as compared to non-hostile engagements (Brav et al., 2008; Greenwood & Schor, 2009). Prior research has shown that hedge funds are aggressive in their activism tactics (Bessler et al., 2008). They buy large stakes, file 13D proposals signaling activist intent, and make demands for change

(e.g., to sell company, sell assets, reduce costs, raise dividends, and provide activists with representation on the board). Such aggressive tactics provide them with influence over managers of the targeted firms and enable changes to governance and strategy that enhance performance following activism.

In this study, I examine the difference in actions between gender-diverse hedge fund and all-male hedge fund teams in their propensity to engage in aggressive forms of activism, which leads to difference in activism returns. Specifically, I argue that gender-diverse hedge funds are less likely to employ aggressive form of activism due to individual differences between male and female hedge fund managers in their risk-taking behavior. Further, there are differences in their purpose and period of investment in addition to stereotypical differences which ascribe women as more communal and nurturing and less agentic, which in turn negatively influence the likelihood to engage in hostile interventions. The reluctance of gender-diverse hedge funds to engage in confrontational activism may have an adverse impact on returns from activism.

Building on literature on gender differences, I argue that female hedge fund activists are less effective than male hedge fund activists in their decision-making related to activism due to difference in their risk-taking and investment behavior and therefore they would be less likely to engage in aggressive form of activism. Using gender difference lens, researchers have argued that men and women differ in their risk attitude and trading behavior. This line of research demonstrates that women are generally more risk averse (Jianakoplos & Bernasek, 1998; Martin, Nishikawa, & Williams 2009) and less confident in trade and investment (Barber & Odean, 2001; Cumming, Leung, & Rui 2015), as compared to men. Although adversarial interventions by the activists are more helpful in putting pressure on the managers of the targeted firms to implement the suggested changes, these interventions are usually viewed as costly and disruptive

(Bebchuk et al., 2015). Gantchev (2013) estimates that the average US public activist campaign that reaches the confrontational level of a proxy fight costs $10.5 million. Since women are portrayed as conservative in their trade and investment behavior, they would be less likely to engage in aggressive interventions.

Gender difference literature further demonstrates that men and women are different in their investment horizons, i.e., investment time (long-term vs short-term). The researchers contend that while men trade more often to earn short-term returns, women apply a long-term approach, called "buy and hold" while trading (Barber & Odean, 2001). This difference between men and women can influence the decision of the hedge fund activists to engage in hostile interventions. Prior research suggests that the aggressive form of activism has a shorter investment horizon (Brav et al., 2008), as compared to a collaborative form. For example, Boyson and Mooradian (2007) showed that for hostile events, the average duration of activist hedge funds' investment is 496 days, while for non-hostile events the average duration is 773 days. Activists usually engage in short investment horizon as it increases short-term prices (Bebchuk et al., 2015). Therefore, if male hedge fund managers engage in trade behavior portrayed by gender literature to earn short-term returns, they will be more likely to engage in aggressive forms of activism, whereas female hedge fund managers would be more willing to employ collaborative form of activism, which emphasize long-term investments.

The difference between gender-diverse hedge funds and all-male hedge funds in their willingness to employ aggressive tactics can also be explored using gender stereotype literature. Drawing on gender role theory, researchers have argued that women have different stereotypical traits as compared to men (Abdullah, Ismail, & Nachum, 2016). Gender role theory holds that people form stereotype-driven judgments about men and women based on the socially

constructed roles. According to this theory, men are viewed to possess agentic traits due to their longer employment history and more participation in leadership roles (Bosak, Sczesny, & Eagly, 2008). Therefore, they are expected to engage in actions that improve their hierarchical position and influence and exert dominance (Eagly, 2009). On the contrary, women are ascribed to have communal characteristics due to greater domestic responsibilities and more participation in roles requiring service to others and social skills (Cejka & Eagly, 1999; Schein, 1973). Therefore, they are expected to engage in actions which facilitate interpersonal relationships and cooperative interdependence with others (Eagly, 2009). If these stereotypical differences between men and women are manifested at the team level, a gender-diverse team is expected to display communal and nurturing traits and therefore would be less likely to engage in aggressive behavior.

In sum, if the actions of female hedge fund managers are influenced by individual-level differences, i.e., more inclined towards risk-aversion and long-term investment, or if they engage in gender-stereotypical behavior, i.e., displaying communal and nurturing traits, gender-diverse hedge funds will be associated with less aggressive tactics, thereby generating lower returns from activism. These arguments lead to my fourth hypothesis:

> ***H4. Gender-diverse hedge funds are less aggressive in their tactics as compared to all-male hedge funds.***

Activism targets

Hedge fund activism is most effective in creating value in target firms that fit a specific set of attributes (Denes et al., 2017). It has been suggested that "activism targeting purely capital structure or corporate governance-related agendas earns relatively low returns...activism that facilitates efficient reallocation of capital in the target firms has the highest potential for shareholder value improvement" (Brav et al., 2010, 2015). Hedge fund activism is more likely to generate returns when they target the "right" set of firms, i.e., those with underutilized resources,

tangible and intangible assets that can be restructured or sold off, employees who can be laid off, R&D that can be cut, and patents that can be sold off for a profit (Brav et al., 2010, 2015). Empirical work supports this assertion. For example, Brav et al. (2008) and Clifford (2008) found that firms performed better in the year following activism due to refocusing or spinning off noncore assets. Similarly, the results of the study conducted by Gantchev, Sevilir and Shivdasani (2018) indicate that activist targets are about 25 percent more likely to engage in divestitures in the three years after activism, as divestitures generate higher announcement returns in both short- and long-term periods.

Although hedge fund activists would be more likely to gain higher returns when they target "value" firms with the "right" characteristics, gender-diverse hedge funds might be less interested in targeting such firms. Research on gender diverse teams provides evidence that gender diversity is more closely related to fostering long-term investments, reducing the likelihood of employee layoffs, and enhancing commitment to stakeholders through higher corporate social performance to nurture and preserve ongoing stakeholder ties, proclivities that are antithetical to obtaining returns from activism. However, a contrary view is presented in the gender diversity literature which offers two arguments suggesting that increased team diversity would be positively related to the likelihood to target 'right' firms, which in turn will positively impact the activism returns. First, increased gender diversity in the team would provide a wide range of perspectives, knowledge, and expertise and will improve the critical decision-making skills of the team. Second, women who reach the senior roles would break the stereotypical biases and would act like men, i.e., would engage in restructuring of assets by returning cash and selling off underperforming assets. Despite the presence of conflicting arguments regarding the relationship between gender diverse teams and their likelihood to target firms with the 'right'

characteristics, i.e., with under-utilized assets and resources, there is no study that investigated this relationship. I address this lack of research by examining whether gender-diverse hedge funds target the "right" set of firms, i.e., value creating firms.

Literature on gender differences and stereotypes can be effectively applied to advance the understanding of why gender-diverse hedge funds are less likely to target the 'value' firms and how this action results in lower returns on activism. Gender stereotypes describe women as more communal-oriented (Eagly, Johannesen-Schmidt, & van Engen, 2003), i.e., more caring, empathetic, and hence more concerned about other stakeholders (Boulouta, 2013). Therefore, they would be less inclined to target firms where restructuring might benefit shareholders at a cost to other stakeholders. As gender-diverse teams are less inclined towards restructuring, they may be less likely to target the "right" firms, i.e., "value" firms that are most amenable to gain higher returns, and more likely to target the "wrong" firms.

Conversely, all-male hedge fund teams are less empathetic (Oakley, 2000), and therefore more concerned with maximizing shareholder value, even when restructuring might harm other stakeholder groups, and are therefore more likely to target "value" firms that have the highest shareholder value improvement potential. Furthermore, gender differences in frequency of trade can also help to understand why all-male hedge funds would be more likely to target the 'value' firms. Barber and Odean (2001) found that while men trade more often, women apply a long-term approach, called "buy and hold", while trading. Literature on activism demonstrates that strategic changes by hedge fund activists, such as increasing restructuring or selling off assets or the firm as a whole, result in short-term returns (Brav, Jiang, Partnoy, & Thomas, 2008; Clifford, 2008; Greenwood & Schor, 2009). Since men engage in frequent trading, managers of all-male hedge funds would be more interested in engaging in actions that would result in short-term

returns, including restructuring or selling off assets. Therefore, they would seek the firms having underutilized assets. By doing so, they would be targeting the 'value' firms.

In sum, while female hedge fund managers would be less likely to target the 'value' firms as they are more communal-oriented and hence would be concerned about all the stakeholders, male hedge fund managers would be more concerned with maximizing shareholder value even at the expense of other stakeholders and would engage in restructuring to take advantage of short-term returns. Hence, gender diversity will reduce the propensity of the hedge fund teams to target the 'value' firms. Collectively, these arguments lead to my fifth and final hypothesis:

H5. Gender-diverse hedge funds are less likely to target 'value' firms as compared to all-male hedge funds.

CHAPTER 4 METHODOLOGY

Data

My data collection on activism campaigns comprises of a two-step process. In the first step, I used the Activist Insight database, a private database, to identify all activist campaigns initiated by hedge funds for the period from 2010 to 2017. Since Activist Insight identifies whether the campaign is initiated by hedge fund activists or other institutional investors, it was easier to exclude campaigns not initiated by hedge funds. However, I manually cross-checked the type of activist for each campaign by searching the activist's name on various databases, such as Bloomberg. For every activist campaign, this database provides information on 13D filing dates, name of the hedge fund activists, name of the target company, demand date, percentage of holding in the company, objective of the campaign, and campaign outcomes (successful or unsuccessful).

In the second step, I combined the Activist Insight data with the dataset developed by FactSet, a consulting firm that tracks activist interventions from multiple sources, including company filings, press releases, news, and company websites and provide detail on all activism campaigns around the world by all types of activists and cover the period 1994-present. This dataset provides information on the name, size, and industry of the target firm, as well as data on the activist, including the name of the activist, their demands, start and end date of the campaign, and outcome of the campaign. The dataset also provides campaign synopsis, a textual description of the campaign. I relied on the campaign synopsis to code my data (details are discussed later in this chapter) and operationalize my constructs.

Although Activist Insight data is available from 2010, choosing 2010 as the first year of data was still appropriate as global financial crisis of 2008 dramatically changed the role of

activists in corporate governance (Cheffins & Armour, 2011). In fact, in a survey conducted by Schulte, Roth, and Zabel (2010)[2], nearly two-third of the hedge fund activists and senior corporate executives acknowledged that there would be an increase in the volume of activism going forward (Cheffins & Armour, 2011). The argument was that interventions by hedge fund activist would improve the performance of the targeted firms by forcing managers of the firms to manage assets efficiently, which was essential during the global financial crisis. Furthermore, a growing body of literature after the financial crisis examined the role of top management team on the performance of the firm (Rost & Osterloh, 2010; Smolinski, Sieweke, & Bostandzic, 2018), but unfortunately this relationship has not been investigated in great details in the activism literature even until now.

Finally, there has been a tremendous increase in the number of activism instances by hedge fund activists since 2007, as depicted in Table 1. So it is worthwhile to examine how influential hedge fund activists have become in changing the performance of the target firms. I chose 2017 as the last year of my data because prior research suggests that the average duration of an activist campaign is 15 months (Gantchev, 2013). For example, Greenwood and Schor (2009) examined cumulative abnormal return of the target firm over 19 months, i.e., one month before the disclosure of activist engagement and 18 months following disclosure and found that the increase in the returns were highest in the last 15 months. Similar results were reported by a number of other studies, including Boyson and Mooradian (2011), Brav et al. (2014), Clifford (2008), and Klein and Zur (2009). Therefore, I decided to stop at 2017 to measure the impact of hedge fund intervention on the performance of the target firm.

[2] Schulte, Roth & Zabel, Shareholder Activism Insight 4 (November 2010). https://www.srz.com/images/content/1/3/v2/135903/SRZ-Shareholder-Activism-Insight-2010.pdf.

Activist Insight database comprised of 2,842 hedge fund campaigns from 2010 to 2017 against 1,076 firms by 414 activist hedge funds. However, each campaign in this database is not unique. Activists often state multiple purposes in their campaigns. Each purpose is treated as a distinct campaign. For example, Cruiser Capital Advisors, LLC filed a 13D on August 14, 2017 requesting A. Schulman Inc. to sell their assets and announced their intentions to gain board representation. Both the demands were treated as a distinct campaign in the Activist Insight database. Similarly, if the activists make multiple demands during a calendar year against the same target firm, each demand was recorded as a distinct campaign. For example, Engaged Capital filed a 13D on August 27, 2013 requesting Abercrombie & Fitch Co. to engage in general cost cutting. Then on December 3, 2013 Engaged Capital issued a press release disclosing a letter to the board of Abercrombie & Fitch Co. urging for removal of the CEO. Later on February 20, 2014 Engaged Capital demanded board representation. Although all these demands were made on different dates within a year these demands were against the same firm by the same activist. Hence, I treated these demands as one campaign. Also, an increase or decrease in the ownership by the activist in the same firm was treated as distinct campaigns. Therefore, I followed Boyson, Gantchev, and Shivdasani (2017) and Hege and Zhang (2018) and merged multiple campaigns against the same firm by the same hedge fund in a calendar year as one campaign. The merging of campaigns reduced the sample to 1,404 events involving 1,076 firms targeted by 414 activist hedge funds.

Once I identified all unique activist campaigns initiated by hedge funds from 2010 to 2017 using Activist Insight database, I combined this database with FactSet database. I matched each activism campaign in both the databases on target firm name, hedge fund name, and activism date. If the names of either the target firm or the hedge fund did not match in both the

datasets, I relied on Google search. I purchased FactSet database for two reasons. First, although Activist Insight is one of the most popular and comprehensive database for hedge funds, I wanted to cross-check whether it covered all the activism campaigns by hedge fund from 2010 to 2017. Second and more importantly, Activist Insight dataset does not provide details on response of the mangers of the target firm and tactics used by the hedge fund activist, which was critical for testing of my hypotheses.

FactSet, on the other hand, provide textual data on each activism campaign, which I read to discern the tactics used by the activists to put pressure on the manager of the target firms and how the manager of the target firm reacted to such demands/tactics. However, one limitation of FactSet dataset is that if the hedge fund files Form 13D without a specific goal, this 13D filing is excluded from the FactSet database. Therefore, I had to drop the campaigns not available in the FactSet database from my sample constructed from Activist Insight database. Merging Activist Insight and FactSet databases resulted in 940 campaigns against 739 firms by 315 hedge funds. Finally, I merged this data with Compustat and CRSP. I collected stock return information from Center for Research in Security Prices (CRSP). All financial data come from COMPUSTAT. After merging the data with Compustat and CRSP, my final sample for 2010-2017 has 924 campaigns against 724 firms by 309 hedge funds.

After having my sample of 924 campaigns involving 724 target firms and 309 hedge funds, I collected the data on the gender of the top management team of the hedge fund. To identify the gender of the executives, I used two resources. First, I collected the initial data on the gender of the executives from the Bloomberg website. I created a list of hedge funds from my dataset and manually searched on Bloomberg the details of the managers of hedge funds on my list. Bloomberg provides detail on the names and titles of the key executives. However, the

information on Bloomberg does not reflect the year since when the executive is working with the current title. This information was critical for me as I needed the details of the hedge fund manager across the entire period from 2010 to 2017.

To augment the data on the gender of the hedge fund manager, I relied on Form ADV. The SEC requires all investment advisors registered with them to complete and file a Form ADV. The current ADVs can be downloaded directly from the SEC website and the historical ADVs are available from January, 2001 in the .csv format on the SEC website[3]. With the help of the historical ADVs, I was able to identity the names and titles of the key executives in the hedge fund during the year of activism campaign. However, I could not find historical ADVs for all the activism campaigns in my dataset. Therefore, I backtracked the names and titles of the key executives from the Form ADV filed in 2018. The Form ADV includes owner details, i.e., their names, titles, and since when they are working with the current titles, in Part 1, Schedule A, item 7(c). With the help of the year since the key executive held the current title, I filed the gender details for the campaigns for which I could not get the information from the historical Form ADV.

Independent variable

Hedge fund gender diversity. The gender diversity variable was coded as 1 if there is at least 1 female executive on the team of the hedge fund in the year activism was initiated and 0 otherwise. In the dataset, out of 309 hedge funds, 102 hedge funds have at least one female on their top management teams. Table 2 presents the list of the hedge funds with at least one female on the top management team. Figure 1 presents the year-wise distribution of activism instances

[3] The historical ADVs were downloaded from https://www.sec.gov/foia/docs/form-adv-archive-data.htm.

initiated by the gender-diverse hedge funds. Mostly, there is an increase in the number of activism campaigns initiated by gender-diverse hedge funds from 2010 to 2017. The average number of employees is 3.4 and the maximum number of employees is 18. Also, at least one female is present on the hedge fund team in 277 activism campaigns out of 924 total activism campaigns, with at least one female in 180 campaigns, two females in 84 campaigns, and three females in 13 campaigns.

Dependent variables

Performance. Consistent with prior research, I measured performance of the target firm on two indicators, i.e., accounting-based measures (Bebchuk et al., 2015; Brav et al., 2010; Clifford, 2008; Klein & Zur, 2009) and market-based measures (Brav et al., 2008; Boyson & Mooradian, 2011; González & Calluzzo, 2019). For accounting-based measure of performance, I relied on ROA and for market-based measure, I computed Cumulative Abnormal Return and Tobin's Q. I used the CRSP equally weighted index as a proxy for the returns (2010-2017). The EVENTUS program on the Wharton Research Data Services was used to compute Cumulative Abnormal Returns based on company CUSIPs and the dates of events.

According to Section 13(d) of the Securities and Exchange Act of 1934, investors are required to file a schedule 13D with the Securities and Exchange Commission (SEC) within 10 days after acquiring 5% or more of a company's stock (www.sec.gov). Schedule 13D includes information about the hedge fund stakes in the target company and their demands. However, often times the information about the hedge fund's share acquisition in the target company is leaked even before the actual purchase of share occurs or Schedule 13D is filed. Given the exogenous effect of the announcement of activism campaign on the stock prices of the target firm and to account for the possible prior knowledge of the event, I focused my analysis on short

event CAR windows of [-1, +1] and [-3, +3], with 0 being the date of the demand. Furthermore, I also chose short event window in order to minimize the impact of unrelated events on activism return. However, I also estimated longer event CAR windows of [-10, +10] and [-20, +20] to capture the additional time market may have needed to react to the announcement of activism campaigns. Also, as a robustness check I wanted to use multiple windows to see if the results remain the same across the windows. My use of short three-day event window [-1, +1] (Boyson, Ma, & Mooradian, 2016; Boyson, & Pichler, 2019; Guo et al., 2018) and seven-day event window [-3, +3] (Guo et al., 2018) as well as long eleven-day event window [-10, +10] (Becht et al., 2017; Boyson & Mooradian, 2011) and forty-one-day event window [-20, +20] (Becht et al., 2017; Brav et al., 2008) to measure return from an activism campaign, is consistent with other studies in this area.

Many empirical studies on activism reveal that target firms experience significant increase in the operating performance just one year after the intervention by the hedge fund activists (Allaire & Dauphin, 2016; Brav et al., 2010; Boyson & Mooradian, 2011; Clifford, 2008; Klein & Zur, 2009). Therefore, I used two measures of long-term impact of activism campaign on the performance of the target firms. First, I used Tobin's Q. Tobin's Q, often referred to as "Q", is computed to examine a company's success in turning a given book value of assets into market value accrued to investors (Bebchuk et al., 2015). I calculated Tobin's Q by dividing market value of assets (Compustat items at+mv-ceq-txdb) by book value of assets (Compustat item at). Second, I used return on assets (ROA). ROA is most widely used measure of performance of the firms in strategy research (Hambrick, 1983: Lee & Miller, 1999) as well as activism research (Boyson & Mooradian, 2011; Brav et al., 2010; DesJardine, Marti, & Durand, 2020). ROA measures the effectiveness with which the firm uses assets of the company to

generate income for investors (Bebchuk et al., 2015). I computed ROA as a ratio of the firm's net income (Compustat item ni) to the total value of its assets (Compustat item at).

Managerial resistance. Following prior research (Brav, Jiang, & Kim, 2010; Wong, 2020), I measured managerial resistance by creating a dichotomous variable, *resistance*, which is equal to 1 if all the demands of the hedge fund activist are rejected by the managers of the target firm, and 0 otherwise (including campaigns coded as withdrew, partially agreed, agreed, and settled). I used the summary of the activism campaign given in the 'campaign synopsis' section of the FactSet database to manually code this variable. Following Brav et al. (2010) and Wong (2020), I classified each campaign into five categories: reject, withdrew, partial agreed, agreed, and settled. 'Reject' category include all the campaigns in which none of the demands of the activists are fulfilled by the target firm. 'Withdrew' category include all the campaigns in which activist withdrew their demands because they have likely achieved a part of their demands. 'Partially agreed' category include all the campaigns in which a part of the demand of the activist was fulfilled. 'Agreed' category include campaigns in which all the demands of the activist were fulfilled. Finally, 'Settled' category included all the campaigns in which activist demanded something else but were offered something else as a settlement. Examples of each category from the FactSet database is given in **Appendix A**.

Wolf Pack. Consistent with prior research (Becht et al., 2017; Coffee & Palia, 2016), I created a dichotomous variable, *WolfPack*, which is equal to 1 if more than one hedge fund was involved in the activist campaign against the same target firm, and 0 otherwise. I used the summary of the activism campaign in the 'campaign synopsis' section of the FactSet database to manually code this variable. There are two situations in which a wolf pack can be formed. First, two or more hedge fund activists file a joint Schedule 13D against the target firm. Second, when

hedge fund supports other hedge fund in their campaign or when a hedge fund withdrew their campaign against a target firm to support other hedge fund in their campaign. Examples of wolf pack from the FactSet database is given in **Appendix A**.

Aggressiveness. My fourth dependent variable is aggressiveness of the hedge fund. Aggressiveness is widely used in the activism literature to define activism campaigns that involve direct confrontation between the hedge fund activists and the managers of the target firm (Aslan & Kumar, 2016; Boyson & Mooradian, 2007; Boyson & Pichler, 2019; Brav et al., 2008; Gantchev, 2013; Klein & Zur, 2009). To measure aggressiveness, I employ two measures. My first measure is based on the categorization of activists' tactics by Brav et al., (2008) and Gantchev (2013), from the least to most aggressive. I coded activist tactics as follows for first measure of aggressiveness, *Aggressivesness1*: (0) no observable tactics, (1) communication with the management, (2) board representation, formal shareholder proposals, and public criticism of the company, (3) threaten or launch of proxy fight, sue the company, or takeover bid for the company. Examples of each category from the FactSet database are given in **Appendix A**.

An activism campaign on an average takes about 15-19 months (Gantchev, 2013) and the duration of a campaign is generally longer when the hedge funds have a tendency to persists in their goals (Brav et al., 2008). An activism instance often proceeds through a sequence of escalating steps (Gantchev, 2013) from less confrontational to more aggressive. In fact, previous research on activism demonstrates that hedge fund activist employs different tactics during an activism campaign and generally chooses more hostile tactics when the less confrontational approaches fail (Brav et al., 2010; Gantchev, 2013). Employing the same logic, I expect the more the use of different tactics by the activists during an activism campaign, the more aggressive the campaign is. My second measure of aggressiveness, *Aggressivessness2*, is the sum of all the

tactics used by the hedge fund activists during an activism campaign. Since FactSet data provides the summary of the activism campaign in the 'campaign synopsis' section of the database, I manually gathered information on the tactics employed by hedge funds to get their demands fulfilled. After gathering the data on various tactics employed by the activists, I aggregated them to measure the aggressiveness of the campaign.

Value firms. Target firm characteristics were coded using attributes for "value". In line with previous research on activism (Brav et al., 2008; Clifford, 2008; Gillan & Starks, 2007; Klein & Zur, 2009), high 'value' firms, i.e., firms which are more profitable (generally measured by cash flow and return on assets) but have low growth opportunities (generally measured by market value relative to book value and Tobin's Q), are highly likely to be targeted by the hedge fund activist. Similarly, it has been found that smaller firms (Boyson & Mooradian, 2011; Denes et al., 2017) and firms with high leverage (Brav et al., 2010; Clifford, 2008) are usually the target of the hedge fund activist. Since 'value' has been measured using different measures, I decided to employ 6 measures of value. In terms of growth opportunity of the target firm, I measured 'value' by relative market value and relative Tobin's Q. In terms of operational performance of the target firm, I measured 'value' by relative return on assets and relative free cash. Finally, in terms of size of the target firms, I relied on relative employees and for measuring 'value' in terms of capital expenditure, I used relative leverage.

For computing the relative value of each variable, I followed a-four step process. In the first step, I computed the variable for each year and firm. Firm's return on assets is defined as a ratio of net income (Compustat item ni) and total assets (at) (Ahn et al., 2018; Guo et al., 2018). I computed firm's free cash by taking the ratio of the difference between interest expenses and dividend (subtracting Compustat item's xint and dvt) to total assets (Compustat item at) (David

et al., 2001). I calculated market value by multiplying common shares outstanding by the closing price in the month corresponding to the company's fiscal year-end (multiplying Compustat item's prcc_f and csho) (Brav et al., 2014; Brick et al., 2018). I calculated firm's Tobin's Q by taking the ratio of market value of assets (Compustat item's at+mv-ceq-txdb) to the book value of assets (Compustat item at) (Boyson & Mooradian, 2011). I measured size with the total number of employees (Connelly et al., 2010). Finally, leverage was computed by taking the ratio of total debt including current debt (Compustat item dt) and book value of equity (Compustat item's ceq+txditc-pstkl) (Goranova et al., 2017). In the second step, I computed the industry median of the variable based on year and 2-digit SIC. Then I took the difference between the two. Finally, I created a dummy variable, which is equal to 1 if firm's value is greater than the industry median, 0 otherwise.

Control Variables

I relied on the literature on activism to identify the control variables which are more likely to affect the likelihood of a firm being targeted by the hedge fund. I choose the control variables in order to ensure that the impact on the dependent variables used in this study, i.e., performance of the target firms, resistance from the managers of the target firms, value of the target firm, aggressiveness of the activists, and likelihood of the formation of wolf pack, is due to the presence of female on the team of the hedge fund and not because of the difference in the types of firms targeted by the gender-diverse hedge funds and all-male hedge funds. Consistent with prior studies, I controlled for size (Boyson & Mooradian, 2011; DesJardine et al., 2020; Goranova et al., 2017), liquidity (Brav et al., 2008; Clifford, 2008; DesJardine et al., 2020), and leverage of the target firm (Boyson et al., 2017; DesJardine et al., 2020), as these factors affect the likelihood that activist hedge funds will target the firm. I measured the *size of the target firm*

by taking the natural log of sales (David et al., 2001). *Target Firm cash* was computed as the ratio of cash and total assets. *Target firm leverage* is the ratio of sum of long term debt and debt in current liabilities to total assets (David et al., 2001). I lagged all control variables by one year. I also controlled for *industry and year effect*. I used Fama & French 10 industry classification to control for industry effect in order to avoid singularity problem, with sic>=4900 and sic<=4949 (Mines, Construction, Building Material, Transportation, Hotels, Bus Services, and Entertainment) as my control industry group. However, I used 2-digit and 3-digit SIC codes and found similar results as reported in the next section.

Method

For testing the hypotheses with continuous dependent variable, i.e., Hypothesis 1 and Hypothesis 4, I relied on Ordinary Least Square Regression. In order to perform OLS regression, I verified whether my data meets the underlying assumptions. One of the most important assumptions of OLS is the assumption of linearity between the independent and dependent variable. Since my independent variable was a dummy variable for all the hypotheses, nonlinearity was not an issue as two data points always form a straight line. Another assumption requires a test for heteroscedasticity. Since I used regression with robust standard error to test the hypotheses, testing for heteroscedasticity is not necessary. Finally, I wanted to make sure that my data does not have a multicollinearity issue. Therefore, I checked correlation and ran Variance Inflation Factor (VIF). The results are discussed later.

My other dependent variables, managerial resistance (Hypothesis 2), wolf pack (Hypothesis 3), and value (Hypothesis 5) are dummy variables and therefore, I use logistic regression. Logistic regression not only estimates maximum likelihood of the probability of the binary outcome but also controls for non-normal distribution of errors associated with limited

dependent variable (DesJardine et al., 2020). I used logistic regression models that compute odds ratio and coefficients, but to interpret the results, I also opted for logistic regression models that estimate marginal effects.

Finally, endogeneity is a concern in this study as there is a likelihood that firms targeted by gender-diverse hedge funds are significantly different from the firms targeted by all-male hedge funds, which may lead to sample selection bias. Hence, the difference in activism return, actions of the hedge fund activist, and the reactions from the managers of the target firms may be due to the differences in the characteristics of the firms targeted by all-male hedge funds and gender-diverse hedge funds, and not due to the presence of females on the team of the hedge fund. To address this issue, consistent with past research (Cheng, Huang, & Li, 2013; Denes et al., 2017; DesJardine et al., 2020), I used a propensity score matching (PSM) method to create a matched sample of activism instances initiated by all-male hedge funds and gender-diverse hedge funds. I matched the firms on the age of hedge fund, size of hedge fund, and ownership stake held by the hedge fund in the target firm.

For propensity score matching, I created the control firms by first defining the treatment variable, which is equal to 1 if the hedge fund has at least one female on the top management team, and 0 otherwise. Then I added a number of control variables (variables on which treated and control firms were matched). I controlled for fund age, size, and ownership stake. Following prior research, I computed age of the hedge fund from the year of incorporation to the year of announcement of the demand (Aggarwal & Boyson, 2016; Krishnan, Partnoy, & Thomas, 2016). Size of hedge fund is measured by the number of employees on the top management team of the hedge fund since hedge funds are normally run only by the key executives. I got the information on the key executives from Part 1, Schedule A, item 7(c) of the Form ADV. The data for the

ownership stake held by the hedge fund in the target firm is obtained from FactSet. FactSet provides detail on the stakes taken by the hedge fund in the target firm at the time of the announcement of the campaign.

After identifying the control variables, I estimated a logistic regression to compute propensity score, where the dependent variable is the treatment variable and added age and size of hedge fund and ownership stake as independent variables. For each treated firm, i.e., hedge fund with a gender-diverse top management team, I use a one-to-one matching with a maximum caliper of 0.01 to identify a matched control firm from the same year and 2-digit SIC industry that has the closest propensity score. Deriving ATT, ATE, and ATU measures from propensity score requires matching of firms to be 'balanced' (Yasar & Paul, 2008), which was achieved as treated and control firms with the same propensity score had the same distribution of observed covariates. The matching resulted in 221 treated and 221 control observations.

Results

Table 3a presents descriptive statistics for the variables used in the study. Of the 924 total activism campaigns, 277 were initiated by gender-diverse hedge funds and 647 by all-male hedge funds. The descriptive statistics also shows that the average cumulative abnormal return, for all the windows, is higher for the activism instances initiated by all-male hedge funds as compared to gender-diverse hedge funds. As discussed in the theoretical development chapter, women are ascribed to have communal characteristics and therefore, they are less aggressive. The mean of aggressiveness for gender-diverse hedge funds is lower than the mean for all-male hedge funds, which is consistent with prior research. Similarly, the mean of wolf pack for gender-diverse hedge funds (0.39) is lower than all-male hedge funds (0.47), which indicates that on an average gender-diverse hedge funds are less likely than all-male hedge funds to get support

from other hedge funds. However, the mean of managerial resistance for gender-diverse hedge funds (0.59) is higher than the mean of all-male hedge funds (0.39). This means that gender-diverse hedge funds on an average face more resistance from the managers of the target firm than all-male hedge funds.

Table 3b reports a comparative analysis between gender-diverse hedge funds and all-male hedge funds in terms of aggressiveness, managerial resistance, and formation of wolf pack among control and treated groups. The empirical work on activism demonstrates that the most aggressive tactics used by the activists includes threatening or launching of proxy fight, suing the company, or offering a takeover bid for the company (Boyson & Mooradian, 2007; Boyson & Pichler, 2019; Brav et al., 2008; Gantchev, 2013). Among 924 total activism campaigns, 272 campaigns involved proxy contests, lawsuits, and takeover and most of these campaigns (216 activism campaigns) are initiated by all-male hedge funds. Furthermore, among the 277 campaigns initiated by gender-diverse hedge funds, they faced managerial resistance in 160 campaigns, which is 57.76% of the times. Whereas, all-male hedge funds were resisted by the managers only in 251 campaigns out of 647, which is 38.79% of the times. Clearly, gender-diverse hedge funds face more resistance as compared to all-male hedge funds. Finally, while gender-diverse hedge funds were able to get support by other hedge funds in 107 activism campaigns (38.63% of the times), all-male hedge funds got support in 306 activism campaigns (47.30% of the times). Hence, gender-diverse hedge funds gained less support from other shareholders as compared to all-male hedge funds.

My first hypothesis proposes that gender-diverse hedge funds have lower activism returns as compared to all-male hedge funds. I first checked the correlation between gender and activism return over both shorter event CAR windows of [-1, +1] and [-3, +3] as well as longer event

CAR windows of [-10, +10] and [-20, +20]. The results are reported in Table 4. I find a negative and significant correlation between gender and return for all the windows. Then I conducted a t-test to see if there is any difference in activism returns between all-male hedge funds and gender-diverse hedge funds over all the CAR windows. The results of t-test show that the activism returns are approximately 1.48 times higher for all-male hedge funds as compared to gender-diverse hedge funds for the [-1, +1] window, 1.88 times for the [-3, +3] window, 2.35 times for the [-10, +10] window, and 2.32 times for the [-20, +20] window and the results are statistically significant at the 1% level.

Finally, I ran OLS regression with robust standard error to compare the activism return of gender-diverse hedge funds to that of all-male hedge funds. Tables 5a to 5d report the OLS results of activism return around all the four CAR windows. The results show that the coefficient estimate of gender is negative and significant ($\beta = -0.0168$, $p<0.01$) for the [-1, +1] window, ($\beta=-0.022$, $p<0.01$) for the [-3, +3] window, ($\beta=-0.0395$, $p<0.01$) for the [-10, +10] window, and ($\beta=-0.039$, $p<0.01$) for the [-20, +20] window. The results suggest that activism returns are lower when the activism is initiated by a gender-diverse hedge fund, as compared to an all-male hedge fund for all the CAR windows. To better understand the relationship between gender diversity among the hedge fund managers and activism returns, I plotted average CARs over 2010-2017. The graphs (Figures 2a- 2d) visually illustrates that the average abnormal returns for all-male hedge funds are higher as compared to gender-diverse hedge funds. Overall, these results support Hypothesis 1. I then checked for multicollinearity through variance inflation factor (VIF). The results of VIF for all the CAR windows are presented in Tables 6a through 6d. Multicollinearity is not a problem as the largest variance inflation factor is not greater than 10 for all the CAR

windows and the smallest tolerance is 0.603 for the [-1, +1], [-3, +3], and [-10, +10] windows and 0.599 for the [-20, +20] window, which are greater than 0.10.

To further probe Hypothesis 1, I tested whether gender-diversity among the hedge fund managers has any impact on the ROA and Tobin's Q of the target firm. ROA and Tobin's Q are widely used measures of performance of the firm in the activism research (Bebchuk et al., 2015; Boyson & Mooradian, 2011; Brav et al., 2010; DesJardine, Marti, & Durand, 2020). I began by checking the correlation of gender with ROA and Tobin's Q. The results are shown in Table 7. Although the correlation between gender and ROA as well as between gender and Tobin's Q was negative it was not significant. Furthermore, the t-test of difference between both gender and ROA and gender and Tobin's Q was also not statistically significant. Finally, I conducted OLS regression with robust standard errors. As shown in Tables 8a and 8b, the coefficient estimate of gender is negative for ROA and positive for Tobin's Q but statistically insignificant for both.

The negative and significant relationship between CAR and gender and insignificant relationship of gender with ROA and Tobin's Q reveals two things. First, stock market reacts negatively towards gender-diverse hedge funds as compared to all-male hedge funds. This finding is in line with gender and diversity based management research, which demonstrates that investors react negatively to the presence of females on the top management teams (Dobbins & Jung, 2011; Lee & James, 2007; Solal & Snellman, 2019; Dixon-Fowler et al., 2013). Second, gender diversity among the hedge fund managers might not have influence on the long-term operating performance of the target firm, as revealed by the insignificant results. I then checked for multicollinearity through variance inflation factor (VIF). The results of VIF are presented in Tables 9a through 9b. Multicollinearity is not a problem as the largest variance inflation factor is

not greater than 10 for both ROA and TobinQ and the smallest tolerance is 0.569 for ROA and 0.594 for the TobinQ, which are greater than 0.10.

Second and third Hypotheses tested whether there is any difference in the perception of the managers of the target firm and stakeholder towards gender-diverse hedge funds versus all-male hedge funds. Specifically, Hypothesis 2 posits that gender-diverse hedge funds face more resistance from the managers of the target firms as compared to all-male hedge funds. The correlation between gender and managerial resistance (Table 10) is positive and significant, indicating that gender-diverse hedge funds are resisted more by the managers than all-male hedge funds. To test the difference between the two groups, I conducted a two-sample test of proportions as the dependent variable was limited. The result is statistically significant at the 1% level. The results of logistic regression are shown in Tables 11a to 11c. Table 11b demonstrates a strong positive and significant relationship between gender and managerial resistance ($\beta=0.725$, $p<0.01$).

To resolve the issue of interpretability due to limited dependent variable, I computed the marginal effect. I find that the marginal effect of gender on managerial resistance is positive and significant (ME=0.171, $p<0.01$). In terms of economic significance, as the gender dummy changes from 0 to 1, the predicted probability of managerial resistance against gender-diverse hedge funds increases by 17.1 percentage points. Overall, these results indicate that campaigns initiated by gender-diverse hedge funds are more opposed by the managers of the target firms than campaigns initiated by all-male hedge funds. Therefore, Hypothesis 2 is supported. I then checked for multicollinearity. The results of VIF for managerial resistance are presented in Tables 12. Multicollinearity is not a problem as the largest variance inflation factor is not greater than 10 and the smallest tolerance is 0.122.

The third Hypothesis states that gender-diverse hedge funds are less likely to get support from other hedge funds, as compared to all-male hedge funds. The correlation between gender and wolf pack (Table 13) is negative and significant, indicating that gender-diverse hedge funds are less likely to gather support from other hedge funds than all-male hedge funds. Similar to Hypothesis 2, I first conducted a two-sample test of proportions as the dependent variable is limited. The results of two-sample test of proportions between gender and wolf pack demonstrates that all-male hedge funds are 2.84 times more likely to get the support from other shareholders as compared to gender-diverse hedge funds and the result is statistically significant at the 1% level. The results of logistic regression (Table 14b) show a negative association between wolf pack and gender (β=-0.339, $p<0.05$).

Furthermore, the results of logistic regression with marginal effect testing the relationship between wolf pack and gender is negative and significant (ME=-0.081, $p<0.05$). Economically, as the gender dummy changes from 0 to 1, the predicted probability of formation of wolf pack by gender-diverse hedge funds decreases by 8.1 percentage points. Overall, these results indicate that campaigns initiated by gender-diverse hedge funds garner less support from other shareholders than campaigns initiated by all-male hedge funds. Therefore, Hypothesis 3 is supported. I then checked for multicollinearity. The results of VIF for wolf pack are presented in Tables 15. Multicollinearity is not a problem as the largest variance inflation factor is not greater than 10 and the smallest tolerance is 0.12.

My fourth Hypothesis predicts that gender-diverse hedge funds might display communal and nurturing traits and therefore will be associated with less aggressive tactics, as compared to all-male hedge funds. I used two measures of aggressiveness. First measure, *Aggressiveness1*, is the categorization of activists' tactics from the least to most aggressive (Brav et al., 2008;

Gantchev, 2013). Second measure, *Aggressiveness2*, is the sum of all the tactics used by the activist during an activism campaign. The correlation between gender and *Aggressiveness1* and gender and *Aggressiveness2* (Table 16) are negative and significant, indicating that gender-diverse hedge funds are less willing to engage in confrontational form of activism. The results of t-test between gender and *Aggressiveness1* demonstrates that all-male hedge funds are 1.16 times more aggressive as compared to gender-diverse hedge funds. Similarly, the results of t-test between gender and *Aggressiveness2* suggests that all-male hedge funds (Mean=2.62) are likely to use more number of tactics during an activism campaign as compared to gender-diverse hedge funds (Mean=2.20). The results of both the t-tests are statistically significant at the 1% level.

In order to examine whether gender-diversity among the hedge funds negatively affect activism aggressiveness, I conducted OLS regression with robust standard error. The results are shown in Tables 17a and 17b. In line with my expectations, the result indicates a negative and significant association between both gender and *Aggressiveness1* (β=-0.246, $p<0.01$) as well as gender and *Aggressiveness2* (β=-0.434, $p<0.01$). That is, gender-diverse hedge funds are less likely to use aggressive tactics to put pressure on the managers of the target firms as compared to all-male hedge funds. Also, gender-diverse hedge funds are less likely to employ more number of tactics on the managers to get their demands fulfilled. Overall, these results support Hypothesis 4. I then checked for multicollinearity. The results of VIF for *Aggressiveness1* and *Aggressiveness2* are presented in Tables 18a and 18b. Multicollinearity is not a problem as the largest variance inflation factor is not greater than 10 and the smallest tolerance is 0.603 for both dependent variables, *Aggressiveness1* and *Aggressiveness2*.

My fifth and final Hypothesis proposed that gender-diverse hedge funds are less likely to target 'value' firms as compared to all-male hedge funds. 'Value' has been measured differently

by activism scholars. Therefore, based on the literature (Brav et al., 2008; Clifford, 2008; Gillan & Starks, 2007; Klein & Zur, 2009), I decided to employ six different measures of 'value', i.e., free cash, leverage, size, ROA, market value, and Tobin's Q. The results of the correlation between gender and different 'value' measures are given in Table 19. Since the dependent variable is limited, I first performed a test for the difference in proportion. The results indicated statistically significant differences for all the six 'value' measures.

To test this hypothesis, I performed logistic regression. Tables 20a to 20f provides result for logistic regression with odds ratio, coefficient estimates, and marginal effect. Since the dependent variable is a dummy variable, the coefficient estimates are not directly interpretable. Therefore, I computed marginal effect to make the interpretation easier. The marginal effect of gender-diversity among hedge fund on free cash is negative and insignificant (ME=-0.018); on leverage is positive and insignificant (ME=0.039); on size is negative and insignificant (ME=-0.007); on ROA is negative and insignificant (ME=-0.025); on market value is positive and insignificant (ME=0.015); and on Tobin's Q is positive and insignificant (ME=0.041). Since the marginal effects for all the six measures of 'value' are insignificant, the fifth Hypothesis is not supported. The insignificant relationship between 'value' and gender indicates that both gender-diverse hedge funds and all-male hedge funds target firms with similar characteristics. The results of VIF for various measures of value are presented in Tables 21a to 21f. Multicollinearity is not a problem.

Robustness analyses

To control for endogeneity, I conducted propensity score matching and constructed a matched sample of 221 treated and 221 control observations. Table 22 reports a comparative analysis between treated group (hedge funds with females on the top management teams) and

control group (hedge funds with no females on the top management teams) in terms of aggressiveness, managerial resistance, and formation of wolf pack on the matched sample. The summary statistics are similar to those reported above on the whole sample. Among 442 matched activism campaigns, 109 campaigns involved proxy contests, lawsuits, and takeover and more aggressive campaigns (62 campaigns) are initiated by all-male hedge funds. Furthermore, among the 221 campaigns initiated by gender-diverse hedge funds, they faced managerial resistance in 124 campaigns, whereas, all-male hedge funds were resisted by the managers only in 77 campaigns out of 221. Finally, while gender-diverse hedge funds were able to get support by other hedge funds in 84 activism campaigns, all-male hedge funds got support in 103 activism campaigns.

To assess the quality of my matching, I ran a t-test to examine whether there is a difference in the two groups on the matched variables both before and after matching. The results are shown in Table 23. Before matching, the coefficient on the treatment variable for stake of the hedge fund was significant at $p<.10$ and for age and size of hedge fund was significant at $p<.01$. However, after matching, the coefficient on the treatment variable for all three matching variables became insignificant, which supports the matching process. The estimated average treatment effects ATT, ATU, and ATE are presented in Tables 24a to 24d. Since, Hypothesis 5 is not supported, I did not test the estimated average treatment effects for the 'value' proposition.

The estimated effect indicates that the average decrease in activism returns is 2.1% (three-day window); 2.4% (seven-day window); 3.6% (eleven-day window); and 4.0% (forty-one-day window) for the firms which are targeted by gender-diverse fund relative to the firms which are targeted by all-male hedge funds. Furthermore, while the average decrease in aggressiveness is 18.3% (*Aggressiveness1*) and 25.8% (*Aggressiveness2*) and wolf pack

formation is 8.5% for gender-diverse hedge funds relative to all-male hedge funds, the average increase in resistance is 20.4% for gender-diverse hedge funds relative to all-male hedge funds.

With the matched sample, I replicated the results of all the hypotheses, except Hypothesis 5 (which was not supported) and found similar results as reported above. The first hypothesis examines the relationship between activism returns for different CAR windows and gender-diversity among the hedge fund managers. Tables 5a to 5d depict that the coefficient estimate of gender is negative and significant (β=-0.024, $p<0.01$) for the [-1, +1] window, (β=-0.022, $p<0.05$) for the [-3, +3] window, (β=-0.048, $p<0.01$) for the [-10, +10] window, and (β=-0.047, $p<0.01$) for the [-20, +20] window. The results suggest that activism returns are lower for a gender-diverse hedge fund, as compared to all-male hedge fund for all the CAR windows.

Hypothesis 2 predicts a positive association between managerial resistance and gender-diversity among the hedge fund managers. The results of logistic regression shown in Table 11b demonstrates a strong positive and significant impact of gender diversity on managerial resistance ($\beta = 0.791$, $p < 0.01$), thereby suggesting that gender-diverse hedge funds face more resistance by the managers. Hypothesis 3 posits a negative association between wolf pack and gender-diversity among the hedge fund managers. I found that gender-diversity negatively and significantly affect wolf pack ($\beta = -0.495$, $p < 0.01$), as depicted in Table 14b.

Finally, hypothesis 4 predicts a negative relationship between aggressiveness and gender-diversity among the hedge fund managers. The results reported in Tables 17a and 17b shows that the coefficient estimate of gender is negative and significant for both gender and *Aggressiveness1* (β=-0.244, $p<0.05$) as well as gender and *Aggressiveness2* (β=-0.348, $p<0.05$), thereby suggesting that gender-diverse hedge funds are less likely to use aggressive tactics.

CHAPTER 5 DISCUSSION

Studies in the field of shareholder activism have long examined the relationship between hedge fund activism and return but the findings still have been equivocal. Much of the research suggests that activism positively impacts shareholder returns (e.g., Boyson & Mooradian, 2011; Boyson et al., 2016; González & Calluzzo, 2019; Klein & Zur, 2009; Krishnan et al., 2016; Zhu, 2013). However, some studies (e.g., Becht, Franks, Mayer, & Rossi, 2008; Brav, Jiang, Partnoy, & Thomas, 2008; Greenwood & Schor, 2009; Klein & Zur, 2011) found that activism fails to improve the performance of the target firm. Hence, it is of importance to investigate the factors that might influence the impact of activism on return. This study suggests that gender diversity among the hedge fund managers may be critical in influencing the performance of the target firms. Specifically, this study examines two questions. First, does hedge fund gender-diversity affect target firm performance? Second, if yes, is there any difference in the perception towards gender-diverse hedge funds as compared to all-male hedge funds. Also, do gender-diverse hedge funds act differently as compared to all-male hedge funds.

Prior research demonstrates that gender diversity among top management teams has a positive impact on the performance of the firm (Appold et al., 1998; Helfat, Harris, & Wolfson, 2006; Krishnan & Park, 2005). This is primarily because of two reasons. Women who reach the top positions are considered better than men, as they have to face more challenges to climb the ladder, as compared to men. Therefore, they are more likely to have better qualification, skills, and experience than men and hence would be put into different cognitive category than average women (Adams & Funk, 2012; Krishnan & Park, 2005; Tharenou, 2001). This difference between men and women would translate into higher performance. Second, increased team diversity will bring diverse information, knowledge, experience, and perspectives, which in turn

will impact the problem-solving and decision-making skills of the team and hence, the performance (Appold et al., 1998; Cox & Blake, 1991; Green & Cassell, 1996; Helfat, Harris, & Wolfson, 2006).

However, this might not be true in case of hedge fund activism. In this study, I propose that gender-diversity among hedge fund managers might have a negative influence on the performance of the target firm. Research on hedge fund activism shows that confrontational activism approach is more likely to generate positive returns, as compared to collaborative approach (Brav et al., 2008; Briggs, 2007; Kahan & Rock, 2007). But gender research demonstrate that gender diversity is somewhat antithetical to such adversarial engagement (Adams, 2016) due to the communal role ascribed to women (Eagly & Karau, 2002). The unwillingness to engage in aggressive campaigns might render gender-diverse hedge funds less effective in improving return from activism. Furthermore, although the percentage of females on the top management teams at S&P 500 firms has tripled in the last decade to 5.8% (Catalyst, 2019[4]), hedge funds still remains a male dominated profession. The percentage of women employed by hedge fund managers worldwide was 19.3% in 2019, with only 11 percent of women holding senior positions (Williamson, 2019). Due to the underrepresentation, women hedge fund managers might not have the required expertise and skills to perform at the senior roles. From this logic it appears reasonable to argue that their presence on the hedge fund teams might negatively impact activism returns.

As hypothesized, I found that gender-diverse hedge funds have lower activism returns as compared to all-male hedge funds across different cumulative abnormal return windows. However, the results were not significant for operational performance measures, i.e., return on

[4] https://www.catalyst.org/research/women-in-financial-services/

assets and Tobin's Q. Perhaps this is due to the negative reaction of the investors towards the presence of females on the top management team (Lee & James, 2007; Dixon-Fowler et al., 2013). Additionally, it can be argued that gender diversity among the hedge fund managers has only a short-term negative impact on the performance.

To have a more nuanced understanding of the role of gender diversity among hedge fund activist on the performance of the target firm, I investigated whether gender-diverse hedge funds are treated differently by the managers of the target firm and other shareholders. To explore this, I first examined whether managers of the target firms react differently when the campaigns are initiated by a gender-diverse hedge funds vis-à-vis all-male hedge funds. The results show that the managers are more resistant towards gender-diverse hedge funds. This is because managers might stereotype women as more communal and less aggressive and therefore may believe that they need not have to be responsive to the requests of the gender-diverse hedge funds. Then I explored whether gender-diverse hedge funds are supported by other hedge funds in their campaign. The results indicate a negative association between gender diversity and support from stakeholder, which may be due to greater scrutiny and criticism faced by gender-diverse hedge funds on account of role incongruity.

I further examined whether there is any difference in the actions of gender-diverse hedge funds as compared to all-male hedge funds. Specifically, I posited and found that gender-diverse hedge funds are less aggressive in their activism campaigns as compared to all-male hedge funds. In addition, I investigated whether gender-diverse hedge funds target firms which have different characteristics as compared to the firms targeted by all-male hedge funds. However, I did not find support for this argument. Therefore, it is safe to assume that both gender-diverse and all-male hedge funds target similar kind of firms.

Overall, the results of this study reflect the difference between perception towards and reality of influence of gender-diverse hedge funds on the performance of target firms. It is found that the market has a negative perception towards the presence of females on the top management teams of the hedge funds. The lower cumulative abnormal return from the activism by gender-diverse hedge funds as compared to all-male hedge funds is the indicator that gender-diverse hedge funds are at a disadvantage. This is because they are stereotyped and face more resistance by the managers of the target firms and get less support from shareholders, which in turn lowers the efficacy of activism. However, when we look at a broader context, gender-diverse hedge funds perform just as well as all-male hedge funds. The results show that both gender-diverse hedge funds and all-male hedge funds improves value as the long-term impact of gender-diversity on performance is found to be insignificant.

With the results of this study, I aim to make a number of contributions to theory on shareholder activism. First, despite a surge of interest in examining the influence of demographic characteristics of the top management team on the performance of the firm (Hambrick & Mason, 1984; Pfeffer, 1983), none of the studies have examined the relationship between demographic characteristics of the hedge fund managers and performance of the firms they target. Second, by linking gender diversity with hedge fund activism, this study brings much needed clarity on the role of demographics of the hedge fund managers on activism return. This study also unpacks conditions under which gender-diverse hedge funds fail to improve the performance of the targeted firm. The results illustrate that gender-diverse hedge funds do not have the same influence on the activism returns as all-male hedge funds because they are less aggressive, are more resisted by the managers, and lack support from other shareholders.

Limitations and future research

This research has several limitations that should be considered in future research. First, this study examines the role of gender of the hedge fund managers in influencing the performance of the firm they target. However, the domain of work force diversity is much broader (Cox, 1994) and includes other demographic trait or any set of demographic traits, including education, tenure, and age (Pfeffer, 1983). Therefore, it would be worth investigating how age, education, and number of years of experience of hedge fund manager influence activism returns. Second, I have only examined the impact of gender-diversity among the hedge fund managers. It would be interesting to explore how gender diversity among the board members of the target firms might impact the campaigns initiated by gender-diverse hedge funds. Future studies might examine whether target firms with gender-neutral boards are less resistant towards gender-diverse hedge funds. In a related vein, it would of interest to investigate whether there would be a change in the demands of the gender-diverse hedge funds, i.e., would they demand more governance changes than strategic and financial changes, if there are more female directors on the board of the target firm. Also, it would be insightful to investigate if the activists will push towards more female nomination on the board of the gender-neutral target firms.

Furthermore, the results of this study sheds light only on one aspect of performance, i.e., financial performance of the target firm. Specifically, the result shows that gender-diverse hedge funds have less influence on the financial performance of the target firm as compared to all-male hedge funds. Future research opportunities exist to investigate whether and how gender diversity among hedge fund managers influence social performance of the target firm. Also, in this study I proposed and found that gender-diverse hedge funds get less support from other hedge funds, as compared to all-male hedge fund. Future studies may delve more deeply into this issue by

examining whether gender-diverse hedge fund get support from proxy advisors including ISS, Glass Lewis, and Egan-Jones.

There are empirical limitations of this study as well. I relied on campaign synopsis provided by a private company to manually code managerial resistance and aggressiveness. However, just by reading the campaign it is hard to observe the underlying interactional process between hedge fund activists and the managers of the target firm. While certainly challenging, future research could augment the present findings by conducting direct surveys of managers and activist to get their first-hand experience in the activism process. In addition, endogeneity is a big concern for this study as it is possible that the influence on performance is not due to the gender diversity among the hedge fund managers but due to other observable and unobservable factors. I used propensity score matching to rule out the influence of alternate explanation. However, propensity score matching only controls for observable factors that might confound the analyses. Therefore, to control for the influence of unobservable factors there is a need to use other methodology, such as Heckman model.

Other issues with this study are related with the data limitation. I have used Activist Insight data as my base data and then I built on it by using information from other datasets. But the main drawback of using data from Activist Insight is that the first year for which they provide data is 2010. Although the data provides evidence that there is an increase in the number of campaigns by gender-diverse hedge funds after 2011, to better understand the phenomena future studies can include the campaigns before 2010 into the analyses. Another important limitation of this study is coding process of the gender variable. I relied on historical ADVs to code the gender related data. However, I could not find historical ADVs for all the activism campaigns and therefore, I had to backtrack the names and titles of the key executives with the

help of the Form ADV filed in 2018. Therefore, to strengthen the findings of the study, it is important to collect gender related information based on the yearly filed form ADV.

Furthermore, this study is limited to U.S. sample. Consequently, the examined relationships may not be fully generalizable to activism instances initiated by hedge fund activists in other countries. Furthermore, prior research indicate that the impact of hedge fund activism may vary across regions (Becht et al., 2017). Therefore, it would be worth investigating whether gender-diverse hedge funds act differently and face dissimilar reactions in different countries. Particularly, it would be of importance to see how actions of and reactions towards gender-diverse hedge funds are different in countries like Norway, Spain, and France, where laws requiring firms to have 40% female directors are enacted. Another potential issue is with the sample size. The data shows that there is an increase in activism campaigns by gender-diverse hedge funds from 2010 to 2017, though the sample size is still small. Out of 924 campaigns examined in this study, only 277 campaigns were led by gender-diverse hedge funds. Maybe by including more recent campaigns the sample size could be increased. In summary, while this study provides interesting insights, much remains to be done. I hope that this study informs and stimulates future work in this regard.

FIGURES AND TABLES

TABLE 1 Number of activism instances by hedge fund activist[5] from 1995-2017

Year	Number of campaigns
1995	1
1996	2
1997	3
1998	8
1999	3
2000	7
2001	4
2002	6
2003	26
2004	25
2005	81
2006	185
2007	193
2008	242
2009	235
2010	163
2011	171
2012	168
2013	177
2014	151
2015	246
2016	226
2017	165

[5] Data compiled from the filing dates of the activism campaign as reported in FactSet dataset. A campaign means activism by a hedge fund against a target firm during a year. The change in demand/ownership stakes by a hedge fund activist against the same target firm is not counted as a separate campaign.

TABLE 2 Names of the hedge fund with more than one female on the top management team

Names of the hedge fund	**Number of women**
GAMCO Investors	2
Taconic Capital Advisors	2
JANA Partners	2
Stilwell Value, LLC	3
ValueAct Capital Partners	2
Wolverine Asset Management	2
Foxhill Capital Partners	2
Discovery Group	2
Zevin Asset Management	3
Levin Capital Strategies	2
Margate Capital Managament	2
Yacktman Asset Management	2
Artisan Partners	2
Lone Star Value Management	2
Highfields Capital Management	2
Karpus Investment Management	2
Scopia Capital Management	2
Central Square Management	2
International Value Advisers, LLC	2
Eminence Capital	2
Marcato Capital Management	2
Generation Investment Management, LLP	2
Apex Capital, LLC	3
HealthCor Management	2
Brigade Capital Management	2
Pentwater Capital Management, LP	2
Doucet Asset Management	2
Driehaus Capital Management, LLC	2
BlueMountain Capital Management, LLC	2

FIGURE 1 Year-wise distribution of activism instances initiated by the gender-diverse hedge funds

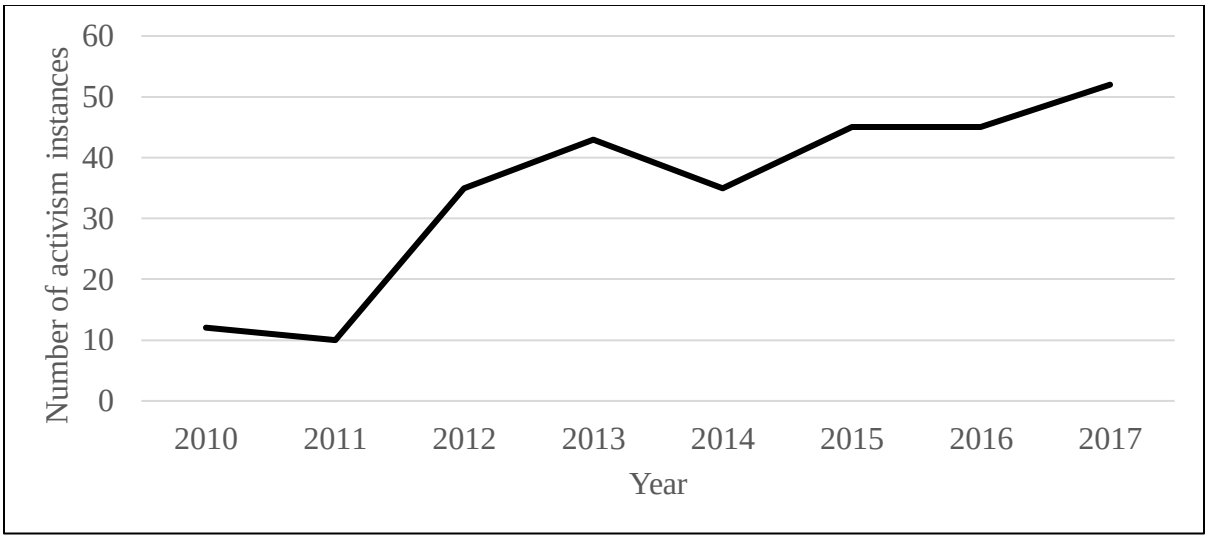

TABLE 3a Summary statistics (whole sample)

Variable	All-male hedge funds					Gender-diverse hedge funds				
	N	Mean	Std. Dev.	Min	Max	N	Mean	Std. Dev.	Min	Max
Dependent variables:										
CAR [-1, +1]	645	0.04	0.10	-0.50	1.33	277	0.03	0.07	-0.22	0.60
CAR [-3, +3]	645	0.05	0.11	-0.62	1.07	277	0.03	0.09	-0.25	0.71
CAR [-10, +10]	646	0.07	0.17	-0.88	1.18	277	0.03	0.13	-0.70	0.66
CAR [-20, +20]	644	0.08	0.22	-1.15	1.80	276	0.03	0.17	-0.69	0.62
ROA	566	-0.04	0.22	-2.28	0.84	231	-0.05	0.33	-3.06	0.52
TobinQ	527	1.59	0.93	0.51	8.41	209	1.64	0.94	0.68	6.36
Aggressiveness1	647	1.82	0.92	0	3	277	1.50	0.87	0	3
Aggressiveness2	647	2.62	1.54	0	8	277	2.21	1.45	0	8
Managerial Resistance	640	0.39	0.49	0	1	270	0.59	0.49	0	1
Wolf Pack	647	0.47	0.50	0	1	277	0.39	0.49	0	1
Relative Free Cash	473	0.58	0.49	0	1	194	0.54	0.50	0	1
Relative Leverage (debt/equity)	473	0.63	0.48	0	1	194	0.54	0.50	0	1
Relative Size (Employees)	473	0.61	0.49	0	1	194	0.69	0.47	0	1
Relative ROA	473	0.45	0.50	0	1	194	0.48	0.50	0	1
Relative MV	473	0.52	0.50	0	1	194	0.61	0.49	0	1
Relative TobinQ	473	0.33	0.47	0	1	194	0.39	0.49	0	1
Independent variable:										
Gender	647	0	0	0	0	277	1	0	1	1
Control variables:										
Leverage (debt/asset)	538	0.25	0.25	0	1.28	217	0.28	0.30	0	2.36
Sale	619	6.28	1.99	0.16	12.0	248	6.68	2.23	1.52	12.0
Cash/Assets	605	0.13	0.14	0	0.97	256	0.13	0.14	0	0.95

TABLE 3b Comparison between treated (gender-diverse hedge funds) and control groups (all-male hedge funds) in managerial resistance, formation of wolf pack, and aggressiveness before and after propensity score matching

Variable	Control group		Treated group	
	Categories	**N**	**Categories**	**N**
Managerial resistance	1 (rejected)	251	1 (rejected)	160
	0 (including campaigns coded as withdrew, partially agreed, agreed, and settled)	389	0 (including campaigns coded as withdrew, partially agreed, agreed, and settled)	110
Wolf pack	1 (Support from other hedge funds)	306	1 (Support from other hedge funds)	107
	0 (No support)	341	0 (No support)	170
Aggressiveness1	No observable tactics	11	No observable tactics	14
	Communication with the management	236	Communication with the management	121
	Board representation, formal shareholder proposals, and public criticism of the company	184	Board representation, formal shareholder proposals, and public criticism of the company	86
	Threaten or launch of proxy fight, sue the company, or takeover bid for the company	216	Threaten or launch of proxy fight, sue the company, or takeover bid for the company	56
Aggressiveness2 (Sum of tactics)	0 tactic	11	0 tactic	14
	1 tactic	158	1 tactic	94
	2 tactics	205	2 tactics	71
	3 tactics	99	3 tactics	49
	4 tactics	89	4 tactics	29
	5 tactics	49	5 tactics	12
	6 tactics	26	6 tactics	5
	7 tactics	9	7 tactics	2
	8 tactics	1	8 tactics	1

TABLE 4 Correlation matrix (performance with gender and control variables) (whole sample)

Correlations between CAR [-1, +1], Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. CAR [-1, +1]	1				
2. Gender	-0.060*	1			
3. Sale	0.012	0.088***	1		
4. Leverage (debt/asset)	0.021	0.047	0.152***	1	
5. Cash/Assets	0.024	-0.009	-0.094***	-0.091**	1

Correlations between CAR [-3, +3], Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. CAR [-3, +3]	1				
2. Gender	-0.085***	1			
3. Sale	-0.001	0.088***	1		
4. Leverage (debt/asset)	0.009	0.047	0.152***	1	
5. Cash/Assets	0.005	-0.009	-0.094***	-0.091**	1

Correlations between CAR [-10, +10], Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. CAR [-10, +10]	1				
2. Gender	-0.111***	1			
3. Sale	0.040	0.088***	1		
4. Leverage (debt/asset)	-0.065*	0.047	0.152***	1	
5. Cash/Assets	-0.028	-0.009	-0.094***	-0.091**	1

Correlations between CAR [-20, +20], Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. CAR [-20, +20]	1				
2. Gender	-0.098***	1			
3. Sale	0.008	0.088***	1		
4. Leverage (debt/asset)	-0.033	0.047	0.152***	1	
5. Cash/Assets	-0.006	-0.009	-0.094**	-0.091**	1

Correlations significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 5a Hypothesis 1- OLS regression with robust standard errors (dependent variable CAR [-1, +1])

Variables	**Whole sample**	**Matched sample**
Gender	-0.017***	-0.024***
	(0.006)	(0.008)
Sale	0.001	-0.0004
	(0.002)	(0.003)
Leverage (debt/asset)	0.018	0.046
	(0.021)	(0.028)
Cash/asset	0.012	0.029
	(0.032)	(0.034)
Year effect	0.0004	0.002
	(0.001)	(0.002)
Constant	0.025	0.024
	(0.019)	(0.020)
Observations	715	325
R-squared	0.020	0.080

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 5b Hypothesis 1- OLS regression with robust standard errors (dependent variable CAR [-3, +3])

Variables	**Whole sample**	**Matched sample**
Gender	-0.022***	-0.022**
	(0.007)	(0.011)
Sale	0.0004	0.0002
	(0.002)	(0.004)
Leverage (debt/asset)	0.018	0.045
	(0.024)	(0.034)
Cash/asset	-0.002	0.034
	(0.035)	(0.041)
Year effect	-0.0001	0.001
	(0.002)	(0.002)
Constant	0.033*	0.035
	(0.018)	(0.022)
Observations	715	325
R-squared	0.032	0.074

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 5c Hypothesis 1- OLS regression with robust standard errors (dependent variable CAR [-10, +10])

Variables	**Whole sample**	**Matched sample**
Gender	-0.040***	-0.048***
	(0.012)	(0.017)
Sale	0.006**	0.006
	(0.003)	(0.004)
Leverage (debt/asset)	-0.039	-0.043
	(0.030)	(0.046)
Cash/asset	-0.057	-0.040
	(0.041)	(0.055)
Year effect	-0.002	0.00
	(0.003)	(0.004)
Constant	0.067**	0.108**
	(0.027)	(0.050)
Observations	715	323
R-squared	0.074	0.113

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 5d Hypothesis 1- OLS regression with robust standard errors (dependent variable CAR [-20, +20])

Variables	**Whole sample**	**Matched sample**
Gender	-0.039**	-0.047*
	(0.016)	(0.025)
Sale	0.004	0.003
	(0.004)	(0.007)
Leverage (debt/asset)	-0.042	-0.017
	(0.046)	(0.070)
Cash/asset	-0.045	-0.034
	(0.051)	(0.080)
Year effect	-0.005	0.00
	(0.004)	(0.006)
Constant	0.126***	0.145*
	(0.041)	(0.078)
Observations	712	322
R-squared	0.047	0.069

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

FIGURE 2a Year-wise distribution of average cumulative abnormal return (-1, +1) by gender-diver hedge funds and all-male hedge funds

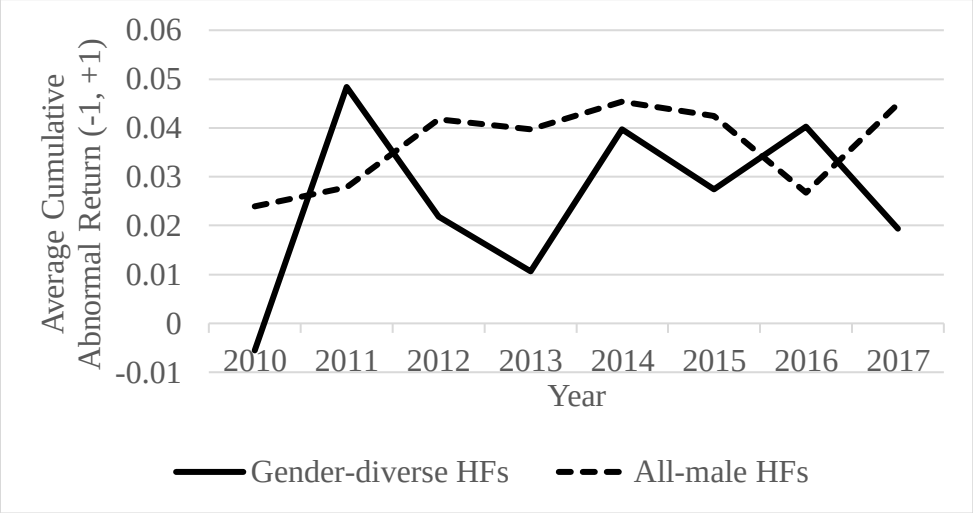

FIGURE 2b Year-wise distribution of average cumulative abnormal return (-3, +3) by gender-diver hedge funds and all-male hedge funds

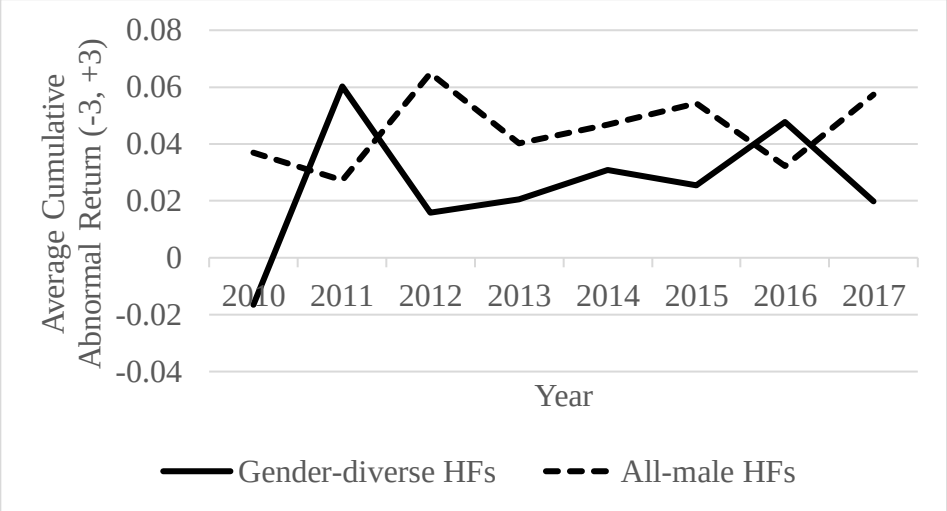

FIGURE 2c Year-wise distribution of average cumulative abnormal return (-10, +10) by gender-diver hedge funds and all-male hedge funds

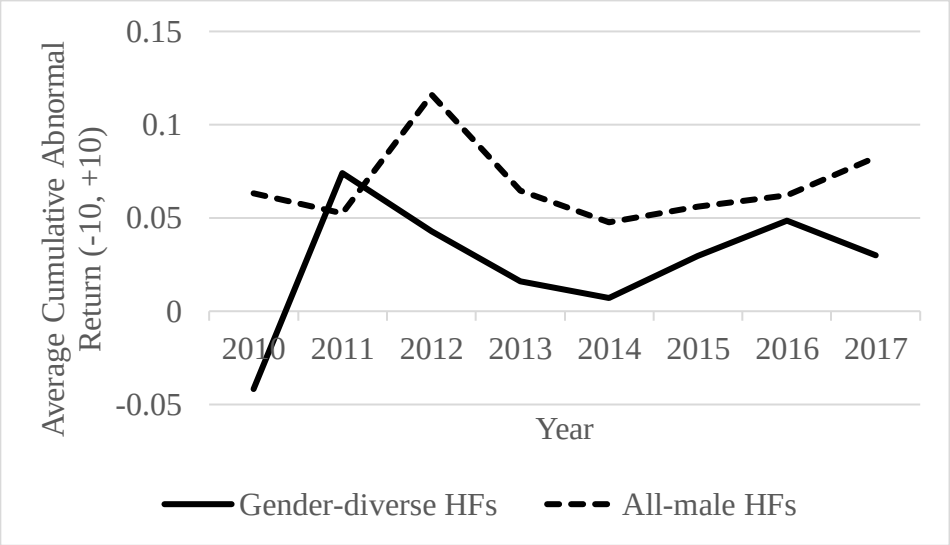

FIGURE 2d Year-wise distribution of average cumulative abnormal return (-20, +20) by gender-diver hedge funds and all-male hedge funds

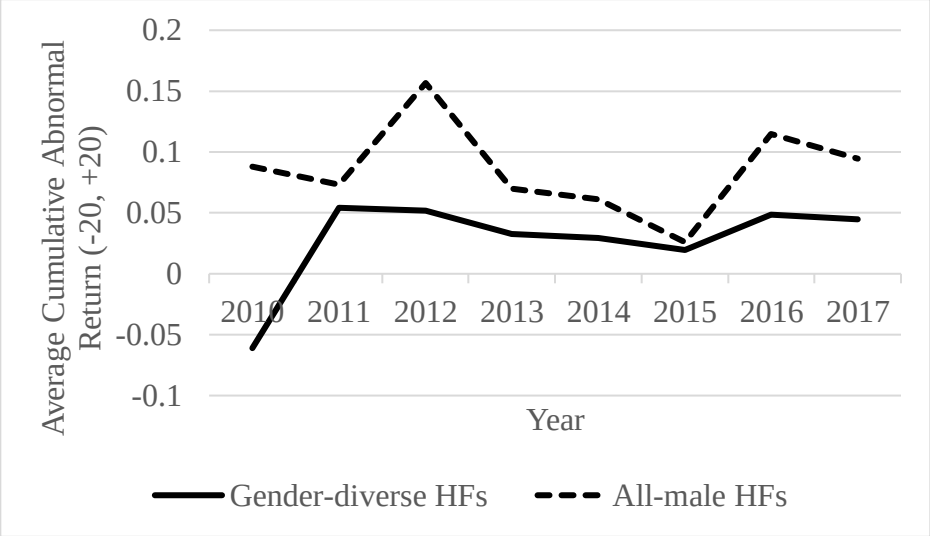

TABLE 6a Hypothesis 1- VIF (dependent variable CAR [-1, +1])

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.04	0.958	1.02	0.980
Cash/asset	1.03	0.967	1.03	0.969
Leverage (debt/asset)	1.17	0.856	1.11	0.902
Sale	1.21	0.824	1.23	0.815
SIC10_Durables	1.15	0.869	1.19	0.840
SIC10_Energy	1.19	0.841	1.20	0.832
SIC10_Health	1.31	0.766	1.27	0.785
SIC10_HiTech	1.66	0.603	1.61	0.623
SIC10_Manufacturing	1.37	0.728	1.41	0.710
SIC10_Nondurables	1.14	0.875	1.20	0.835
SIC10_Shops	1.40	0.713	1.41	0.709
SIC10_Telecom	1.13	0.883	1.17	0.853
SIC10_Utilities	1.02	0.982	1.02	0.977
Year effect	1.07	0.933	1.07	0.931
Mean VIF	**1.21**		**1.21**	

TABLE 6b Hypothesis 1- VIF (dependent variable CAR [-3, +3])

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.04	0.958	1.02	0.980
Cash/asset	1.03	0.967	1.03	0.969
Leverage (debt/asset)	1.17	0.857	1.11	0.902
Sale	1.21	0.824	1.23	0.815
SIC10_Durables	1.15	0.869	1.19	0.840
SIC10_Energy	1.19	0.841	1.20	0.832
SIC10_Health	1.31	0.766	1.27	0.785
SIC10_HiTech	1.66	0.603	1.61	0.623
SIC10_Manufacturing	1.37	0.728	1.41	0.710
SIC10_Nondurables	1.14	0.874	1.20	0.835
SIC10_Shops	1.40	0.713	1.41	0.709
SIC10_Telecom	1.13	0.883	1.17	0.853
SIC10_Utilities	1.02	0.982	1.02	0.977
Year effect	1.07	0.933	1.07	0.931
Mean VIF	**1.21**		**1.21**	

TABLE 6c Hypothesis 1- VIF (dependent variable CAR [-10, +10])

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.04	0.958	1.02	0.984
Cash/asset	1.03	0.967	1.04	0.960
Leverage (debt/asset)	1.17	0.857	1.14	0.874
Sale	1.21	0.824	1.22	0.822
SIC10_Durables	1.15	0.869	1.21	0.826
SIC10_Energy	1.19	0.841	1.21	0.825
SIC10_Health	1.31	0.766	1.28	0.784
SIC10_HiTech	1.66	0.603	1.67	0.600
SIC10_Manufacturing	1.37	0.728	1.41	0.709
SIC10_Nondurables	1.14	0.874	1.18	0.844
SIC10_Shops	1.40	0.713	1.41	0.709
SIC10_Telecom	1.13	0.883	1.16	0.864
SIC10_Utilities	1.02	0.982	1.02	0.978
Year effect	1.07	0.933	1.07	0.934
Mean VIF	**1.21**		**1.22**	

TABLE 6d Hypothesis 1- VIF (dependent variable CAR [-20, +20])

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.04	0.958	1.02	0.980
Cash/asset	1.03	0.967	1.05	0.952
Leverage (debt/asset)	1.17	0.855	1.15	0.866
Sale	1.21	0.824	1.24	0.803
SIC10_Durables	1.15	0.868	1.22	0.822
SIC10_Energy	1.18	0.847	1.20	0.836
SIC10_Health	1.31	0.764	1.26	0.792
SIC10_HiTech	1.67	0.600	1.66	0.603
SIC10_Manufacturing	1.38	0.725	1.39	0.717
SIC10_Nondurables	1.15	0.873	1.22	0.816
SIC10_Shops	1.41	0.710	1.45	0.689
SIC10_Telecom	1.13	0.881	1.13	0.881
SIC10_Utilities	1.02	0.982	1.04	0.961
Year effect	1.07	0.933	1.08	0.928
Mean VIF	**1.21**		**1.22**	

TABLE 7 Correlation matrix (performance with gender and control variables) (whole sample)

Correlations between ROA, Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. ROA	1				
2. Gender	-0.014	1			
3. Sale	0.225***	0.088***	1		
4. Leverage (debt/asset)	-0.021	0.047	0.152***	1	
5. Cash/Assets	0.005	-0.009	-0.094***	-0.091**	1

Correlations between TobinQ, Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. TobinQ	1				
2. Gender	0.023	1			
3. Sale	-0.017	0.088***	1		
4. Leverage (debt/asset)	-0.063	0.047	0.152***	1	
5. Cash/Assets	0.045	-0.009	-0.094***	-0.091**	1

Correlations significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 8a Hypothesis 1- OLS regression with robust standard errors (dependent variable ROA)

Variables	**Whole sample**	**Matched sample**
Gender	-0.013	-0.002
	(0.022)	(0.027)
Sale	0.031***	0.033***
	(0.006)	(0.011)
Leverage (debt/asset)	-0.065	-0.058
	(0.061)	(0.104)
Cash/asset	0.040	0.006
	(0.062)	(0.100)
Year effect	-0.007**	-0.003
	(0.003)	(0.006)
Constant	-0.175***	-0.229***
	(0.040)	(0.069)
Observations	690	298
R-squared	0.104	0.095

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 8b Hypothesis 1- OLS regression with robust standard errors (dependent variable TobinQ)

Variables	**Whole sample**	**Matched sample**
Gender	0.009	0.058
	(0.071)	(0.104)
Sale	-0.005	0.015
	(0.021)	(0.030)
Leverage (debt/asset)	-0.092	0.217
	(0.223)	(0.339)
Cash/asset	0.229	0.0378
	(0.278)	(0.382)
Year effect	0.047***	0.039
	(0.017)	(0.030)
Constant	1.166***	0.978***
	(0.174)	(0.288)
Observations	631	255
R-squared	0.131	0.208

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 9a Hypothesis 1- VIF (dependent variable ROA)

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.04	0.959	1.03	0.970
Cash/asset	1.03	0.967	1.04	0.961
Leverage (debt/asset)	1.18	0.847	1.15	0.873
Sale	1.22	0.820	1.28	0.778
SIC10_Durables	1.17	0.856	1.25	0.803
SIC10_Energy	1.22	0.823	1.23	0.811
SIC10_Health	1.36	0.737	1.31	0.763
SIC10_HiTech	1.76	0.569	1.67	0.598
SIC10_Manufacturing	1.44	0.696	1.42	0.704
SIC10_Nondurables	1.17	0.858	1.21	0.828
SIC10_Shops	1.46	0.685	1.36	0.733
SIC10_Telecom	1.15	0.867	1.10	0.907
SIC10_Utilities	1.02	0.981	1.03	0.975
Year effect	1.07	0.938	1.08	0.925
Mean VIF	**1.23**		**1.23**	

TABLE 9b Hypothesis 1- VIF (dependent variable TobinQ)

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.03	0.967	1.04	0.960
Cash/asset	1.03	0.974	1.06	0.939
Leverage (debt/asset)	1.20	0.835	1.12	0.892
Sale	1.20	0.836	1.24	0.804
SIC10_Durables	1.11	0.899	1.09	0.918
SIC10_Energy	1.21	0.825	1.24	0.810
SIC10_Health	1.36	0.738	1.33	0.750
SIC10_HiTech	1.68	0.594	1.60	0.627
SIC10_Manufacturing	1.41	0.711	1.41	0.712
SIC10_Nondurables	1.16	0.860	1.19	0.840
SIC10_Shops	1.46	0.684	1.45	0.690
SIC10_Telecom	1.16	0.863	1.23	0.812
SIC10_Utilities	1.02	0.980	1.05	0.951
Year effect	1.07	0.935	1.11	0.902
Mean VIF	**1.22**		**1.23**	

TABLE 10 Correlation matrix (managerial resistance with gender and control variables) (whole sample)

Correlations between Managerial resistance, Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Managerial resistance	1				
2. Gender	0.184***	1			
3. Sale	-0.04	0.0877***	1		
4. Leverage	-0.011	0.0469	0.152***	1	
5. Cash/Assets	-0.003	-0.009	-0.094***	-0.091**	1

Correlations significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 11a Hypothesis 2- Logistic regression with odds ratio (dependent variable managerial resistance)

Variables	Whole sample	Matched sample
Gender	2.064***	2.205***
	(0.360)	(0.533)
Sale	0.954	0.993
	(0.041)	(0.067)
Leverage (debt/asset)	0.770	0.894
	(0.264)	(0.428)
Cash/asset	0.823	0.476
	(0.454)	(0.402)
Year effect	1.058	1.195***
	(0.042)	(0.080)
Constant	0.853	0.259**
	(0.324)	(0.173)
Observations	701	309
Pseudo R_2	0.032	0.058

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 11b Hypothesis 2- Logistic regression with coefficients (dependent variable managerial resistance)

Variables	**Whole sample**	**Matched sample**
Gender	0.725***	0.791***
	(0.175)	(0.242)
Sale	-0.047	-0.007
	(0.043)	(0.067)
Leverage (debt/asset)	-0.261	-0.112
	(0.343)	(0.479)
Cash/asset	-0.194	-0.743
	(0.551)	(0.846)
Year effect	0.057	0.178***
	(0.040)	(0.067)
Constant	-0.159	-1.352**
	(0.380)	(0.668)
Observations	701	309
Pseudo R_2	0.032	0.058

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 11c Hypothesis 2- Logistic regression with marginal effect (dependent variable managerial resistance)

Variables	**Whole sample**	**Matched sample**
Gender	0.171***	0.181***
	(0.039)	(0.051)
Sale	-0.011	-0.002
	(0.010)	(0.015)
Leverage (debt/asset)	-0.062	-0.025
	(0.081)	(0.110)
Cash/asset	-0.046	-0.170
	(0.130)	(0.193)
Year effect	0.013	0.041***
	(0.009)	(0.015)
Observations	701	309

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 12 Hypothesis 2 VIF (dependent variable managerial resistance)

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.47	0.682	1.98	0.505
Cash/asset	1.82	0.550	1.94	0.515
Leverage (debt/asset)	2.24	0.446	2.32	0.432
Sale	8.16	0.123	8.29	0.121
SIC10_Durables	1.19	0.841	1.21	0.824
SIC10_Energy	1.24	0.808	1.26	0.791
SIC10_Health	1.28	0.779	1.30	0.769
SIC10_HiTech	1.88	0.531	2.01	0.497
SIC10_Manufacturing	1.50	0.668	1.52	0.660
SIC10_Nondurables	1.17	0.851	1.21	0.823
SIC10_Shops	1.55	0.644	1.55	0.645
SIC10_Telecom	1.14	0.875	1.17	0.857
Year effect	5.31	0.188	6.11	0.164
Mean VIF	**2.3**		**2.45**	

TABLE 13 Correlation matrix (wolf pack with gender and control variables) (whole sample)

Correlations between Wolf pack, Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Wolf Pack	1				
2. Gender	-0.080**	1			
3. Sale	0.055	0.088***	1		
4. Leverage	-0.014	0.047	0.152***	1	
5. Cash/Assets	0.034	-0.009	-0.094***	-0.091**	1

Correlations significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 14a Hypothesis 3- Logistic regression with odds ratio (dependent variable wolf pack)

Variables	**Whole sample**	**Matched sample**
Gender	0.713**	0.609**
	(0.122)	(0.145)
Sale	1.018	0.971
	(0.042)	(0.067)
Leverage (debt/asset)	0.806	1.892
	(0.276)	(0.936)
Cash/asset	2.777*	2.497
	(1.594)	(2.135)
Year effect	1.005	0.944
	(0.038)	(0.062)
Constant	0.940	2.134
	(0.340)	(1.373)
Observations	714	323
Pseudo R_2	0.024	0.070

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 14b Hypothesis 3- Logistic regression with coefficient (dependent variable wolf pack)

Variables	**Whole sample**	**Matched sample**
Gender	-0.339**	-0.495**
	(0.171)	(0.239)
Sale	0.018	-0.029
	(0.041)	(0.068)
Leverage (debt/asset)	-0.216	0.637
	(0.343)	(0.495)
Cash/asset	1.021*	0.915
	(0.574)	(0.855)
Year effect	0.005	-0.057
	(0.038)	(0.065)
Constant	-0.062	0.758
	(0.361)	(0.643)
Observations	714	323
Pseudo R_2	0.024	0.070

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 14c Hypothesis 3- Logistic regression with marginal effect (dependent variable wolf pack)

Variables	**Whole sample**	**Matched sample**
Gender	-0.082**	-0.112**
	(0.041)	(0.053)
Sale	0.004	-0.007
	(0.010)	(0.015)
Leverage (debt/asset)	-0.052	0.144
	(0.082)	(0.111)
Cash/asset	0.246*	0.207
	(0.137)	(0.191)
Year effect	0.001	-0.013
	(0.009)	(0.015)
Observations	714	323

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 15 Hypothesis 3 VIF (dependent variable wolf pack)

Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.47	0.680	1.99	0.502
Cash/asset	1.81	0.553	1.86	0.536
Leverage (debt/asset)	2.23	0.448	2.20	0.455
Sale	7.91	0.126	8.36	0.120
SIC10_Durables	1.19	0.843	1.26	0.791
SIC10_Energy	1.24	0.806	1.27	0.789
SIC10_Health	1.28	0.780	1.31	0.764
SIC10_HiTech	1.87	0.534	1.99	0.503
SIC10_Manufacturing	1.49	0.669	1.63	0.612
SIC10_Nondurables	1.17	0.852	1.25	0.800
SIC10_Shops	1.55	0.646	1.56	0.640
SIC10_Telecom	1.15	0.872	1.17	0.854
Year effect	5.29	0.189	6.15	0.163
Mean VIF	**2.28**		**2.46**	

TABLE 16 Correlation matrix (aggressiveness with gender and control variables) (whole sample)

Aggressiveness1					
	1	**2**	**3**	**4**	**5**
1. Aggressiveness1	1				
2. Gender	-0.142***	1			
3. Sale	-0.037	0.088***	1		
4. Leverage (debt/asset)	-0.048	0.047	0.152***	1	
5. Cash/Assets	-0.038	-0.009	-0.094***	-0.091**	1

Aggressiveness2					
	1	**2**	**3**	**4**	**5**
1. Aggressiveness2	1				
2. Gender	-0.124***	1			
3. Sale	-0.043	0.088***	1		
4. Leverage (debt/asset)	-0.014	0.047	0.152***	1	
5. Cash/Assets	0.005	-0.009	-0.094***	-0.091**	1

Correlations significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 17a Hypothesis 4- OLS regression with robust standard errors (dependent variable Aggressivess1)

Variables	**Whole sample**	**Matched sample**
Gender	-0.246***	-0.245**
	(0.073)	(0.100)
Sale	-0.013	-0.020
	(0.018)	(0.030)
Leverage (debt/asset)	-0.161	-0.344
	(0.163)	(0.265)
Cash/asset	-0.306	-0.059
	(0.247)	(0.390)
Year effect	-0.055***	-0.017
	(0.016)	(0.029)
Constant	2.373***	2.250***
	(0.154)	(0.279)
Observations	716	324
R-squared	0.058	0.065

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 17b Hypothesis 4- OLS regression with robust standard errors (dependent variable Aggressivess2)

Variables	**Whole sample**	**Matched sample**
Gender	-0.435***	-0.348**
	(0.126)	(0.169)
Sale	-0.017	-0.033
	(0.032)	(0.046)
Leverage (debt/asset)	-0.010	-0.070
	(0.319)	(0.516)
Cash/asset	-0.116	0.177
	(0.422)	(0.605)
Year effect	-0.076***	0.024
	(0.028)	(0.048)
Constant	3.234***	2.940***
	(0.270)	(0.466)
Observations	716	325
R-squared	0.050	0.064

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 18a Hypothesis 4- VIF (dependent variable Aggressiveness1)

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.04	0.958	1.02	0.981
Cash/asset	1.03	0.967	1.03	0.968
Leverage (debt/asset)	1.17	0.857	1.12	0.890
Sale	1.21	0.824	1.25	0.802
SIC10_Durables	1.15	0.869	1.23	0.812
SIC10_Energy	1.19	0.841	1.21	0.826
SIC10_Health	1.31	0.766	1.27	0.787
SIC10_HiTech	1.66	0.603	1.61	0.622
SIC10_Manufacturing	1.38	0.726	1.46	0.686
SIC10_Nondurables	1.14	0.875	1.19	0.840
SIC10_Shops	1.40	0.713	1.41	0.709
SIC10_Telecom	1.13	0.883	1.16	0.864
SIC10_Utilities	1.02	0.982	1.02	0.977
Year effect	1.07	0.933	1.08	0.927
Mean VIF	**1.21**		**1.22**	

TABLE 18b Hypothesis 4- VIF (dependent variable Aggressiveness2)

	Whole sample		**Matched sample**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**
Gender	1.04	0.958	1.02	0.980
Cash/asset	1.03	0.967	1.03	0.968
Leverage (debt/asset)	1.17	0.857	1.12	0.890
Sale	1.21	0.823	1.25	0.802
SIC10_Durables	1.15	0.869	1.23	0.812
SIC10_Energy	1.19	0.841	1.21	0.826
SIC10_Health	1.31	0.766	1.27	0.787
SIC10_HiTech	1.66	0.603	1.61	0.621
SIC10_Manufacturing	1.38	0.726	1.46	0.685
SIC10_Nondurables	1.14	0.875	1.19	0.840
SIC10_Shops	1.40	0.713	1.42	0.704
SIC10_Telecom	1.13	0.883	1.16	0.864
SIC10_Utilities	1.02	0.982	1.02	0.977
Year effect	1.07	0.933	1.08	0.928
Mean VIF	**1.21**		**1.22**	

TABLE 19 Correlation matrix (value with gender and control variables) (whole sample)

Correlations between Value (Relative Free Cash), Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Relative Free Cash	1				
2. Gender	-0.036	1			
3. Sale	-0.071*	0.113***	1		
4. Leverage	0.406***	0.043	0.195***	1	
5. Cash/Assets	-0.068*	0.033	-0.141***	-0.092**	1

Correlations between Value (Relative Leverage), Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Relative Leverage (debt/equity)	1				
2. Gender	0.075*	1			
3. Sale	0.288***	0.113***	1		
4. Leverage	0.217***	0.043	0.195***	1	
5. Cash/Assets	-0.015	0.033	-0.141***	-0.092**	1

Correlations between Value (Relative Size), Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Relative Size (Employees)	1				
2. Gender	0.068*	1			
3. Sale	0.553***	0.113***	1		
4. Leverage	0.096**	0.043	0.195***	1	
5. Cash/Assets	-0.065	0.033	-0.141***	-0.092**	1

Correlations between Value (Relative ROA), Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Relative ROA	1				
2. Gender	0.031	1			
3. Sale	0.228***	0.113***	1		
4. Leverage	-0.03	0.043	0.195***	1	
5. Cash/Assets	0.025	0.033	-0.141***	-0.092**	1

Correlations significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 19 Correlation matrix (value with gender and control variables) (whole sample) (Cont.)

Correlations between Value (Relative MV), Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Relative MV	1				
2. Gender	0.079**	1			
3. Sale	0.566***	0.113***	1		
4. Leverage	0.074*	0.043	0.195***	1	
5. Cash/Assets	-0.066*	0.033	-0.141***	-0.092**	1

Correlations between Value (Relative TobinQ), Gender, and control variables					
	1	**2**	**3**	**4**	**5**
1. Relative TobinQ	1				
2. Gender	0.052	1			
3. Sale	0.065*	0.113***	1		
4. Leverage	0.089**	0.043	0.195***	1	
5. Cash/Assets	-0.023	0.033	-0.141***	-0.092**	1

Correlations significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 20a Hypothesis 5- Logistic regression with odds ratio, coefficients, and marginal effect (dependent variable value measured by free cash) (whole sample)

Variables	**Odds Ratio**	**Coefficients**	**Marginal Effect**
Gender	0.907	-0.097	-0.018
	(0.191)	(0.210)	(0.039)
Sale	0.741***	-0.300***	-0.056***
	(0.043)	(0.058)	(0.010)
Leverage (debt/asset)	851.895***	6.747***	1.261***
	(667.582)	(0.784)	(0.097)
Cash/asset	0.393	-0.935	-0.175
	(0.275)	(0.699)	(0.130)
Constant	3.218**	1.169**	
	(1.531)	(0.476)	
Observations	617	617	617
Pseudo R_2	0.202	0.202	

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 20b Hypothesis 5- Logistic regression with odds ratio, coefficients, and marginal effect (dependent variable value measured by leverage) (whole sample)

Variables	**Odds Ratio**	**Coefficients**	**Marginal Effect**
Gender	1.236	0.212	0.039
	(0.259)	(0.209)	(0.039)
Sale	1.462***	0.380***	0.070***
	(0.088)	(0.060)	(0.010)
Leverage (debt/asset)	15.705***	2.754***	0.508***
	(12.315)	(0.784)	(0.130)
Cash/asset	2.051	0.718	0.133
	(1.344)	(0.655)	(0.120)
Constant	0.070***	-2.657***	
	(0.033)	(0.475)	
Observations	617	617	617
Pseudo R_2	0.162	0.1618	

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 20c Hypothesis 5- Logistic regression with odds ratio, coefficients, and marginal effect (dependent variable value measured by size) (whole sample)

Variables	**Odds Ratio**	**Coefficients**	**Marginal Effect**
Gender	0.939	-0.063	-0.008
	(0.243)	(0.259)	(0.031)
Sale	4.330***	1.466***	0.177***
	(0.643)	(0.149)	(0.007)
Leverage (debt/asset)	0.382*	-0.963*	-0.116*
	(0.203)	(0.531)	(0.062)
Cash/asset	0.766	-0.267	-0.032
	(0.624)	(0.815)	(0.098)
Constant	0.000***	-8.441***	
	(0.000)	(0.864)	
Observations	617	617	617
Pseudo R_2	0.429	0.429	

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 20d Hypothesis 5- Logistic regression with odds ratio, coefficients, and marginal effect (dependent variable value measured by ROA) (whole sample)

Variables	**Odds Ratio**	**Coefficients**	**Marginal Effect**
Gender	0.895	-0.111	-0.025
	(0.173)	(0.193)	(0.043)
Sale	1.397***	0.335***	0.075***
	(0.070)	(0.050)	(0.010)
Leverage (debt/asset)	0.406**	-0.901**	-0.201**
	(0.174)	(0.429)	(0.095)
Cash/asset	2.089	0.737	0.164
	(1.232)	(0.590)	(0.131)
Constant	0.137***	-1.988***	
	(0.056)	(0.410)	
Observations	617	617	617
Pseudo R_2	0.079	0.079	

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 20e Hypothesis 5- Logistic regression with odds ratio, coefficients, and marginal effect (dependent variable value measured by market value) (whole sample)

Variables	**Odds Ratio**	**Coefficients**	**Marginal Effect**
Gender	1.122	0.115	0.015
	(0.284)	(0.253)	(0.033)
Sale	3.821***	1.340***	0.175***
	(0.459)	(0.120)	(0.006)
Leverage (debt/asset)	0.333**	-1.100**	-0.144**
	(0.181)	(0.543)	(0.070)
Cash/asset	0.806	-0.216	-0.028
	(0.684)	(0.848)	(0.111)
Constant	0.000***	-8.620***	
	(0.000)	(0.813)	
Observations	617	617	617
Pseudo R_2	0.413	0.413	

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 20f Hypothesis 5- Logistic regression with odds ratio, coefficients, and marginal effect (dependent variable value measured by TobinQ) (whole sample)

Variables	**Odds Ratio**	**Coefficients**	**Marginal Effect**
Gender	1.208	0.189	0.041
	(0.229)	(0.189)	(0.041)
Sale	1.009	0.009	0.002
	(0.049)	(0.049)	(0.011)
Leverage (debt/asset)	1.830	0.604	0.132
	(0.726)	(0.397)	(0.086)
Cash/asset	0.837	-0.177	-0.039
	(0.535)	(0.639)	(0.139)
Constant	0.480*	-0.733*	
	(0.192)	(0.401)	
Observations	617	617	617
Pseudo R_2	0.029	0.029	

Industry dummy variables are omitted.
Robust standard errors are reported in parentheses below the coefficients.
* p<0.10; ** p<0.05; p***<0.01 (two-tailed tests)

TABLE 21a Hypothesis 5 VIF (dependent variable value measured by free cash) (whole sample)

Variable	**VIF**	**1/VIF**
Gender	1.46	0.685
Cash/asset	1.81	0.552
Leverage (debt/asset)	2.13	0.470
Sale	6.81	0.147
SIC10_Durables	1.27	0.785
SIC10_Energy	1.36	0.733
SIC10_Health	1.41	0.710
SIC10_HiTech	2.18	0.459
SIC10_Manufacturing	1.72	0.581
SIC10_Nondurables	1.26	0.792
SIC10_Shops	1.77	0.564
SIC10_Telecom	1.23	0.815
Mean VIF	**2.03**	

TABLE 21b Hypothesis 5 VIF (dependent variable value measured by leverage) (whole sample)

Variable	**VIF**	**1/VIF**
Gender	1.46	0.6845
Cash/asset	1.81	0.552
Leverage (debt/asset)	2.13	0.470
Sale	6.81	0.147
SIC10_Durables	1.27	0.785
SIC10_Energy	1.36	0.733
SIC10_Health	1.41	0.710
SIC10_HiTech	2.18	0.459
SIC10_Manufacturing	1.72	0.581
SIC10_Nondurables	1.26	0.792
SIC10_Shops	1.77	0.564
SIC10_Telecom	1.23	0.815
Mean VIF	**2.03**	

TABLE 21c Hypothesis 5 VIF (dependent variable value measured by size) (whole sample)

Variable	**VIF**	**1/VIF**
Gender	1.46	0.685
Cash/asset	1.81	0.552
Leverage (debt/asset)	2.13	0.470
Sale	6.81	0.147
SIC10_Durables	1.27	0.785
SIC10_Energy	1.36	0.733
SIC10_Health	1.41	0.710
SIC10_HiTech	2.18	0.459
SIC10_Manufacturing	1.72	0.581
SIC10_Nondurables	1.26	0.792
SIC10_Shops	1.77	0.564
SIC10_Telecom	1.23	0.815
Mean VIF	**2.03**	

TABLE 21d Hypothesis 5 VIF (dependent variable value measured by ROA) (whole sample)

Variable	**VIF**	**1/VIF**
Gender	1.46	0.685
Cash/asset	1.81	0.552
Leverage (debt/asset)	2.13	0.470
Sale	6.81	0.147
SIC10_Durables	1.27	0.785
SIC10_Energy	1.36	0.733
SIC10_Health	1.41	0.710
SIC10_HiTech	2.18	0.459
SIC10_Manufacturing	1.72	0.581
SIC10_Nondurables	1.26	0.792
SIC10_Shops	1.77	0.564
SIC10_Telecom	1.23	0.815
Mean VIF	**2.03**	

TABLE 21e Hypothesis 5 VIF (dependent variable value measured by market value) (whole sample)

Variable	**VIF**	**1/VIF**
Gender	1.46	0.685
Cash/asset	1.81	0.552
Leverage (debt/asset)	2.13	0.470
Sale	6.81	0.147
SIC10_Durables	1.27	0.785
SIC10_Energy	1.36	0.733
SIC10_Health	1.41	0.710
SIC10_HiTech	2.18	0.459
SIC10_Manufacturing	1.72	0.581
SIC10_Nondurables	1.26	0.792
SIC10_Shops	1.77	0.564
SIC10_Telecom	1.23	0.815
Mean VIF	**2.03**	

TABLE 21f Hypothesis 5 VIF (dependent variable value measured by TobinQ) (whole sample)

Variable	**VIF**	**1/VIF**
Gender	1.46	0.685
Cash/asset	1.81	0.552
Leverage (debt/asset)	2.13	0.470
Sale	6.81	0.147
SIC10_Durables	1.27	0.785
SIC10_Energy	1.36	0.733
SIC10_Health	1.41	0.710
SIC10_HiTech	2.18	0.459
SIC10_Manufacturing	1.72	0.581
SIC10_Nondurables	1.26	0.792
SIC10_Shops	1.77	0.564
SIC10_Telecom	1.23	0.815
Mean VIF	**2.03**	

TABLE 22 Comparison between treated (gender-diverse hedge funds) and control groups (all-male hedge funds) in managerial resistance, formation of wolf pack, and aggressiveness before and after propensity score matching

Variable	Control group		Treated group	
	Categories	N	Categories	N
Managerial resistance	1 (rejected)	77	1 (rejected)	124
	0 (including campaigns coded as withdrew, partially agreed, agreed, and settled)	140	0 (including campaigns coded as withdrew, partially agreed, agreed, and settled)	93
Wolf pack	1 (Support from other hedge funds)	103	1 (Support from other hedge funds)	84
	0 (No support)	118	0 (No support)	137
Aggressiveness1	No observable tactics	5	No observable tactics	11
	Communication with the management	88	Communication with the management	109
	Board representation, formal shareholder proposals, and public criticism of the company	66	Board representation, formal shareholder proposals, and public criticism of the company	54
	Threaten or launch of proxy fight, sue the company, or takeover bid for the company	62	Threaten or launch of proxy fight, sue the company, or takeover bid for the company	47
Aggressiveness2 (Sum of tactics)	0 tactic	5	0 tactic	11
	1 tactic	59	1 tactic	80
	2 tactics	73	2 tactics	54
	3 tactics	35	3 tactics	34
	4 tactics	24	4 tactics	24
	5 tactics	13	5 tactics	11
	6 tactics	10	6 tactics	4
	7 tactics	1	7 tactics	2
	8 tactics	1	8 tactics	1

TABLE 23 Comparison of t-tests for difference in means between treated (gender-diverse hedge funds) and control groups (all-male hedge funds) on the matching variables both before and after propensity score matching

Variables	**Before matching**						
	Control group			**Treated group**			
	N	**Mean**	**S.E**	**N**	**Mean**	**S.E**	**t-test of mean**
Stake of the hedge fund	595	7.70	0.29	264	8.60	0.391	-1.762*
Hedge fund age	643	13.49	0.427	277	17.11	0.648	-4.662***
Hedge fund size (employees)	647	2.30	0.069	277	4.574	0.158	-15.330***
	After matching						
	Control group			**Treated group**			
	N	**Mean**	**S.E**	**N**	**Mean**	**S.E**	**t-test of mean**
Stake of the hedge fund	221	7.780	0.385	221	7.713	0.347	0.130
Hedge fund age	221	14.19	0.832	221	14.32	0.535	-0.124
Hedge fund size (employees)	221	3.72	0.093	221	3.65	0.091	0.590

Significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 24a Average ATT, ATU, and ATE performance effect of gender diversity among hedge funds

	Average effect for CAR [-1, +1]	**Average effect for CAR [-3, +3]**	**Average effect for CAR [-10, +10]**	**Average effect for CAR [-20, +20]**
ATT	-0.021**	-0.024**	-0.036**	-0.040**
	(0.01)	(0.01)	(0.02)	(0.02)
ATU	-0.019**	-0.022**	-0.046***	-0.042**
	(0.008)	(0.01)	(0.02)	(0.02)
ATE	-0.019**	-0.023**	-0.041***	-0.041**
	(0.009)	(0.01)	(0.02)	(0.02)

The standard errors in parentheses are bootstrapped using 50 replications.
Significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 24b Average ATT, ATU, and ATE managerial resistance effect of gender diversity among hedge funds

	Average effect for Managerial resistance
ATT	0.204***
	(0.05)
ATU	0.219***
	(0.05)
ATE	0.211***
	(0.04)

The standard errors in parentheses are bootstrapped using 50 replications.
Significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 24c Average ATT, ATU, and ATE wolf pack effect of gender diversity among hedge funds

	Average effect for Wolf pack
ATT	-0.085*
	(0.05)
ATU	-0.083*
	(0.05)
ATE	-0.083*
	(0.05)

The standard errors in parentheses are bootstrapped using 50 replications.
Significant at * p<0.10; ** p<0.05; p***<0.01

TABLE 24d Average ATT, ATU, and ATE aggressiveness effect of gender diversity among hedge funds

	Average effect for Aggressiveness1	**Average effect for Aggressiveness2**
ATT	-0.183**	-0.258*
	(0.09)	(0.15)
ATU	-0.207***	-0.262*
	(0.08)	(0.16)
ATE	-0.195**	-0.260*
	(0.08)	(0.15)

The standard errors in parentheses are bootstrapped using 50 replications.
Significant at * p<0.10; ** p<0.05; p***<0.01

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APPENDIX

Appendix A: Examples from FactSet database

Variable	Examples
Wolf Pack	**Example 1:** Starboard announced that it intends to withdraw its nomination of four candidates against Aarons, Inc.'s and support Vintage Capital's proxy fight for board control. **Example 2:** Corvex Management, L. P. and Marcato Capital Management, LLC filed a joint 13D urging Corrections Corporation of America to convert to a real estate investment trust (REIT) structure for tax purposes and to obtain a lower cost of equity capital. **Example 3:** Engine Capital, L. P. and Red Alder, LLC sent a letter to the board of ANN Inc. urging to commence a process to explore all strategic alternatives to maximize shareholder value, including a sale to a private equity or strategic buyer.
Aggressiveness1	**Example 1:** Lone Star Value Management, LLC did not publicly disclosed demands against Ameri Holdings, Inc. *(No specific demands made)* **Example 2:** Harbert Management Corporation disclosed that it had conversations with 1347 Property Insurance Holdings, Inc.'s management and board regarding possible ways to enhance shareholder value. *(Communication*) **Example 3:** Zevin Asset Management, LLC filed a notice of exempt solicitation containing a letter to shareholders urging them to vote for the proposal requiring Chevron Corporation's board to adopt a policy to require the Chairman to be an independent member of the board. *(Shareholder proposals)* **Example 4:** Carl C. Icahn disclosed a letter sent to the CEO of American International Group, Inc. criticizing the company for lack of urgency to split the company into smaller and simpler structure to maximize shareholder value. *(public criticism)* **Example 5:** Highfields Capital Management, L.P. issued a press release to express its disappointment with the decision of CoreLogic Inc. to focus on the company's business plan instead of pursuing a sale. *(Public criticism)* **Example 6:** Raging Capital Management, LLC sent a nomination letter to A. M. Castle & Co. nominating Richard N. Burger and Robert L. Lemer for election to the board at the 2016 annual meeting. *(Board representation)*

Appendix A: Examples from FactSet database (Cont.)

Variable	Examples
Aggressiveness1	**Example 7:** Engaged announced its proxy fight for nomination of five candidates for election to the 12-seat board of Abercrombie & Fitch Co. *(Threatening/waging proxy contests)* **Example 8:** Due to lack of response from Allscripts Healthcare Solutions, Inc., HealthCor Management, L. P., filed a complaint in the Court of Chancery of the State of Delaware seeking extension of the nomination deadline, which will provide sufficient time to solicit proxies for shareholders who wish to nominate candidates. *(Lawsuit)* **Example 9:** KSA Capital Management, LLC disclosed its conversation with Paul M. Feeney, CFO, AEP Industries Inc. regarding KSA's interest in taking over AEP. *(Takeover)*
Managerial resistance	**Example 1:** Abercrombie & Fitch Co. announced a new employment agreement with the CEO Michael Jeffries, when Engaged Capital, LLC were demanding removal of the CEO. *(Reject)* **Example 2:** Pershing Square Capital Management, L.P., solicited consents to call special meeting to remove 6 Allergan, Inc.'s directors, appoint new directors, and urged the board to consider Valeant's offer to acquire Allergan, Inc. The company then agreed to be acquired and Pershing Square withdrew request for special meeting. *(Withdrew)* **Example 3:** Engaged settled its proxy fight for nomination of five candidates for election to the 12-seat board of Abercrombie & Fitch Co., when the company agreed to appoint four independent director nominees of Engaged on the board. *(Partial agreed)* **Example 4:** ALCO Stores, Inc. agreed to terminate their merger agreement with Argonne Capital Group, LLC on the demand of MFP Investors, LLC. *(Agreed)* **Example 5:** Scopia Capital Management disclosed that Acorda Therapeutics, Inc., should consider selling the company to enhance shareholder value. The company enter into a settlement agreement with the dissident by offering them two seats on the board. *(Settlement)*