Why Do Institutional Investors Oppose Shareholder Activism? Evidence from Voting in Proxy Contests

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This paper documents significant heterogeneity in institutional investors' support for shareholder activism in proxy contests and examines the following question: why do institutional shareholders frequently vote against activists when the activists' actions increase the value of target firms? I propose that the voting decisions of institutional investors depend on the effect of shareholder activism on the return of the institutions' combined shareholdings in both targets and their rival firms. Because institutions underweight target firms and activism could adversely affect the values of rival firms, institutional investors often lack incentives to support activists when gains on targets are diluted or offset by losses on rival firms. Using hand-collected data of mutual and pension fund voting in proxy contests, I find evidence that institutions that benefit less from activism events are less likely to support the activists, even when the activist's effect on the target firm's stock price is positive. Furthermore, when target firms do not have publicly-traded competitors, institutional investors are more likely to support activists. The evidence is consistent with the hypothesis that institutional investors' portfolio returns explain whether or not they support activists.

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Preface

I thank my dissertation committee members Professor David Denis, Professor Frederik Schlingemann, and Professor Chester Spatt for their guidance. I especially thank my dissertation chair Professor Kenneth Lehn for his support and encouragement. I am also grateful to other professors at the University of Pittsburgh and the Carnegie Mellon University who I had the opportunities to learn from. I thank fellow doctoral students in the finance department as well as in other disciplines for their friendship.

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1.0 Introduction

Shareholder activism, especially hedge fund activism, on average increases the value of firms that are targeted by activists (Brav et al. 2008a, Bebchuk et al. 2015 and Brav et al. 2015b).[1] Despite this positive effect on the value of target firms, I find that institutional investors often vote against activists in proxy contests. This observation prompts the following question: why do institutional investors often oppose value-increasing actions in firms in which they own equity? This paper attempts to address this question.

I propose that the voting decisions of institutional investors depend on the effect of shareholder activism on the return of the institutions' combined shareholdings in both the target firms and their rival firms. Given that institutions often underweight target firms and shareholder activism on average adversely affects the stock prices and operating performance of rival firms (Aslan and Kumar, 2016), gains that institutions receive on their holdings of target firms often offset, in whole or in part, by losses incurred on their holdings of rival firms. Because institutional investors compete based on relative performance (Sirri and Tufano, 1998; Bebchuk et al., 2017; Bebchuk and Hirst, 2018a), they don't have strong incentives to support activists when losses on rival firms offset gains on targets. I predict that institutions that benefit less from activism events are less likely to support the activists.

Trian Fund Management's proxy contest with DuPont provides anecdotal evidence consistent with this hypothesis. On July 17th, 2013, the media disclosed Trian's equity stake in DuPont. DuPont's cumulative abnormal return was a statistically significant (at the 1% level) 4.86% over a seven-day window.[2] Trian subsequently launched a proxy contest for four board seats in 2015 and proposed to increase DuPont's value by breaking the company into four parts. Three large institutional investors, Blackrock, Vanguard, and State Street, who collectively owned 15.4% of Dupont, revealed in SEC filings that they had voted against Trian's nominees for DuPont in the election. On the day when the election results were released and Trian failed to get any board seats, DuPont's abnormal return was -6.73%.

[1] For a comprehensive review, see (Brav et al., 2015a; Denes et al., 2017).

[2] I use a seven-day window here because Trian's position in DuPont was first disclosed by media and Trian announced its plan four business days later.

During the proxy battle, Trian claimed that DuPont was underperforming relative to its peers, including, most notably, Monsanto, a key rival of DuPont's agricultural seed business.[3] In a presentation to DuPont shareholders, Trian referred to Monsanto 30 times, focusing on how DuPont had failed to deploy its balance sheet to boost shareholder returns, and lost a patent lawsuit involving seed technology to Monsanto. Trian first revealed its proposals for DuPont on July 24th, 2013.[4] Over a seven-day window surrounding this announcement, Monsanto's cumulative abnormal return was -4.81% and significant at the 1% level, suggesting that the market viewed Trian's plans for DuPont as being detrimental to Monsanto. Upon the release of the news that Trian was defeated, Monsanto's abnormal return was 1.88% and significant at the 10% level.

Table 1 illustrates the shareholdings of large institutional investors in both DuPont and Monsanto as of March 31st, 2015, the end of the quarter immediately before the annual meeting date of DuPont, and their voting decisions in the proxy contest. Panel A shows that nine of the ten largest institutional investors in DuPont were mutual and pension funds that held shares in Monsanto. Only five of the funds supported Trian in the proxy fight. In Figure 1, I discuss how I measure each institution's economic incentive before voting. Specifically, I use the market reactions to DuPont and Monsanto when Trian disclosed its plan to measure the potential benefits or costs if Trian won and implemented its plans to increase DuPont's value. In Panel B, I then calculate each institution's value-weighted portfolio return using holdings before the annual meeting and the initial announcement returns.[5] The higher the return, the more the institution benefits from Trian's victory. In Table 1, I show that institutions that potentially benefit more from supporting Trian are more likely to vote for Trian's nominees. On the other hand, Blackrock, Vanguard, and State Street would not benefit from Trian's actions based on combined returns in DuPont and Monsanto, so all three voted against the Trian's nominees.

Because the returns to activists and institutions who own shares in both the target firms

[3]Schmalz (2015): How passive funds prevent competition. Reuters: DuPont seeks exit from paints business to focus on farms (https://www.reuters.com/article/dupont-results/update-5-dupont-seeks-exit-from-paints-business-to-focus-on-farms-idUSL4N0FT26620130723)

[4]DuPont: SCHEDULE 14A (https://www.sec.gov/Archives/edgar/data/30554/000104746915002338/a2223550zprer14a.htm)

[5]In robust tests, I also use the holdings immediately before the 13D announcement dates, and the results are similar. I discuss the time-series changes in holdings in the robustness section.

and their rivals can be quite different, the institutions often lack an economic incentive to support activists. The evidence that I find on the voting decisions of institutional investors in 113 proxy contests from July 2013 to June 2017 is consistent with this prediction. Specifically, I exploit the variation in institutional ownership in targets and their rival firms to assess the relation between the returns on the institutions' combined holdings of targets and their rivals and their voting decisions in proxy contests.

I first document that there exists a significant variation in support for activists among institutional investors in proxy contests. Institutional investors on average voted against activists in one-fifth to one-fourth of the cases even when the most influential proxy advisor, ISS (Institutional Shareholder Services), endorsed the activists.[6] Fund families whose portfolios mainly consist of index funds and ETFs, such as BlackRock, Vanguard, and State Street, are more likely to vote against the activists than other institutional investors. Within same proxy contests, passive funds are 30 percentage points less likely to support the activists when ISS endorsed the dissident nominees. I then calculate institutional investors' industry portfolio returns and find that institutional investors of target firms with returns in the top decile are 12.93% percent (more than 50% of the 25% average rejection rate when ISS support the activists) less likely to vote against the activists than institutional investors with returns in the bottom decile in proxy contests.

Using multivariate regression models, I find that institutions that benefit less from activism events are more likely to vote against the activists. To alleviate the concern that announcement returns incorporate potential merits and probabilities of success, I control for meeting fixed effects and institution fixed effects. In this specification, I am comparing institutions that voted in the same meetings but have different industry portfolio returns while controlling for the institutions' average propensity to support the activists. The results

[6]Although there is a concern that ISS issues blanket recommendations for regular proposals, ISS does put in a significant amount of effort to evaluate cases of proxy contests and issues very detailed analysis for each case in addition to examining announcement returns around important events. See Alexander et al. (2010) for a discussion of the important role of ISS in influencing proxy voting and the evidence that voting advice is both predictive about contest outcomes and informative about the ability of dissidents to add value. McCahery et al. (2016) survey institutional investors and find that most investors use proxy advisors and believe that the information provided by such advisors improves their own voting decisions. In Table 11 and Table A3, I show that there are significant differences in market reactions of the meeting results when the activists won or lost. The CARs when the activists won are significantly higher than CARs when the activists lost around meeting dates.

are robust with respect to an alternative industry definition and an alternative measure of holdings before the announcement dates. Furthermore, when target firms do not have publicly-traded rivals, institutional investors are more likely to support the activists. These results are broadly consistent with my prediction that institutional investors' support for the activists depends on their portfolio holdings in both the targets and their competitors.

I contribute to the literature of how the ownership structures of firms affect the outcomes of activism campaigns. Institutional ownership has increased significantly over the last four decades. Although the sizes of institutions grow larger, institutions, especially passive investors, also hold a much higher number of stocks. Ownership concentration (HHI) has gone down, and firms in the same industry are more likely to be held by the same blockholders (see Figure 2). Appel et al. (2018) show that activists are more likely to pursue changes in corporate control or influence when larger shares of the target company stocks are held by passively managed mutual funds, assuming that (passive) institutional investors are homogeneous. Kedia et al. (2016) relax this assumption and show that activism-friendly institutional investors are associated with better performance of activism target firms, but they do not explain why some institutional investors are more friendly to activists. This paper contributes to the literature by first showing that there is significant variation in support for activists in events that are viewed as value-increasing to target firms by the market and leading proxy advisors and then proposing an economic explanation for it. The results in this paper indicate that Appel et al. (2018) who study the relation between total (passive) institutional ownership and shareholder activism are likely to misinterpret their results. Appel et al. (2018) show that an exogenous increase in the target firm's passive ownership increases passive institutions' incentive to support the activist. However, it does not imply that passive institutional investors unconditionally support shareholder activism. As I argue in this paper, it is the relative increases in portfolio weights of target firms that increase the incentive of passive institutions to support activists. Second, to the best of my knowledge, this is also the first paper to propose an economic explanation for the support of shareholder activism by institutional investors and to provide evidence that institutional investors' combined portfolio holdings, not only their target firm holdings, explain whether or not they support activists.

This paper also contributes to the debate on the anti-competitive effects of common ownership (Azar et al., 2018; Dennis et al., 2017). However, the results in this paper are not necessarily consistent with the collusion hypothesis, which posits that commonly-held public firms are more likely to maximize portfolio values through product-market collusion. Instead, the evidence in this paper is more consistent with Bebchuk et al. (2017), Bebchuk and Hirst (2018a) and Bebchuk and Hirst (2018b) who show the incentives of diversified or passive investors make them "under-invest in stewardship and to be deferential toward the corporate managers of portfolio companies... policymakers should be primarily concerned that investment fund managers engage too little and not that they engage too much." This paper provides empirical evidence to support their arguments that index funds have especially poor incentives to engage in stewardship activities. While activist hedge funds have substantially better incentives than managers of passive investors, they often do not get support from passive investors because of the negative externality of activism events.

2.0 Literature review

2.1 Shareholder activism's effects on target firms' value

The literature has extensively studied the rise in shareholder activism. Shareholder activism in the forms of shareholder proposals and negotiations have insignificant valuation effects, while hedge fund activism, proxy fights, and takeovers have significant (5% to 15% on average) positive effects on target company valuations (Denes et al., 2017). Denes et al. (2017) conclude that the past thirty years of shareholder activism have seen numerous innovations that improve monitoring and lower agency costs. These results are consistent with the argument of Alchian and Demsetz (1972) that managerial agency problems are controlled in part by dynamic changes in ownership, and with the observation of Alchian (1950) that business practices adapt over time to mimic successful strategies. This paper focuses on the activism campaigns in recent years and tries to shed light on the interaction between activist shareholders and other important institutional investors, such as mutual and pension funds.

Earlier studies find no significant benefits for shareholders when large and diversified institutional investors, particularly mutual and pension funds, launch activism campaigns (Black, 1998; Karpoff, 2001; Romano, 2001; Gillan and Starks, 2007). As argued by Brav et al. (2008a), activism campaigns by mutual and pension funds are ineffective compared to hedge funds because of the differences in their organizational form and incentives. Unlike mutual and pension funds, Hedge funds employ highly incentivized managers who manage large unregulated pools of capital. They are not subject to regulations that govern mutual funds, and they can hold highly concentrated positions in a small number of companies.

Empirical evidence in recent years finds that hedge fund activism, on average, significantly increases the value of firms that are targeted by activists (Brav et al., 2008a; Bebchuk et al., 2015; Brav et al., 2015a). Brav et al. (2015b) find that plants sold after intervention improve productivity significantly under new ownership, suggesting that asset redeployment is an important channel for value creation. Brav et al. (2008a) also show that hedge fund activism increases innovation output and improves long-term innovation efficiency even though

target firms significantly reduce R&D expenses.

Although the academic literature shows that hedge fund activism generally increases the value of target firms, many practitioners claim that the alleged short-termism of hedge funds make companies focus on short-term results and eventually hurt shareholders in the long term. Cremers et al. (2018) show that target firms perform worse than control firms matched based on pre-activism firm characteristics. However, they do not present evidence that hedge funds exit when short-term prices increase and target firms subsequently perform worse, which is a key prediction of the short-termism argument. Contrary to predictions of short-termism, Brav et al. (2008a) find no negative market reactions when hedge funds exit their positions in target firms. Furthermore, Boyson and Pichler (2018) find that target firms with the most hostile resistance to activists generate the highest value to shareholders. This finding is consistent with the view that agency costs are more severe among these firms. If the short-termism argument is valid, we would expect these campaigns to generate zero or negative returns in the long-run.

2.2 Externalities of Activist Campaigns

The premise of this paper relies on previous evidence that hedge fund activism imposes significant externalities on other firms. Aslan and Kumar (2016) examine the product market spillover effects of hedge fund activism. They document that hedge fund activism has negative and real stockholder wealth effects on the average rival firm. However, there is substantial heterogeneity in these spillover effects, based on rivals' post-activism improvements, financial constraints, and the threat of them being targeted by shareholder activism. Specifically, financially constrained rivals are less likely to show improvements and more likely to suffer more adverse product market consequences. On the other hand, rivals that are likely future targets of activism (and presumably had initiated proactive reforms) can compete on the basis of strategic complements — that is, to improve their product market performance — after activism, consistent with findings by Zhu (2014) and Gantchev et al. (2018). More importantly, Aslan and Kumar (2016) show that financial markets anticipate

the spillover effects. In particular, the heterogeneity in the spillover effects is reflected in the announcement returns of intervention events on rivals' stock returns.

Other stakeholders also can be negatively affected by shareholder activism. An earlier version of Aslan and Kumar (2016) finds that hedge fund activism targets gain higher bargaining power with their customers and suppliers after the intervention. Klein and Zur (2011) find evidence that the average excess bond return is -3.9% around the initial 13D filing dates because activists often ask firms to repurchase more shares, increase dividends, and increase leverage. Estimating the negative impact on bondholders is much more challenging because there are many different types of bonds outstanding for each firm and bond market liquidity is low (Klein and Zur (2011) only use the most recently issued bond as the representative bond for the firm). Because institutional investors also hold a substantial amount of corporate bonds, they also are hurt by the negative externalities on debt holders. In this paper, I focus on institutions' stock holdings in rival firms because they have the most significant economic impact on their returns.

2.3 Role of Institutional Investors in Shareholder Activism

Median institutional ownership of publicly traded U.S. firms has grown from 5% in 1980 to 70% in 2018 of the U.S. In the meantime, there has been tremendous change in the ownership of publicly-traded firms in the U.S. Consolidation in the asset management industry, and the rise in mutual fund investing has led a small number of institutional investors to become the largest shareholders in most publicly listed firms. As a result, competing firms are increasingly becoming owned, in part, by the same large institutions. The fraction of U.S. public firms that are commonly owned – i.e., have at least one investor that simultaneously owns a large investment stake in the firm and at least one of its competitors – has increased from around 10 percent in 1980 to approximately 75 percent in 2017 (see Figure 2). BlackRock and Vanguard are among the largest five shareholders of more than 53 percent of U.S.-listed firms in the Compustat universe (Park et al., 2019). These institutional investors can have a significant influence on the types of campaigns undertaken by activists, the tactics

they employ, and eventual outcomes of proxy contests. Appel et al. (2018) study the relation between passive ownership and activism event outcomes. They find activists are more likely to seek board representation when a larger share of the target company's stock is held by passively managed mutual funds. Furthermore, higher passive ownership is associated with the increased use of proxy fights, settlements, and a higher likelihood the activists achieve board representation or the sale of the targeted company. Their findings suggest that passive institutional investors mitigate free-rider problems and facilitates activists' ability to engage in costly, value-enhancing forms of monitoring. Because they examine the relationship between total fund ownership and activism event outcomes, their paper implicitly treats passive funds as homogeneous. In this paper, I show that there is significant variation in institutional investors' attitudes towards shareholder activism. Furthermore, passive funds are significantly less friendly to activists. Within the same meeting, passive funds are 30 percentage points less likely to support activists when ISS endorsed the dissident nominees (as shown in Table A2).

Kedia et al. (2016) document that the composition of institutional ownership has a significant impact on the likelihood of and value created from hedge fund activism. They develop measures of institutional ownership that reflect the likelihood of activist support. They find that activism-friendly institutional owners are associated with higher stock returns (both short term and long term) and higher operating performance of the target firms. Consistent with these investors being valuable to activists, they find that ownership by activism-friendly institutions also significantly increases the likelihood of being targeted by hedge fund activists. However, they do not explain why some institutional investors are friendly and treat friendliness towards activists as exogenous.

To the best of my knowledge, the only other paper that has analyzed institutional investors voting in proxy contests is Brav et al. (2018). Similar to this paper, they find that firm, fund, and event characteristics generate substantial heterogeneity among investors in their support for activists. Similar to Kedia et al. (2016), their finding suggests that a relatively pro-activist shareholder base is a key factor driving activists' selection of targets. This paper complements their results by providing an economic explanation of why institutional investors support or oppose the activists.

The main findings of this paper are that some investors do not have sufficient incentives to increase firm value. This is consistent with the arguments by Bebchuk et al. (2017) that index funds and actively managed funds - have incentives to under-spend on stewardship and side excessively with managers of corporations. Heath et al. (2018) show that passive funds are more likely to side with management in regular proposals and director elections. Lewellen and Lewellen (2018) directly calculate the dollar value of institutional investors' incentives to engage and conclude that many institutions have negative incentives to increase firm value at the expense of their holdings in rival firms. This paper is also related to the voting behavior of institutional investors. Exercising voting rights is an important channel of corporate governance. Iliev and Lowry (2015) show that over 25% of funds rely almost entirely on Institutional Shareholder Services (ISS) recommendations, while other funds place little weight on them. These actively voting funds are less likely to vote in a "one-size-fits-all" manner, and they earn higher alphas, consistent with benefits from this allocation of resources. Some activists also argue that passive institutions have a conflict of interest. In particular, a fear of losing the business of corporate pension plans may deter such institutions from supporting activists. On average, earnings from 401(k)-related business equal 14% of the revenues that mutual fund families earn from their equity funds, and such income can represent as much as 25% of fund family revenues (Davis and Kim, 2007). Since the choice of fiduciaries for 401(k) plans lies in the hands of firm executives who may be opposed to shareholder activism, there has been widespread suspicion that mutual funds may vote their proxies in a conflicted manner. Iliev and Lowry (2015) conclude that the economic magnitude of vote support from pension business ties between firms and mutual funds seems to be small. Cvijanović et al. (2016) find that business ties significantly influence pro-management voting at the level of individual pairs of fund families and firms after controlling for Institutional Shareholder Services (ISS) recommendations and holdings.

2.4 Common Ownership and Firm Behavior

The mechanism behind my main hypotheses is also related to the theory of Hansen and Lott (1996) and empirical work of Azar et al. (2018). Hansen and Lott (1996) show that shareholders that own diversified portfolios want to maximize portfolio values if companies impose externalities on one another. Azar et al. (2018) find that common ownership concentration is correlated with changes in airline ticket prices and conclude that common ownership reduces product market competition. The evidence in Azar et al. (2018) suggests that managers of firms in the same industry collude to maximize industry portfolio value. In this paper, instead of assuming managerial collusion of common-held firms, I examine activism's effect on portfolio value from the shareholders' perspective. I argue that institutions that hold diversified portfolios are less concerned about the underperformance of target firms because other firms in their portfolio would perform better. In this sense, this paper is closely related to Matvos and Ostrovsky (2008), who argue that institutional investors of acquirers do not vote against value-reducing mergers and acquisitions because they hold shares in both acquirers and targets. Harford et al. (2011) argue that cross-holdings are too small to have a meaningful impact on most acquisitions. They do find that cross-holdings increased rapidly from 1985 to 2005 due to indexing and quasi-indexing. Crane et al. (2017) show that while total institutional ownership has increased, institutional holdings have become less concentrated over the past 30 years. In recent years, stock ownership by passive institutional investors has grown rapidly (Appel et al., 2018). Passively managed mutual funds, which seek to deliver the returns of a market index (e.g., S&P 500) or particular investment style (e.g., large-cap value), have quadrupled their ownership share of the U.S. stock market over the last 15 years and now account for almost half of mutual fund equity assets. This paper does not suffer the criticism of Matvos and Ostrovsky (2008) who aggregate cross-holdings on firm-level and assume each institution has similar weights in acquirers and targets. I use institution-level cross-ownership as suggested by Harford et al. (2011). The degree of cross-ownership on the industry level is also more prevalent than that on mergers and acquisition levels because targets and acquirers often have huge differences in size and (passive) institutional ownership is strongly correlated with firm size.

Using mutual fund voting data, He and Huang (2017) find evidence that aggregate cross-ownership positively predicts management losing a vote on shareholder-sponsored governance proposals because cross-owners internalizing corporate governance externalities and incentivize them to play a more active monitoring role. The mechanism in their paper is very different from this paper. The mechanism in their paper is that cross-owners improve the governance of portfolio firms because, without cross-ownership, firms in the same industry have incentives to lower their governance standard to attract managers. The existence of institutional cross-ownership helps mitigate this race-to-bottom problem. While their paper focuses on the externalities associated with shareholder proposals, this paper focuses on the externalities associated with product market competition from hedge fund activism/proxy contests. The externality of proxy contests is stronger and more plausible because the literature has found insignificant effects of shareholder proposals on firm values but found positive and significant effects of hedge fund activism/proxy contests (Denes et al., 2017).

3.0 Main Analysis

3.1 Hypothesis Development

I propose that the decision of institutional investors to support activists is governed by their portfolio returns, not target firm returns alone. The table below summarizes the spillover effects of activism events on other stakeholders. Aslan and Kumar (2016) find that hedge fund activism on average imposes negative externalities on rivals that compete in the same industry. However, there is substantial heterogeneity in these spillover effects, based on rivals' post-activism improvements, financial constraints, and the threat of being targeted by shareholder activism. Specifically, rivals that compete on the basis of strategic substitutes suffer from the activism events while rivals that compete on the basis of strategic complement gain. On the other hand, rivals that compete on the basis of strategic complements and rivals that are likely future targets of activism (and presumably had initiated proactive reforms), improve their product market performance — after activism, consistent with findings by Zhu (2014) and Gantchev et al. (2018).[1] More importantly, Aslan and Kumar (2016) show that financial markets appear to anticipate the spillover effects and the heterogeneity in the post-hedge fund activism spillover effects is reflected in the announcement effects of intervention events on rivals' stock returns. The spillover effects can also adversely affect other stakeholders, such as creditors, suppliers, and customers. This paper focuses on the effects on rivals because the economic effects on rivals are the most significant (Aslan and Kumar, 2016) and a comprehensive database of institutional holdings in bonds and loans is not available.

[1] In the industrial organization literature, two firms compete on the basis of strategic substitutes if the partial derivative of one firm's sales of with respect to the other firm's sales is negative and on the basis of strategic complements if the partial derivative is positive. Aslan and Kumar (2016) argue that more financially constrained rivals are more likely to compete as strategic substitutes because they are restricted in effecting productivity and cost efficiency improvements.

Stakeholder	Average wealth effects	Specific channel	Specific effect	Evidence
Rivals	(−)	strategic substitute	(−)	Aslan and Kumar (2016)
		strategic complement	(+)	Aslan and Kumar (2016)
		threatened by future interventions	(+)	Aslan and Kumar (2016) Gantchev et al. (2018) Zhu (2014)
Customers and suppliers	(−)	lower bargaining power	(−)	Aslan and Kumar (2016)
Creditors	(−)	higher leverage	(−)	Klein and Zur (2011)
		higher payout		Xu and Li (2011)

Because shareholder activism on average is associated with negative spillover effects on target firms' rivals, institutional investors sometimes do not benefit as much as the stock market reactions on targets alone suggest because they frequently also own large stakes in the target firms' rivals. Depending on their holdings in the target and its rivals, the incentives for institutional investors in target firms to support positive-return activism events are blunted or even reversed. I develop my main hypothesis in the context of the voting process in proxy contests. The major advantage of using the voting data is that it allows one to observe the revealed preferences of institutions through their voting decisions. I use each investor's portfolio returns from activism events to measure her incentives to support activists. While it is natural to assume that institutions are more likely to support the activist when the returns are positive, this assumption holds only if assets under management are holding fixed. The ultimate objective function for a fund family is to maximize the fees they receive from investors. Assets under management are not only a function of returns of portfolio firms but also a function of future investor flows. Because investors chase performance and can choose to allocate more money to better-performing funds, institutional investors care about both absolute and relative performance to maximize the percentage of fees multiplied by assets

under management.[2] Therefore, even if an activist creates positive value for the industry portfolio of an institution, the returns on the institution's holdings can still be less than the return of the activist or other institutions. The institution still has incentives to vote against the activist because of the potential loss of inflows in the future. Lewellen and Lewellen (2018) directly calculate the dollar value earned by an institution from both changes in AUM and future investor flows based on an estimated and fixed flow-to-performance sensitivity. They find a large portion of institutional investors have negative fee incentives when target firms' values improve at the expense of rivals. I do not intend to make restrictive assumptions about the sensitivity and the benchmarks used to compare the performance of institutions. Their assumptions that institutional investors earn a straight 0.5% management fee is likely to overestimate the incentives of passive funds.[3] Because the incentives from future fund flows are a monotonically increasing function of current performance, comparing current portfolio returns is sufficient in the context of this paper.

Business ties between mutual funds and firms also might affect institutions' voting decisions. Because the management chooses mutual funds to manage corporate pension plans, business ties may deter mutual funds from supporting activists. On average, earnings from 401(k)-related business equal 14% of the revenues that mutual fund families earn from their equity funds, and such income can represent as much as 25% of fund family revenues (Davis and Kim 2007). Since the choice of fiduciaries for 401(k) plans lies in the hands of firm executives who may be opposed to shareholder activism, there has been widespread suspicion that mutual funds may vote their proxies in a conflicted manner. Cvijanović et al. (2016) find that business ties significantly influence pro-management voting at the level of individual pairs of fund families and firms after controlling for Institutional Shareholder Services (ISS) recommendations. Therefore, I also control for the business ties between mutual fund families and the target firms.

Hypothesis: The probability of voting for activists is positively related to the institutions' industry portfolio abnormal returns, controlling for business ties.

[2]Many papers have previously documented a strong relationship between the inflow of new investment into a mutual fund and the fund's past performance (Sirri and Tufano (1998),Chevalier and Ellison (1997)). Berk and van Binsbergen (2016) show that investors use CAPM alpha to direct their capital flows.

[3]Wall Street Journal: Vanguard Ups the Ante in an ETF Race to Zero.

My main hypotheses focus on examining the relationship of individual institutional investor holdings and voting behavior. Therefore, I do not control for network theory (Enriques and Romano 2018 and Crane et al. 2017) or peer effects (Matvos and Ostrovsky 2010) that could also explain institutional investors voting behaviors but are not captured by holdings of individual investors. However, I do not expect this to systematically bias the results toward my prediction because networks are identified by the similarities in institutions' holdings. In this paper, I use individual institutional investor's holdings to identify their incentives, and I would expect that institutions in the same network would vote similarly because of the similarities in their holdings. Therefore, measuring institutional holdings individually is similar to measuring incentives as a group. For example, activist hedge funds often implicitly team up with other institutional investors to form so-called "wolf packs" (Coffee and Palia, 2016). I expect these institutions hold significant stakes in the targets and fewer shares in rivals that are likely to be adversely affected. Measuring holdings individually or aggregately would yield very similar results. Consistent with this view, Crane et al. (2017) show that clique members, identified as institutions that are connected through overlapped holdings, vote together on proxy items. Matvos and Ostrovsky (2010) use the average vote of other funds in their estimated management-friendliness to measure peer effects. The average management-friendliness in each meeting is meeting-invariant and controlled by meeting fixed effects in my specifications.

Institutional investors can vote differently because they process different information sets about the proposals and make voting decisions based on private information. Large institutional investors often directly engage with management and sometimes communicate with dissidents before they vote. However, I don't expect the activists' private information to be strongly correlated with target weights in their portfolios. The market reactions to activism events suggest that marginal investors view them as value-increasing. If institutions have a lower valuation of activists' proposals than the marginal investors, they could choose to sell target firms at market prices rather than opposing the activists.

My hypothesis also assumes that the institutions' portfolio returns explain their voting decisions and ignore the risk of the proposals. It is possible that the proposals by the activists are riskier, and the higher returns justify the risk being taken. If institutional investors are

more risk-averse than the activists, they may still oppose the activists. This will bias against my hypothesis because a more diversified investor should care less about idiosyncratic risk and support riskier projects while a more concentrated investor would care more about idiosyncratic risk and oppose riskier projects. I do not include control variables for the riskiness of the proposals or the degree of risk aversions of institutional investors because of the lack of good proxies. I do implicitly control for the risk of the proposals by including meeting fixed effects and the institution's risk aversion by including institution fixed effects.

If activist campaigns impose negative externalities on other holdings of an institution, the institution may take other actions to mitigate the impact. This paper studies voting decisions because exercising voting rights has no additional costs for existing shareholders. The other more costly actions are subject to cost-benefit analysis and are beyond the scope of this paper.

In my empirical analysis, I mainly focus on the cases in which institutional investor disagree with the recommendation of the leading proxy advisor, ISS (Institutional Shareholder Services). The analytic framework of ISS focuses "on the question of which nominees are necessary to drive the appropriate change in the board room, not the larger question of what the optimal selection, out of all available nominees, might be." ISS, therefore, purportedly makes conservative recommendations in proxy contests. Some also may argue that ISS recommendations are biased. The main conflict of interest of ISS is that ISS also offers consulting services to corporate clients. However, if so, this will bias ISS in favor of management who have business relationships or potentially offer business to ISS in the future, not the activists. The major proxy advisors also devote substantial efforts in each proxy contest and provide very detailed analysis. Consistent with this view, Alexander et al. (2010) find that proxy advice in proxy contests is both predictive about contest outcomes and informative about the ability of dissidents to add value. ISS also could cater their recommendations based on its large clients' preferences. Contrary to this argument, I find that large institutions are less likely to follow ISS recommendations. Also, my empirical design uses within-meeting variation in voting only, and the recommendations are controlled by including meeting fixed effects.

3.2 Sample and Empirical Design

3.2.1 Sample construction for activism targets

The sample of shareholder activism target firms is based mostly on Schedule 13D filings, the mandatory federal securities law filings under Section 13(d) of the 1934 Exchange Act that investors must file with the SEC within 10 days of acquiring more than 5% of any class of securities of a publicly-traded company if they have an interest in influencing the management of the company. In some cases, activists target large-cap companies and hold less than 5%, so no 13D is filed. I do a news search to identify events in which the activists hold less than 5% and add these events to the sample.[4] I identify proxy contests from 2009 to 2017 by preliminary proxy statements in connection with contested solicitations (PREC14A) and definitive proxy statements in connection with contested solicitations (DEFC14A) from the Securities and Exchange Commission (SEC) Electronic Data-Gathering, Analysis and Retrieval (EDGAR) system. Alexander et al. (2010) use a similar approach to identify proxy contests. Figure 3 summarizes the number of activism events and proxy fights launched, as well as the outcomes of these proxy fights. On average there are 267 activism events per year from 2009 to 2017 and about a third of them resulted in proxy contests.

The outcome of proxy fights is endogenous. As shown in Figure 3, in about half of the proxy contests, dissidents withdraw their proposals, or the management settled most likely because the probability of winning is very low. In the voting sample, I can observe voting decisions in events that went to vote and some settlements (because management has more information about voting outcomes (Bach and Metzger, 2016) and chooses to settle when they were likely to lose). Many event-specific characteristics may lead to the outcome of a voted proxy contest. To address this concern, my empirical design mainly uses the within-meeting variation, and the external validity of using announcement returns is examined in Section 3.3.5.

I collect data on proxy advisor recommendations in proxy contests through a news search

[4]For cases in which activists hold less than 5%, I search only for activism events launched by hedge funds that are identified by Factiva. The list of hedge funds and campaigns from 1994 to 2014 are provided by Professor Alon Brav. Later years in the sample I follow Aslan and Kumar (2016) and perform searches for the text strings 'activism,' 'activist,' 'shareholder activist,' 'shareholder activism,' and hedge fund names.

through Factiva using the combination of target firm names and proxy advisor names during periods of activism campaigns. I search for news about two major proxy advisors, ISS and Glass Lewis, on their recommendations for each proxy contest. These two proxy advisors conduct extensive research on contested directors and make voting recommendations on a case-by-case basis.[5] Alexander et al. (2010) show that voting advice is informative about the ability of dissidents to add value and this is also consistent with the positive stock price reactions for campaigns backed by ISS and ex-post improvement in operational performance (Brav et al. (2008b), Bebchuk et al. (2015), Brav et al. (2015b). There is little variation in voting when the proxy advisors endorse the management. Therefore, I test my main hypothesis using a sample of proxy contests in which ISS endorsed the activists. There are 67 such proxy contests out of a total of 113 contests from July 2013 to June 2017.[6]

Institutional investors' voting records in proxy contests are hand-collected. Specifically, mutual funds voting records are collected from SEC EDGAR N-PX filings and pension funds voting records are obtained from pension fund websites or the funds in response to my requests under the Freedom of Information Act.[7] The SEC Form N-PX is completed by mutual funds to disclose procedures for proxy votes. The form is filed each year with the SEC for the trailing-12-month period ending on June 30. I collected voting records for 186 institutions (167 mutual fund families and 19 pension funds) and their voting decisions in 113 proxy contests from July 2013 to June 2017.[8] Following Alexander et al. (2010), the support for the activists is defined as follows: a vote from an institutional investor is considered pro-dissident if the institutional investor votes the dissident proxy card (selects at least one dissident nominee), and a vote from an institutional investor is considered pro-management if the institutional investor votes the management proxy card (selects none of the dissident

[5]The detailed analysis for the DuPont proxy contest with Trian Fund Management is publicly available (https://www.issgovernance.com/file/publications/dupont_ssr.pdf). In Appendix A, I attached the voting guideline of ISS US for contested director elections.

[6]The sample starts in July to match the reporting period of voting records from N-PX filings.

[7]According to ISS, ISS Voting Analytics, a database widely used in the literature to study mutual fund voting, the collection of proxy contest records historically is on a "best-efforts" basis, with no guarantee that it comprises all proxy contests. For pension funds, I use the largest 1,000 retirement funds ranking from Pensions&Investments magazine and choose the largest ones in North America.

[8]There are other smaller institutions voting in this sample period, but they are unlikely to participate in more than five proxy contests in the sample period based on their 13F filings. Because my empirical design uses institution fixed effects and smaller institutions have limited within-fund variation, the exclusion of smaller institutions would not affect my results.

nominees). I measure voting decisions on the institutional level for each fund family because institutions have corporate governance teams and proxy voting committees to oversee funds' voting decisions.[9] Morningstar (2017) surveys the 12 largest providers of index funds and exchange-traded funds across the U.S., Europe, and Asia and finds that firms that offer both actively managed and index-tracking strategies apply their voting policies universally to all portfolios, irrespective of investment style.[10] What's more, fund managers within the same fund family can also coordinate their votes.[11]

3.2.2 Sample construction for rival firms

Similar to the literature on the competitive effects of financial events (Lang and Stulz, 1992) and the literature on the spillover effects of shareholder activism (Aslan and Kumar, 2016; Gantchev et al., 2018), I identify rival firms as all other firms in the same four-digit Standard Industry Classification (SIC) code on Compustat.[12] To avoid any selection bias, in the rival sample for each year, I include those firms that were future targets of activism events. I use two filters to allow meaningful analysis. First, following Aslan and Kumar (2016), I retain firm-years with available industry classification information (four-digit SIC codes). Second, I exclude firms without complete data around the event date on the CRSP Daily Returns file.

I also use the 10-K Text-based Network Industry Classifications (TNIC) data (calibrated to be "as granular" as three-digit SIC codes) from Hoberg and Phillips (2010, 2016) to identify rivals of target firms. TNIC is a network method of identifying competitors of each firm. Competitors are firms residing in close proximity in product space to each firm based

[9] I discuss institutional details of mutual fund voting on the fund-family level in Appendix B.

[10] It should be noted that most of these firms also operate an active fund business, which—in some cases—may be much larger than their passive one. Collectively, the surveyed firms have over $20 trillion of assets under management.

[11] Wall Street Journal: Meet the New Corporate Power Brokers: Passive Investors. In the voting of the merger between Towers Watson and Willis Group, "BlackRock's passive team leaned toward voting no, but portfolio managers at the firm's actively managed funds backed the deal, arguing that it would create more long-term value, said people familiar with the matter. The active managers persuaded their colleagues to do the same."

[12] For conglomerates such as DuPont, I also use segment SIC code from Compustat Historical Segments data to identify competitors. A firm is classified as a conglomerate firm if less than 50% of its sales are in one segment.

on a continuous measure of similarity. Another benefit of TNIC industries is that industry composition is updated annually, and Hoberg and Phillips (2010) find that the product market space dynamically changes over time.

One caveat of TNIC data is that the TNIC data do not include rivals that do not file 10-K filings. Many industries compete internationally. "Foreign private issuers" with listed equity shares on exchanges in the United States file 20-F forms instead of 10-K forms. Therefore, these firms are not included in the TNIC data. For example, Casablanca Capital LP targeted Cliffs Natural Resources in 2014, the largest and oldest independent iron ore mining company in the United States. The activist described its U.S. business as "low risk" and wanted to separate its international and domestic assets to better compete in the seaborne iron ore market. Rio Tinto Group and BHP Billiton are the major competitors in the seaborne iron ore market and are also publicly listed and held by many large institutional investors. However, these two firms are not in the Hoberg and Phillips industry classification data because they do not file 10-K filings. I use the SIC code for my main results because it contains a more comprehensive set of rivals than the TNIC dataset.

3.2.3 Measures of major channels

3.2.3.1 Direct incentives for institutional investors to support activists To test my main hypothesis, I use the returns of institutions to measure their incentives to support activists. Specifically, for each institution, I calculate its holdings in the target firm and the target firms' rivals in the quarter immediately before the meeting date. To measure an institution's ex-ante incentive to vote for the activist, I use the 13D announcement returns of the target firms and its rivals to proxy for the impact on these firms if the activists were to win. I then calculate the returns for each institution that voted in the annual meeting. The returns are a proxy for expected gains from activism events. For events with higher probabilities of success or higher potential benefits, the returns are likely to be higher. Therefore, I use the meeting fixed effects to control for these meeting-invariant characteristics and compare returns within each meeting to predict institutions' voting behaviors. Another assumption is that the plans that activists disclosed do not change significantly over time.

Activist hedge funds conduct extensive research on target firms and often disclose their plans after discussions with the management. I find no significant differences between the plan that the activists first announced and initiatives in proxy filings before the proxy contests. This is also consistent with the view that if the activists significantly change their plans, it signals to outsiders that they do not have a clear plan and would not help them to convince other shareholders.

An alternative way to measure shareholders' incentives is to use the market reactions to the annual meeting outcomes. Because the meeting date is closer to the holdings record date, it might offer a better estimation of the market's expectations. In the DuPont case, DuPont had a -6.73% abnormal return and Monsanto had a 1.88% abnormal return in a two-day window around the date that the director election results were disclosed. However, there are some concerns with using this measure. First of all, using market reactions from election results works if the market has not anticipated the outcome, but it's not clear when the information about the outcome is publicly available. Bach and Metzger (2016) show that real-time voting data can be accessed through Broadridge Financial Solutions, a United States-based corporate services company. Because management has access to the data through Broadridge, they find that voting outcomes are manipulated by the management. Many settlements between management and activists happen before the actual meeting date, which suggests that information about the final voting outcome is leaked before the actual meeting dates. Second, some short-term investors might choose to exit their positions in anticipation of the exit of the activists.[13] The exit may put price pressures on target firm stocks and make the estimation of returns noisier. What's more, the activists can also choose to stay and try to influence the firms' decisions even though they lose the proxy contests. In the Trian-DuPont case, Trian did not choose to exit and continued to influence the management after DuPont merged with Dow Chemical. This is, in fact, contradictory to the market expectation. Therefore, using market reactions of proxy contest results does not provide a clean setting to estimate the impact because interpretations of market expectations are complicated by many possibilities. The 13D announcement returns appear to offer a much cleaner estimation because the abnormal returns reflect only one piece of new information.

[13]Wall Street Journal: DuPont Shares Tread Water Since Shareholder Vote - Market Talk. 18 May 2015

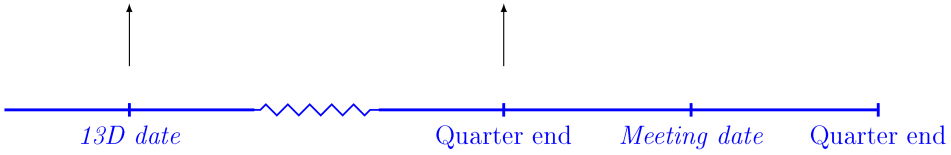
Institutional ownership data is obtained from 13F filings retrieved from SEC EDGAR. The SEC requires all institutions with at least $100 million in total holdings to file a 13F form within 45 calendar days of quarter-end. The Thomson-Reuters dataset is known to be incomplete and contains various inaccuracies. To improve its accuracy, I download 13F filings from SEC EDGAR and then match the manager number from the Thomson 13F database with the CIKs from 13F filings to make sure that the two databases offer the same holding information in the sample period. I also follow Azar et al. (2018) and Ben-David et al. (2018) and combine holdings from separate filings by the same asset managers in this paper.[14] Since there are no identifiers of institutions to link the voting and holding data, I manually match the two datasets by institution names.

I calculate each institution's portfolio return as the value-weighted average abnormal return R of each firm n in institution i's portfolio for each event.

$$R_i = \sum_{n=1}^{N} w_{ni} * R_n$$

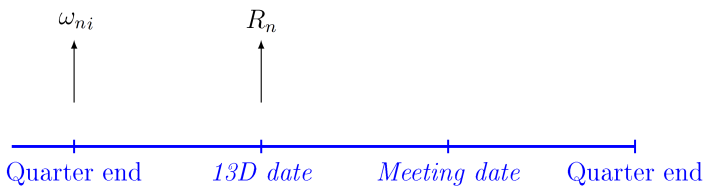
The timelines below illustrate the timing of each variable measured.

If the 13D date and meeting date are in different quarters:



Or if the 13D date and meeting date are in the same quarter:

[14]For example, in 13F filings, Blackrock discloses the holdings by its various subsidiaries in seven different CIK reporting entities or registrants, reflecting various affiliated entities and financial management arms. I aggregate holdings of seven 13F filings to BlackRock's holdings.



The rationale to use returns is that the stock market reacts significantly when activists announce their plans for both targets (Brav et al. 2008a) and their rivals (Aslan and Kumar 2016). More importantly, stock market reactions capture both negative and positive spillover effects on the rival firms. I use the market reactions as proxies for the potential benefits and costs of activism events if the activists succeed. I exclude the rivals' returns if there are other confounding events of rivals within the three days of the 13D announcement dates of the target. The confounding events include earnings announcements, and major corporate transactions such as mergers, acquisitions, and spin-offs. The main results are similar if I also include firms with possible confounding events.

Institutions can choose to change holdings after the initial announcements and before the annual meeting dates.[15] For example, 13D Management LLC, an investment advisor, specializes in a trading strategy that follows activists. He and Li (2018) find that actively-managed funds whose managers are socially connected to activists are more likely to increase holdings in target stocks during activist campaigns. I use institutional holdings before the meeting dates to calculate the value-weighted industry portfolio return. In this paper, I do not intend to study how the ownership equilibrium changes around activism events. If the institutional investors adjust their holdings, I expect that the holdings before the meeting dates serve as better proxies for their incentives. In one of the robustness tests, I also use holdings before the 13D announcement dates, and the results are similar.

3.2.3.2 Indirect incentives for institutional investors to support activists I collect data on 401(k) retirement plans sponsored by publicly traded firms from Forms 5500 filed with the Department of Labor (DOL). These data provide detailed information on any business relationship between a firm and a fund pertaining to the firm's pension plan

[15]The average time between the 13D filing dates and the proxy contest meeting dates is six months, and the median is four months in my voting sample.

(e.g., investment advisor, trustee, investment manager, etc.). Any firm that sponsors an employee benefit plan that qualifies under the Employee Retirement Income Security Act (ERISA) Sections 104 or 4065 must file Form 5500 with the DOL. Benefits provided by a firm's plan include pension and welfare benefits. I match target firms in this sample by the EIN (Employer Identification Number) provided in Forms 5500. Due to the lack of a unique common mutual fund (or family) identifier, I manually match fund families by their names to the voting and ownership data sets. I define a business tie as a continuous variable log(1+compensation). Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management (Davis and Kim, 2007).

3.2.4 Empirical design

The main prediction of this paper is that institutions that benefit less from the activism events are less likely to support the activists. Specifically, I run the following specifications to test my first hypothesis for each institution i voting in shareholder meeting m.

$$Vote_{im} = \beta_1 R_{im} + \beta_2 BusinessTies_{im} + \begin{cases} \varepsilon_{im} \\ \mu_i + \varepsilon_{im} \\ \mu_m + \varepsilon_{im} \\ \mu_m + \mu_i + \varepsilon_{im} \end{cases}$$

$Vote_{im}$ is a dummy variable that takes the value of 1 if the institution i supports the activist in the meeting m, and 0 otherwise. Following Alexander et al. (2010), the support for the activists is defined as follow: a vote from an institutional investor is considered pro-dissident if the institutional investor votes the dissident proxy card (selects at least one dissident nominee), and a vote from an institutional investor is considered pro-management if the institutional investor votes the management proxy card (selects none of the dissident nominees). R_{im} is the return of institution i in meeting m as defined in Section 3.2.3.1. $BusinessTies_{im}$ is a continuous variable $log(1 + compensation)$ in which compensation is defined as the total compensation received by fund families for services rendered in relation

to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. μ_i and μ_m denote institution fixed effects and meeting fixed effects. β_1 is the coefficient of interest. My hypothesis predicts a positive relationship between R_{im} and $Vote_{im}$.

3.3 Main Results

3.3.1 Dispersion in Institutions' support for activists in proxy contests and univariate tests

The summary statistics for the voting data are presented in Table 2 and Table 3. In Table 2, I report how often institutional investors vote differently from the recommendations of proxy advisors. Section 1 in Panel A shows that institutional investors, on average, voted against activists in more than 50% of the cases. Sections 2, 3, and 4 are split based on recommendations from proxy advisors. To what extent the institutions agree with the two leading proxy advisors is different. Specifically, in about 20% to 25% of the cases where institutions voted against activists when dissidents are endorsed by proxy advisors. On the other hand, institutions seldom side with activists when management is endorsed by the proxy advisors (the average unconditional probability is below 5%). In Table 2, I split the sample based on the size of the institutions in my sample. Large mutual funds on average are about 7% more likely to reject the activists compare to other funds while there is no significant difference between large pension funds and smaller pension funds.[16] Overall, institutional investors are more management friendly, and this observation brings the main research question of this paper: why do institutional investors often reject the activists when their actions are viewed as value-increasing to the target firms?

Table 3 reports the number of proxy contests large mutual funds and pension funds voted in, how many times they voted against the activists, and the percentage of voting against the activists. As shown in Table A1, BlackRock, Vanguard, and State Street, the Big 3

[16] One possible explanation is that many pension funds directly invest in activist hedge funds. Because 13F filings do not include holdings in hedge funds, I do not test this conjecture in this paper.

institutions that dominate the index fund industry, have the majority of assets under management managed passively in their mutual fund products. Therefore, these three indexers are expected to hold more diversified portfolios, and they also cannot adjust their holdings because of institutional constraints. According to my hypothesis, a more diversified investor does not earn as much return as an investor that holds a concentrated position in the target and therefore has weaker incentives to support the activists. Consistent with my hypothesis, large indexers, such as BlackRock, Vanguard, and State Street, voted against the activists in more than 50% of the cases even when ISS supports the activists. These large indexers are less friendly to activists than large stock pickers, such as Fidelity and Capital Group. In Table A2, I show that within the same meeting, passive mutual fund families are 30 percentage points more likely to vote against the activists. These results are also broadly consistent with Brav et al. (2018) who find that index funds are less likely to support activists in proxy contests.

I conduct univariate tests to examine the relationship between institutions' industry portfolio returns and their propensity to support the activists. In Table 4, I calculate the 13D announcement return of target companies and their rivals. Consistent with prior literature, target firms experienced significant and positive abnormal returns around the 13D announcement dates. Target firms, on average, gain abnormal returns of about 3.5%, suggesting that the market views these events to be value-increasing. On the other hand, rivals defined by the TNIC definition on average experience market-adjusted abnormal returns of -0.35% and rivals defined by the 4-digit SIC code on average experience abnormal returns of -0.16%. However, these effects are smaller than the large positive announcement effects of hedge fund activism for target firms reported by Brav et al. (2008a). These results thus suggest substantial heterogeneity in the announcement effects across various types of rivals and industries, which is consistent with the empirical evidence in Aslan and Kumar (2016). In Table A4, I replicate results found by Aslan and Kumar (2016). Activism events associated with business strategy or operations on average are associated with lower rival returns; more financially-constrained rivals with higher leverage and lower cash holdings suffer more from the activism events. The events with objectives to improve business strategy or operations also receive lower support from institutional investors. However, there could be some unob-

servable event-variant characteristics that can explain the differences. Even if the spillover effect is zero, a dilution also will make a diversified investor benefit much less. Therefore, my main empirical tests only use within-meeting variations.

I then calculate institutions' portfolio returns and sort them into deciles. Because there is significant variation among institutions in their relative holdings in targets and their rivals, institutions that are in the top decile of potential returns (column (1)) earn about 6.5 percentage points more abnormal returns than intuitions that in the bottom decile of potential returns column (3)) and the difference ((1)-(3)) is statistically significant at 1% level. Consistent with my prediction, institutions in the top decile of expected benefits (column (2)) are about 12 percentage points less likely to vote against the activists than institutions that are in the bottom decile of expected benefits (column (4)) and the difference ((2)-(4)) is statistically significant at 1%. The economic magnitude is also significant. The difference in the probability of voting against the activists between the two groups accounts for 50% of the 24% unconditional rejection rate.

In Figure 5, I group industry portfolio returns in 10 bins and plot the average support rate of institutions in each bin. The results are also consistent with the findings in Table 4. Funds that have higher industry portfolio returns are more likely to vote for activists. In Figure 2A, I show that the relationship is similar when I use the sub-sample of events that have higher than the sample median 13D announcement return (2.815%). This confirms the latter results that the main results still hold with meeting fixed effects, so the relationship is not driven by the subsample of events that have lower 13D announcement returns.

3.3.2 Industry portfolio returns and probability of voting for activists in proxy contests

Univariate tests on industry portfolio returns and the probability of voting for the activists have revealed that there is a positive correlation between the two. I further test my first hypothesis in a multivariate setting controlling for business ties and various fixed effects. I use a linear probability model where the dependent variable is a dichotomous variable indicating the vote of each institution (1 if the institution votes for the activist in the meeting,

and 0 if the institution votes against the activists). The business tie measure is a continuous variable log(1+compensation) where compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. The industry portfolio return is measured on SIC 4-digit level for each institution-meeting pair. I use the market-adjusted abnormal returns over the (-1,1) window as in Matvos and Ostrovsky (2008). An alternative way to measure returns is to use longer return windows, e.g., from the announcement date until the voting date. This has the benefit of incorporating all information available to the shareholders when casting their vote but also has the disadvantage of incorporating a substantial amount of information unrelated to the proxy contest. In my case, the disadvantage seems to outweigh the benefit because measurement errors would exacerbate attenuation bias. In the body of this paper, I use the shorter (-1,1) window.[17]

Table 5 presents the main results of the multivariate model. The results show that there is a significant positive association between the instructions' industry portfolio returns and the probability of voting for the activists. Because some funds do not have enough incentives to make independent decisions and tend to follow recommendations from proxy advisors (Iliev and Lowry, 2015), there is a significant portion of funds that seldom voted against the activists as shown in the distribution of funds' vote in Figure A1. The estimates from fixed-effects models are less significant because there is a lack of within-fund variation in these funds. Therefore, I restrict the sample to frequent voters (institutions that have voted greater than or equal to 40 times in proxy contests from 2013 to 2017) and repeat the analysis in Panel B. Not surprisingly, the economic magnitude becomes slightly larger and all coefficients are positive and significant. A one standard deviation increase in industry portfolio return increases the probability of voting for the activists by 3.8%, which is about 16% of the unconditional rejection rate 24%.

Realized firm announcement returns incorporate salient information about institutions' incentives to support the activists. However, their magnitudes are plagued with an en-

[17]The standard errors become larger in Table A7 and Table A8 when I use the longer (-1,5) window and (-10,10) window. However, my results that, within a meeting, funds with higher returns are more likely to vote "for" remains valid and statistically significant at the 5% level. This is not surprising, because meeting fixed effects absorb the additional noise in each industry introduced by the longer windows.

dogeneity problem, because they depend on the expected probability of activists' success, which itself depends on institutions' voting and their attitudes toward the activists. This endogeneity problem should be mitigated in the meeting fixed effects specification, in which the fixed effects absorb the average return to the institution and with it some of the common component of the feedback from expected votes on returns. Meeting fixed effects also control for any meeting-invariant characteristics, such as the target company's prior stock/operating performance, the activist's ownership, the incumbent's ownership, the quality of the activists' proposals, and the qualification of the director nominees. Column 3 shows that for a given proxy contest, institutions with higher industry portfolio returns are more likely to vote for activists.

In column 4, I also control for institution fixed effects, which control for institutions' average propensities to support activists or follow proxy advisors' recommendations. The results remain quantitatively similar. In column 5, I use both meeting fixed effects and institution fixed effects to control for heterogeneity across each proxy contest and each institution. In this specification, I compare two institutions that voted in the same meeting but realized different returns from the activism event while controlling for their average propensities to support the activists. The results still hold with this most restricted specification. Overall, the multivariate results show a strong positive association between the probability of voting for the activists and institutions' industry portfolio returns.

3.3.3 Robustness

I conduct a battery of robustness tests for the main results. The first robustness test I conduct is to use an alternative definition of industry rivals. I also use 10-K Text-based Network Industry Classifications (TNIC) data (calibrated to be "as granular" as three-digit SIC codes) from Hoberg and Phillips (2010, 2016) to define competitors of targets. The TNIC definition allows product market definitions to change every year and relax the membership transitivity requirement of fixed industry classifications. The main caveat of the TNIC definition is that foreign firms that do not file 10-K filings are excluded even though they are in the Compustat database. In Table 6, I repeat the tests in Table 5 using TNIC to define

industries. Since the TNIC data is calibrated to be "as granular" as three-digit SIC codes, it could exacerbate the measurement error problem in returns. In Panel A of Table 6, the coefficients on industry portfolio return are positive but not significant. When I restrict the sample to frequent voters in Panel B of Table 6, coefficients on industry portfolio returns are also positive and significant and the economic magnitudes also become larger when I use meeting fixed effects to absorb the noise common to all firms in the same industry as the target. In Panel C and Panel D, I repeat the analysis in Panel A and Panel B, but the definition of rivals is restricted to the "nearest 20" rivals measured by the similarity scores provided in the TNIC dataset. The results are stronger in these specifications when only the closest rivals are included.

In the second robustness test, I run the main specification using the full sample and control for ISS and Glass Lewis recommendations, while in Table 5 the sample is conditional on ISS backing the directors nominated by the activists. Consistent with the view that proxy advisors have a significant impact on institutional investors' voting decisions, the ISS endorsement of the activists increases the probability of voting for activists by 54.5 percentage points, and Glass Lewis endorsement of the activists increases the probability of voting for activist by 21.5 percentage points. The magnitude of coefficients is consistent with the fact that ISS and Glass Lewis have 61% and 37% of the market share for proxy advisory services, respectively.[18] Controlling for proxy advisor recommendations does not affect the main results and the coefficients on industry portfolio return are positive and significant when also controlling for institution fixed effects. The results in Panel C and Panel D when using TNIC to identify rivals are also similar to the results in Table 6.

In the third robustness test, I use institutional holdings immediately before the announcement dates to measure the institutions' incentives. The way I design my empirical measure of portfolio returns is to address the possibility that institutions can change their holdings in targets and their rivals if the plans proposed by activists adversely affect their portfolio returns. Institutions may invest more in target firms and less in their rivals. While the main research question of this paper is not to study how shareholder activism affects

[18]Source: Center On Executive Compensation (http://www.execcomp.org/Issues/Issue/proxy-advisory-firms)

the time-series changes of institutional holdings or ownership structure equilibrium, such a possibility is still consistent with my prediction that an institution's voting decision depends on its portfolio holdings. Unlike the DuPont case in which it took almost two years for the activists to launch a proxy fight, the median time between the 13D dates and the meeting dates is only four months for my sample. I use institutional holdings at the end of the quarter immediately before the meeting dates because they are better to measure institutional investors' incentives. In addition to the main results, I run the same tests using the holdings in the quarters immediately before the 13D announcement dates in Table A6 as opposed to using holdings in the quarter immediately before the annual meeting dates in Table 5. The results in Table A6 are quantitatively similar to previous results, suggesting that the time-series changes in institutional holdings do not systematically affect my main results. This is also consistent with the view that passive investors who are not able to freely adjust their portfolio holdings tend to vote against the activists. What's more, seventy percent of the institutions in my sample are classified as quasi-indexers or dedicated institutions by Bushee (1998) and have low portfolio turnover ratios. The economic magnitude is slightly lower in Table A6 because holdings closer to meeting dates serve as better proxies for institutions' incentives. In untabulated results, I find that the total ownership of institutions in my sample is stable over time around activism events, and so is the number of institutions. I also find that the correlation between institutional ownership in target firms (fraction of target firm value in the institution's industry portfolio) before 13D announcement dates and annual meeting dates is about 90%, and fewer than 5% of institution-meeting observations have significant time-series changes. Therefore, my results remain robust when I use institutional holdings before the 13D announcement dates. This is also consistent with Li and Schwartz-Ziv (2018) who find that mutual funds sell their positions if their votes are opposite to the voting outcome and there is no abnormal trading volume around the record dates.

The portfolio choices of institutional investors are, of course, endogenous. Activist investors are contrarian investors and pick under-performing targets. Other institutional investors might be momentum investors and invest firms that are generating higher returns. Studying the ownership structure of firms in proxy contests is beyond the scope of this paper, and I will leave this question for future research. In this paper, I take holdings as

given because of the lack of time-series changes. One might expect that institutional investors trade on information related to activism events and earn trading profits. Given that most institutions put in very limited resources in corporate governance (Bebchuk and Hirst, 2018a), it is unsurprising that most institutions don't actively trade on activism events.[19] The event information is likely to be learned when the proxy advisors provide institutions with summarized reports shortly before the meeting dates, and voting decisions are made thereafter.[20]

The fourth robustness test is related to the econometric model. In the body of the paper, I use OLS throughout, which gives consistent and easily interpretable estimates under a broader set of conditions and requires less restrictive assumptions about the error term. I also repeat tests in Table 5 in Table A9 using conditional logit models with fixed effects. The results remain similar.

Last but not least, the results are also robust when using different factor models to calculate abnormal returns. I follow Aslan and Kumar (2016) and use market-adjusted returns for the main results. The results are quantitatively similar if I use the market-model and the Fama and French 3-factor-model. These results are not reported in this paper.

3.3.4 Probability of voting for the activists when the target firm has no publicly-traded competitors

If the adverse effects on target firms' rivals is an important factor when a cross-owner decides to vote for or against the activists, I would expect activists that target firms with no publicly-traded rivals to receive significantly more support from other investors because investors are unlikely to be affected by the negative externalities from activism events. In the sample, there is one target, Sotheby's, that can be used to test this prediction.

Sotheby's is one of the world's largest brokers of fine and decorative art, jewelry, real estate, and collectibles. In May 2013, Third Point filed a 13F form showing new position in

[19]For example, Vanguard has over $5 trillion dollars in assets but only have a twenty to thirty people corporate governance team.

[20]Iliev et al. (2018) find that passive indexer investors perform less research on their portfolio companies. In the SEC roundtable on November 15, 2018, institutional investors mention that they rely on the proxy advisor reports as an important source of information because they lack the governance resources to perform detailed research.

Sotheby's, and Third Point had its first meeting with Sotheby's to discuss opportunities for improvement in August. On February 27th, 2014, Daniel Loeb, founder and chief executive of Third Point, launched a proxy contest to nominate himself and two others to the board of Sotheby's Inc. Loeb argued that Sotheby's had fallen behind rival Christie's International PLC in selling contemporary art and pressured the auctioneer to focus more on its competitive position and management. Shareholders voted in favor of Loeb, and the board agreed to appoint Loeb and two allies to its board. Sotheby's shares closed up 3.25% on the day the settlement was announced.[21]

In its 10-K filings, Sotheby's says its primary global competitor is Christie's International, PLC, a privately held, French-owned, auction house. To a much lesser extent, Sotheby's also faces competition from smaller auction houses such as Bonhams and Phillips, as well as regional auction houses and a variety of art dealers across all collecting categories. In the Chinese art market, Sotheby's also competes with Beijing Poly International Auction Co. Ltd., China Guardian Auctions Co. Ltd., and Beijing Hanhai Auction Co. Ltd.

None of the competitors mentioned in the 10-K filings of Sotheby's is publicly traded in the U.S. Christie's is owned by Groupe Artémis, the holding company of François-Henri Pinault and his family. Bonhams is owned by chairman Robert Brooks and the Dutch Louwmans family. Phillips was purchased by a Russian private company, Mercury Group. Beijing Hanhai Auction Co. Ltd is a Chinese state-owned enterprise. China Guardian Auctions Co. Ltd is privately held by Jade Group, the holding company of Dongsheng Chen. Beijing Poly International Auction Co. Ltd is held by Poly Culture Group Corp, which is listed in Hong Kong. Therefore, it is unlikely the institutions in my sample also hold significant numbers of shares in rivals of Sotheby's.

In Table 7, I test this prediction formally. I use a dummy variable, no public-traded competitors, to denote institution-meeting pair observations from the Sotheby's proxy contest. The coefficient on the no public-traded competitors is positive and significant. The results show that institutions are about 10% more likely to support the activists when the target does not have publicly-traded competitors, which is over 40% of the average 25% rejection

[21] Wall Street Journal: Sotheby's, Third Point Reach Settlement (https://www.wsj.com/articles/sothebys-third-point-reach-accord-1399295718)

rate. The results still hold when I use institution fixed effects to control for institutions' propensity to support the activists or follow proxy advisor recommendations. Because the dummy is meeting-invariant, I cannot use meeting fixed effects specification here. Therefore, I cannot rule out that there are other event-specific characteristics that make institutions more likely to support the activist. In column 4, I control for target firm's 13D announcement return, Tobin's Q, ROA, previous stock return, leverage, dividend yield, institutional ownership, and dissident group ownership and the coefficient remains significant. I argue that the results are consistent with my hypothesis, but I do not claim causality in this context.

3.3.5 Market reactions of activism events

In this section, I first examine whether market reactions of activism events on targets are different for events that ended up in proxy contests and events that did not. The results are presented in Panel A of Table 8. Events that ended up in proxy fights have slightly higher market reactions than other events, suggesting that these events are expected to create higher value to offset the additional costs of launching proxy fights. The differences are significant only when using the (-20,20 window). These results help to alleviate the concern of the external validity of the results. The abnormal returns from proxy contest events are not systematically different from other events. Even though my results are from a sample of proxy contests, it is reasonable to assume that they have broader implications for other activism campaigns as well.

In Panel B, I examine whether the market reactions differ for proxy contests in which activists won and those in which the activists lost. Although the abnormal returns on average are higher for proxy contests in which activists eventually obtained board seats, the differences are not significantly different. This is consistent with the view that there is high uncertainty for proxy contests, and the market does not predict the outcomes precisely. In Figure 3, I show that the success rate in proxy contests is around 50%. This suggests that the activists may endogenously select targets so that the equilibrium expected benefits for both types are the same. If ex-ante activists expect that some campaigns are more likely to fail, they would avoid launching these campaigns in the first place. In equilibrium, the

average market reactions should not be significantly different. This is also consistent with the findings by Keida et al. (2016) and Brav et al. (2018) that friendliness of shareholder bases is an important determinant when activists select target firms. These results also confirm that my main results are not driven by the correlation between higher returns and higher probabilities of success, which is also correlated with the support of large institutional investors. In Panel C, I repeat the analysis for the events in the voting sample, and the results are quantitatively similar.

3.3.6 Do proxy contests have an impact on target firm values?

Boyson and Pichler (2018) show that when hedge funds counter-resist with proxy fights, the impact of hostile target resistance is reversed, and these campaigns have similar outcomes to campaigns without hostile target resistance. In this section, I test whether winning or losing a proxy contest has real effects on target firms' stock prices and operating performance.

3.3.6.1 Abnormal returns around the voting results dates of close-call proxy contests To examine the market reactions to the outcomes of proxy contests, I use a sample of close-call proxy contests to examine the abnormal returns around voting results dates. Because in these events, the outcomes are unlikely to be precisely predicted before the results are revealed, the abnormal returns provide useful information about how the market views the potential value added by activists. Activists won 75% of the proxy contests in which ISS endorsed the activists. For failed proxy contests, there are nine events in which the vote differences between the management nominee with the lowest support and dissident nominee with the highest support are very close. For the successful proxy contest, there are three close-call events. I define a proxy contest as close-call if the vote difference is smaller than three percentage point. Because the result of a close-call vote is akin to a random outcome, stock price reactions around voting result dates enable me to identify the effects of proxy contests on target firms and their rivals. In Table 9 Panel A, I show that target firms experienced significant negative returns when learning about the news of the activists' failure. On the other hand, rival firms experienced zero to positive and significant returns

when rivals are defined by 4-digit SIC code and TNIC, respectively. There exists a return reversal for both target and rival firms around 13D announcement dates and voting result dates when the activists lost. While losing the proxy contest is a setback for activists, the activist can still exert influence without board seats. For example, in the DuPont and Trian case mentioned in the introduction, Trian lost the proxy contest but chose to stay with the company and kept influencing the management later. Trian successfully persuaded the management of DuPont to spin-off some units and merge with Dow Chemical. While the return reversals are consistent with the main results of this paper, return reversals are not necessarily a prediction from the main hypothesis. In Panel B of Table 9, I show that the market reacts positively when the activists won the close-call elections. For rival firms, their market returns around the voting result dates are negative but not significant. Because this sample only has three events, the power of these tests is low.

3.3.6.2 Ex-post operating performance If proxy contests help activists to improve firm performance, the operating performance of firms on which the activists receive board seats should also improve. Following the literature, I use ROA (return on assets, defined as EBITDA/assets) and Tobin's Q as measures of operating performance. In Table A10, Panel A and Panel B, I examine the ex-post operating performance for target firms that granted board seats to the activists after proxy contests. Consistent with the initial market reaction, both ROA and Tobin's Q of the target firms improved in the year following the proxy contests. Industry-adjusted ROA increases by 5.7% (not statistically significant) and Industry-adjusted Tobin's Q increases by 0.44 (significant at 1% level), suggesting that director nominees of the activists can execute plans and increase firm performance and value after proxy contests. Needless to say, ex-post performance analysis can only be performed on firms that remain in the sample in post-event years. In some events, the activist seeks the sale of the firm, and I would not be able to observe any ex-post operating performance changes. If attrition to a large extent represents a successful outcome of activism, the resulting absence of the firm from the ex-post performance analysis can potentially induce a negative bias to inferences about firm performance.

The results in Table A10 for operating performance are consistent with prior literature

that activism facilitates the efficient reallocation of capital and improves the operating performance of the target firms. After the activists won board seats, the average ROA and Tobin's Q of target firms improve significantly. The economic magnitude is large as well. For example, Tobin's Q of firms in which the activists won increased by 20% of their pre-intervention average.

4.0 Future Research Related to Institutional Investors and Proxy Advisors

4.1 The role of passive investors' direct engagement in corporate governance

This paper shows that passive institutions do not have enough incentives to facilitate shareholder activism. It remains unclear whether passive institutional investors are interested in other governance aspects of their portfolio firms. While existing literature documents various governance changes in response to changes in passive ownership, it remains unclear whether passive institutions engage with portfolio firms, and if they do, through what mechanisms such changes take place. Because most of the interventions are behind-the-scenes (McCahery et al., 2016) and index funds seldom file 13D filings, there is a lack of evidence of direct engagement by index funds. I try to address this question by analyzing a unique database of index fund engagements, and it will help explain how index funds affect firm value by directly examining the characteristics of firms index funds target and the effectiveness of the engagements. Understanding the mechanisms of index fund intervention would contribute to the debate on how the growth in index investment would affect corporations in the U.S.

Several studies have documented the active influence of passive funds on their portfolio firms. Using the annual reassignment of Russell 1000 and 2000 constituents as an exogenous shock for changes in passive mutual fund ownership, Appel et al. (2016) find that an increase in passive mutual fund ownership causes firms to increase board independence, remove anti-takeover defenses, and adopt equal voting rights for all shareholders. Using the same experimental design, Crane et al. (2016) find that higher institutional ownership leads to higher payout to shareholders. In contrast, Schmidt and Fahlenbrach (2017) find that exogenous increases in passive ownership lead to increases in CEO power and fewer new independent director appointments. Their evidence on value-reducing actions of managers after increases in passive ownership comes from an analysis of announcement returns to board appointments and mergers and acquisitions that are more costly to monitor for passive institutions than the basic corporate governance characteristics studied by Appel et al.

(2016). More importantly, there is a concern about the external validity of these results because of the nature of their identification strategy. Because this identification limits the sample to a small set of firms near the cutoff of Russell 1000 and Russell 2000. Their results may not generalize to other firms. Edmans and Holderness (2016) point out that a narrow focus on identification may lead to a focus on identifying narrow questions and emphasize the value of descriptive research with blockholders.

I address the problem that there is a lack of direct evidence on intervention from index funds using a unique dataset that contains engagement data from State Street, the fourth largest asset manager with assets under management of 2.8 trillion dollars (as of the end of the year 2017) between 2014 to 2017. This information is voluntarily disclosed by State Street and published in their annual engagement reports.[1] The reports contain many engagement examples, more importantly, the lists of firms they have engaged with. The engagements are under general topics such as governance, pay, environmental and social issues, and proxy contest/M&A.

This research is the first to study index fund engagements. Previous research studies how pension funds (Smith, 1996; Carleton et al., 2002) and hedge funds (Brav et al, 2008 and Becht et al, 2009) engage with management and improve firm value. The main difference is that pension funds and hedge funds can choose from both voice and exit. For index funds, the inability to govern through exit may increase their incentives to govern through voice. On the other hand, index funds being spread thinly over multiple stocks may deter them from engaging in any governance activities. Edmans and Holderness (2016) conclude that index funds can govern through voting (Appel et al., 2016) but rarely engage in interventions. The governance activities studied by Appel et al. (2016) are arguably low-cost. The index fund can apply general principles (e.g. voting against dual-class shares, takeover defenses, and non-independent directors) without having to analyze each situation.

These reports indicate that large index funds actively try to influence portfolio companies through channels other than voting. State Street targets around 550 firms internationally per year. From 2014 to 2016, State Street engaged with portfolio firms in the U.S. 926 times

[1]BlackRock and Vanguard publish similar reports. However, they do not disclose what firms they have engaged with in detail. BlackRock, Vanguard, and State Street together account for more than 80% of the index investment market share.

(excluding issues regarding proxy contests and M&A). Most of the engagements are initiated by State Street proactively. Target firms tend to cluster in certain industries, consistent with the view that index funds can lower the costs of intervention by doing analysis on the industry level and engaging with multiple firms in those industries. Firms targeted by index funds are different from firms targeted by other shareholder activism identified by 13D filings. Activist hedge funds are value investors (Brav et al., 2008a) and target firms that are smaller and have lower Tobin's Q. Index funds are more likely to target firms with larger size and higher Q. There is almost no overlap between firms targeted by State Street and activist investors. Given that most of the indices are value-weighted, it is not surprising that index funds engage with firms that account for higher percentages of value in their portfolios. To the best of my knowledge, this is the first research to document the stark contrast in these two different governance mechanisms.

Given the increasing importance of passive investors and the evidence in this paper that they often oppose shareholder activism, examining passive investors' direct governance and engagement preferences can shed more light on how these large passive institutions shape the future landscape of corporate governance.

4.2 The quality of proxy advisors' recommendations in proxy contests

This paper finds that institutional investors do not follow proxy advisor recommendations because they might have different objectives. Nevertheless, extant research provides strong empirical evidence that proxy advisors' recommendations have a large impact on voting outcomes. The quality of their recommendations has a direct impact on firm value (Malenko and Malenko, 2019). Because the presence of proxy advisors crowds out independent governance research by institutional investors, firm value will be lower if the quality of the proxy advisor's information is low and shareholders who follow proxy advisors make perfectly correlated mistakes. The previous regulation on proxy advisors encouraged institutions to follow the proxy advisors so that they could avoid other potential conflicts of interests but the SEC recently withdrew the two non-action letters and plan for new regula-

tions on proxy advisors. The role of proxy advisors in proxy contests received little attention in recent years, and little empirical evidence exists on this topic. Because the proxy advising industry has changed over the last two decades, and they may change proxy advisors' incentives to produce high-quality recommendations, it is unclear whether the quality of recommendations has improved or deteriorated.

Competition in the proxy advisor industry has changed dramatically. Before 2003, Institutional Shareholder Services (ISS) dominated the industry, and now ISS and Glass Lewis together have 97% of the market share. Whether increased competition increases or decreases the quality of recommendations is unclear. On the one hand, competition may encourage proxy advisors to compete on the quality of their recommendations, leading to more informative and precise recommendations. On the other hand, competition may lead to reduced fees for proxy advisors. Because proxy advisors try to maximize profits, not information output, lower fees might lead to lower quality recommendations. From 2007 to 2017, the two major proxy advisors made different recommendations in proxy contests in 23% of the cases. The literature has not examined the question of how competition affects the quality of recommendations in proxy contests directly.

The ownership structure of the two major proxy advisors has also evolved. Since 2003, there are also multiple transactions of proxy advisors being sold. ISS was acquired by RiskMetrics in 2006. RiskMetrics went public in 2008 and was acquired by MSCI Inc. in 2010. MSCI sold ISS to a private equity firm Vestar Capital Partners in 2014. Xinhua Finance, a financial information firm that's partly owned by China's state-run news agency, bought Glass Lewis in 2007. It was controversial as two executives quit Glass Lewis shortly after the acquisition and said they were "uncomfortable and deeply disturbed by the conduct, background, and activities of our new parent company Xinhua Finance Ltd., its senior management, and its directors." The Ontario Teachers' Pension Plan bought Glass Lewis later that year and has been the owner of Glass Lewis since then. There are concerns about whether the ownership structure may lead to more conflicts of interests and lower the quality of the recommendations.[2] Similar concerns were raised over credit rating agency Moody's,

[2]Reuters: MSCI to sell proxy advisory firm ISS for $364 million. "This sale would not only remove potential conflicts of interest within MSCI's business model, but the MSCI stock could benefit as we believe ISS was not being properly valued."

which is publicly traded. In addition to conflicts of interests, some argue that proxy advisors, similar to law firms and accounting firms, should not be in the form of the corporation because of the potential production distortion when the residual holders lack the monitoring ability (Alchian and Demsetz, 1972).[3] How the proxy advisors' quality of recommendations is affected by their ownership structure is also a relevant question to the regulators.

The current literature has examined say-on-pay proposals (Malenko and Shen, 2016), management proposals, shareholder proposals, and uncontested director elections (Li, 2016). Li (2016) provides some suggestive evidence that competition from Glass Lewis makes Institutional Shareholder Services reduces favoritism toward management. The main limit of these studies is that regular proposals and uncontested director elections have little impact on firm values (Denes et al., 2017), so it is difficult to infer the quality of the recommendations. Proxy contests provide a useful empirical setting because proxy contests often involve issues that significantly affect shareholder value. The outcomes of proxy contests are not fully predictable and dissidents lost in 50% of the cases in recent years. Even with the support of proxy advisors, dissidents still lost in 25% of the cases. Because the voting outcomes are determined by the median voter and market prices are determined by the marginal trader and these two groups can be different, the quality of recommendations can be inferred when the proxy advisors announce the recommendations and when the voting outcomes are revealed.

The data on proxy advisor recommendations are collected by searching Factiva news for both ISS and Glass Lewis. In proxy contests, both management and dissidents have the incentive to disclose that they have support from proxy advisors, and they can make the endorsements public to gain more support from shareholders. The reports and the dates on which they are issued are not available publicly but are available to be purchased from ISS and Glass Lewis. The event-specific characteristics are collected through SEC filings related to the proxy contests and through news search.

Given that the SEC is considering issuing new guidance on proxy advisory firms, documenting whether the quality of recommendations has changed and understanding what factors are important in determining proxy advisors' incentives to produce high-quality rec-

[3]Institute for Governance of Private and Public Organizations (IGOPP): The Troubling Case of Proxy Advisors

ommendations is a relevant topic to the regulators and institutional investors. Given that this research question has not been directly addressed for the period after 2003 and this paper documents the strong influence that proxy advisors have in proxy contests, the research on this topic makes a significant contribution.

5.0 Conclusion

Using unique data of mutual fund and pension fund voting in proxy contests, this paper provides the first set of evidence that there is a significant amount of divergence among institutional investors towards shareholder activism that is viewed as value-increasing by the market and leading proxy advisors to the target firms. I hypothesize that the divergence can be explained by the fact that many institutions hold stocks in both target firms and their rivals. While the target firms' performance improves, the gains are diluted or more than offset by the losses in their rivals. To institutional investors that compete on relative performance, their incentives to engage are weakened considering the direct impact on assets under management and indirect impact from future investor flows. I find that the probability of an institution voting for activists increases as the institution's industry portfolio return increases. Furthermore, when the target firms do not have publicly-traded competitors, institutional investors are much more likely to support the activists. The evidence in this paper is consistent with the view that institutional investors' portfolio differences can explain differences in their support for shareholder activism. It contributes to our understanding of the interaction between activists and other institutional investors and also has useful policy implications for regulators. Although Crane et al. (2016), Appel et al. (2016), and Appel et al. (2018) find positive effects of passive ownership on target firms' corporate governance, Lund (2017) proposes that lawmakers restrict passive funds from voting at shareholder meetings because she believes that passive funds lack the incentives and will have harmful consequences for firm governance, shareholders, and the economy.

This paper contributes to the debate on the role of passive institutional investors in corporate governance. Unlike activist hedge funds which hold concentrated positions in targets and have high power incentives (Brav et al., 2008a), incentives of diversified or passive investors make them "under-invest in stewardship and to be deferential toward the corporate managers of portfolio companies" (Bebchuk et al., 2017; Bebchuk and Hirst, 2018a,b). While the empirical evidence in this paper is from a sample of proxy contests, institutional cross-ownership could also have an impact on which firms are targeted to begin with. If activists

do not launch campaigns that are less likely to be supported by the shareholders, then these activism campaigns cannot be observed.[1] Therefore, cross-ownership potentially leads not only to a higher probability of failing value-increasing campaigns but also to a lower number of campaigns launched by activists. While this paper focuses on the activism events, the results also have general implications on other aspects of institutional investors' stewardship and governance activities.

[1]Appel et al. (2016) find that an exogenous increase in passive ownership of a firm leads to a lower probability of being targeted by activists. Brav et al. (2018) use a selection model and find a positive correlation between the propensity for targeting by dissidents and that of pro-dissident voting by investors. They show that activists are less likely to target firms with higher passive fund ownership.

Appendix A

ISS US Voting Guidelines

Proxy Contests/Proxy Access Voting for Director Nominees in Contested Elections

General Recommendation: Vote case-by-case on the election of directors in contested elections, considering the following factors:

- Long-term financial performance of the company relative to its industry;
- Management's track record;
- Background to the contested election;
- Nominee qualifications and any compensatory arrangements;
- Strategic plan of dissident slate and quality of the critique against management;
- Likelihood that the proposed goals and objectives can be achieved (both slates);
- Stock ownership positions.

Appendix B

Mutual Fund Family Voting

In this appendix, I provide some institutional details on how fund families vote their proxy cards. There is heterogeneity in how proxy voting is handled. The following information is from the Morningstar 2017 survey.

Given the large number of companies in which they invest, most surveyed managers rely on proxy voting advisors like Institutional Shareholder Services and Glass Lewis to provide data as an input to their voting process. However, the managers do not follow the advisors' voting recommendations. Instead, they follow tailored recommendations that the advisors provide based on the managers' own voting policies, though many also ask the advisors to flag non-routine votes for in-house review. Some firms, including Amundi and LGIM, use proxy advisors for research only.

For example, at BlackRock, Amundi, and UBS, the policy is for active fund managers to vote consistently across all funds, but they retain the authority to vote differently from the house view. This contrasts with the approach at Vanguard, SSGA, and LGIM, where the stewardship teams have ultimate authority on the final voting decisions. This is to ensure consistency and efficacy, as well as to minimize potential conflicts of interest.

Another way to examine whether the voting decisions are made on fund-family level or fund level is to simply look at how often funds within the same family vote differently on the same proposals. This is difficult because many mutual fund families outsource their funds to other investment advisors and the voting rights belong to the investment advisors, not the management company. For example, while Vanguard's index funds are managed in-house, a number of their actively managed funds are run (in part or whole) by external investment advisory firms.

Appendix C shows an example of an index fund of Fidelity which is outsourced to BlackRock. According to the SAI of the fund, BlackRock has the voting right of this fund.

After talking to some practitioners, this is a very common practice for outsourced funds and I confirm this by checking many outsourced funds' SAI. Some funds are managed by multiple advisors and sometimes it is unclear which advisor casts the votes.

However, within-family variations in proxy contests are quite low. Brav et al. (2018) collect data of mutual fund voting records in proxy contests from 2008 to 2015 and the average percentage disagreement within a fund family is just 5.51% and the median is 0% even without correcting for outsourced funds. Crane et al. (2017) also find that there is very little variation within mutual fund families in terms of votes for all proposals, but for some family-item pairs, the average falls between zero and one when all funds managed by an institution do not vote the same. I expect most of the disagreement happens between in-house funds and outsourced funds.[1] Therefore, it suggests that the claim in Morningstar survey can be trusted and simply aggregating voting decisions on fund-family level provides very reliable information of the fund family voting decisions.

[1] I manually verify this for a small randomly-selected sample.

Appendix C

Example: Fidelity Index Fund SAI

Fidelity® MSCI Consumer Discretionary Index ETF, Fidelity® MSCI Consumer Staples Index ETF, Fidelity® MSCI Energy Index ETF, Fidelity® MSCI Financials Index ETF, Fidelity® MSCI Health Care Index ETF, Fidelity® MSCI Industrials Index ETF, Fidelity® MSCI Information Technology Index ETF, Fidelity® MSCI Materials Index ETF, Fidelity® MSCI Real Estate Index ETF, Fidelity® MSCI Telecommunication Services Index ETF and Fidelity® MSCI Utilities Index ETF

November 29, 2017

STATEMENT OF ADDITIONAL INFORMATION

BFA(BlackRock Fund Advisors) assumes general supervision over placing orders on behalf of each fund for the purchase and sale of portfolio securities. In selecting brokers or dealers for any transaction in portfolio securities, BFA's policy is to make such selection based on factors deemed relevant, including but not limited to: i) the size, nature and character of the security or instrument being traded and the markets in which it is purchased or sold; (ii) the desired timing of the transaction; (iii) BFA's knowledge of the expected commission rates and spreads currently available; (iv) the activity existing and expected in the market for the particular security or instrument, including any anticipated execution difficulties; (v) the full range of brokerage services provided; (vi) the broker's or dealer's capital; (vii) the quality of research and research services provided; (viii) the reasonableness of the commission, dealer spread or its equivalent for the specific transaction; and (ix) BFA's knowledge of any actual or apparent operational problems of a broker or dealer. Brokers may also be selected because of their ability to handle special or difficult executions, such as may be involved in large block trades, less liquid securities, or other circumstances. The funds have adopted policies and procedures that prohibit the consideration of sales of each fund's shares as a factor in the selection of a broker or a dealer to execute its portfolio transactions

and BFA is required to adhere to such policies.

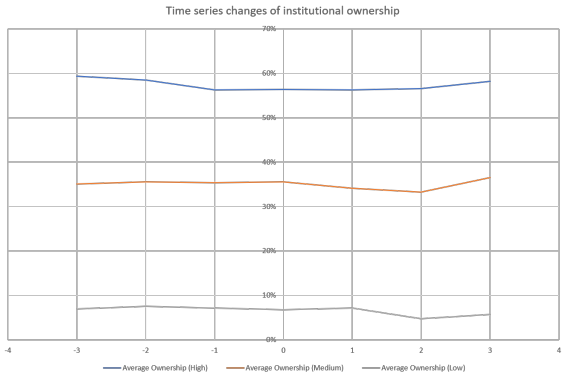
Appendix D

Time series changes in institutional ownership of target firms

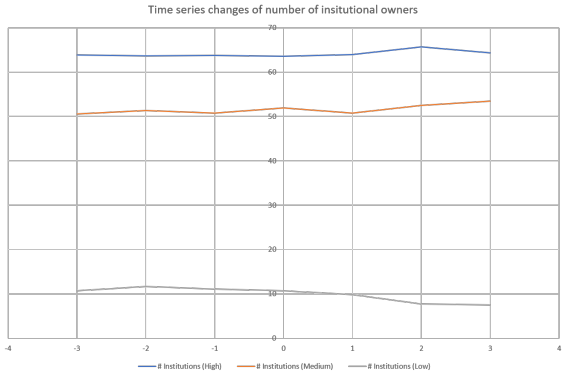
In this appendix, I formally present results of the time series changes in ownership of the 186 institutions around activism events in the sample of this paper. Seventy percent of the institutions in my sample are classified as quasi-indexers or dedicated institutions by Bushee (1998) and have low or extremely low portfolio turnover ratios. Therefore, as the figure below shows, there are no significant changes in total institutional ownership or number of institutional investors around activism events for target firms with high, medium, or low institutional ownership 3 quarters before the activism campaigns.

Time series changes of institutional ownership in targets

Time series changes of institutional ownership

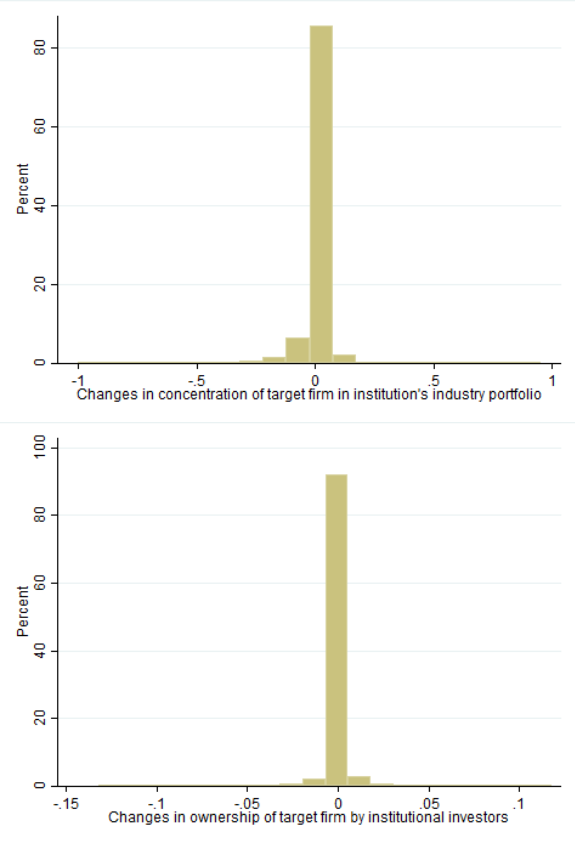


Time series changes of number of institutional owners



While the aggregate institutional ownership stays relatively stable, some institutions can buy more shares of target and some can sell. To further investigate this possibility, I then examine the within-institution changes between the 13D announcement dates and meeting dates. As the figure below shows, the vast majority of the changes in concentration of target in industry portfolio and percentage ownership is zero and only a few instances the institutions change their holdings.

Distribution of changes in target's concentration



To further examine whether the time series changes in holdings would affect institutions' voting decisions, I use multivariate models and add buy/sell dummies in the regressions of my main results. As shown in the table below, there is some weak evidence that institutions that increased concentration in the targets are more about 5% to 6% more likely to support the activists. It also supports the use of holdings before meeting dates instead of 13D announcement dates because of lower measurement errors.

Estimating probability of voting for the activists from industry portfolio returns using holdings before 13D announcement dates

This table presents the estimation results of linear probability models of vote decision on institutional investor return using the sample of proxy contests in which ISS backed the directors nominated by the activists. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. Buy/Sell is a dummy that takes the value one if the fund's target holdings increase/decrease by more than 5% between the 13D announcement dates and meeting dates. The industry portfolio return is measured on SIC 4-digit level for each institution-meeting pair over (-1,1) window. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

Panel A.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Buy	0.059*	0.060**	0.049**	0.019	0.005
	(1.81)	(2.04)	(2.25)	(0.60)	(0.23)
Sell	-0.007	-0.015	-0.019	-0.037	-0.041
	(-0.23)	(-0.55)	(-0.60)	(-1.25)	(-1.29)
Industry Portfolio Return		1.675*	0.464	1.610**	0.058
		(1.98)	(0.72)	(2.02)	(0.08)
Business Tie		-0.029*	-0.028**	-0.005	-0.007
		(-1.67)	(-2.24)	(-0.32)	(-0.51)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2312	2312	2311	2304	2303
R-squared	0.002	0.011	0.173	0.242	0.385

Panel B.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Buy	0.039	0.041	0.017	0.021	-0.003
	(0.88)	(1.09)	(0.42)	(0.54)	(-0.11)
Sell	0.006	-0.005	-0.030	-0.025	-0.046*
	(0.16)	(-0.16)	(-0.86)	(-0.78)	(-1.73)
Industry Portfolio Return		2.403**	1.833*	2.309**	1.630*
		(2.65)	(1.99)	(2.65)	(1.92)
Business Tie		-0.028*	-0.025**	-0.005	-0.003
		(-1.67)	(-2.62)	(-0.32)	(-0.24)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1582	1582	1581	1582	1581
R-squared	0.001	0.017	0.190	0.213	0.379

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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Table 1: Top institutional investors' holdings of DuPont, incentives, and voting decisions

This table describes the incentives of DuPont's top institutional shareholders as of Mar 31st, 2015. Panel A lists 10 largest shareholders of DuPont and their holdings. Panel B shows gains from DuPont holdings and losses from Monsanto holdings and net abnormal returns of the 10 largest shareholders of DuPont. Abnormal returns are calculated by adjusting for market returns. Dollar returns are in millions of dollars.

Panel A. 10 largest institutional shareholders of DuPont

Shareholder	Ownership in DuPont	Ownership in Monsanto	Vote	Other Reasons
Capital Group	5.80%	1.36%	For Trian	
Vanguard	5.56%	6.28%	Against Trian	Business Tie
BlackRock	5.00%	5.50%	Against Trian	
State Street	4.60%	4.32%	Against Trian	Business Tie
STRS Ohio	4.49%	0.07%	For Trian	
Trian	2.71%	0.00%	For Trian	
Fidelity	2.53%	4.46%	For Trian	
T. Rowe Price	1.95%	0.54%	For Trian	
Franklin Resources	1.66%	0.05%	Against Trian	
Janus Capital	1.11%	0.21%	For Trian	

Panel B. Returns of the 10 largest institutional shareholders of DuPont

Shareholder	DuPont return	Monsanto return	Dollar return	% return	Vote
Capital Group	133.9	-36.0	97.9	2.8%	For Trian
Vanguard	128.3	-166.0	-37.7	-0.6%	Against Trian
BlackRock	115.4	-145.5	-30.1	-0.6%	Against Trian
State Street	106.2	-114.4	-8.2	-0.2%	Against Trian
STRS Ohio	103.5	-1.9	101.6	4.7%	For Trian
Trian	62.6	0	62.6	4.9%	For Trian
Fidelity	58.5	-117.9	-59.4	-1.6%	For Trian
T Rowe Price	45.0	-14.3	30.7	2.5%	For Trian
Franklin Resources	38.3	-1.2	37.0	4.6%	Against Trian
Janus Capital	25.6	-5.5	20.1	3.1%	For Trian

Table 2: Voting behavior of institutional investors in proxy contests

The sample contains institutional investor votes in 113 proxy contests public US companies from July 2013 to June 2017. Panel A of this table describes voting behavior of (large) mutual fund advisors and (large) pension funds and how often they follow proxy families in proxy contests, based on proxy advisors' recommendations. Section 1 reports the unconditional rejection rates of the activists by institutional investors in proxy contests. Section 2 (3) reports the rejection rates of the activists in proxy contests in which all (all or some) dissident nominees are endorsed by the major proxy advisors, ISS, Glass Lewis, and both. Section 4 reports the rejection rates of the management when management nominees are endorsed by the major proxy advisors, ISS, Glass Lewis, and both. Large mutual funds are defined as the top 25 fund advisors by AUM and large pension funds are defined as the top 5 pension funds by AUM in the sample.

	Large Mutual Funds	Mutual Funds	Large Pension Funds	Pension Funds
1. All proxy contests				
	Percentage voted against the activists			
	62.8%	57.5%	52.7%	54.1%
2. All or some dissidents are endorsed by				
	Percentage voted against the activists			
ISS	34.1%	26.5%	22.5%	22.2%
Glass Lewis	38.8%	30.3%	21.7%	22.5%
Both	29.3%	21.1%	12.8%	12.1%
3. All dissidents are endorsed by				
	Percentage voted against the activists			
ISS	32.2%	25.5%	23.9%	18.3%
Glass Lewis	34.1%	25.2%	16.4%	14.8%
Both	26.9%	19.8%	12.9%	8.9%
4. The management is endorsed by				
	Percentage voted against the management			
ISS	4.8%	6.6%	10.6%	7.7%
Glass Lewis	14.0%	15.3%	14.9%	13.4%
Both	1.9%	3.3%	3.6%	2.3%

Table 3: Voting behavior of institutional investors in proxy contests

This table describes the voting behavior of large mutual fund advisors and pension funds. The first panel reports the total number of meetings large mutual fund advisors voted and how often large mutual fund advisors vote against the activists and the second panel reports for large pension funds. The sample of proxy contests is from July 2013 to June 2017.

	Proxy contests in which ISS backed the activists			All proxy contests		
Fund	number of meetings	voted against the activists	percent	number of meetings	voted against the activists	percent
AXA Investment Managers	12	1	8.3%	24	13	54.2%
BNY Mellon	37	19	51.4%	68	50	73.5%
BlackRock	57	30	52.6%	101	70	69.3%
Capital Group	7	3	42.9%	25	17	68.0%
Columbia Threadneedle US	9	3	33.3%	19	11	57.9%
Deutsche Asset Management	36	2	5.6%	65	31	47.7%
Dimensional Fund Advisors	50	8	16.0%	90	46	51.1%
Fidelity	17	6	35.3%	37	25	67.6%
Franklin Templeton Investments	13	6	46.2%	22	15	68.2%
Goldman Sachs Asset Management	25	1	4.0%	46	22	47.8%
Invesco Advisers	8	2	25.0%	19	13	68.4%
JPMorgan Investment Management	23	5	21.7%	49	30	61.2%
MFS Investment Management	10	5	50.0%	15	9	60.0%
Morgan Stanley Investment Management	5	2	40.0%	15	11	73.3%
Northern Trust Investments	44	20	45.5%	78	53	67.9%
Principal Global Investors	35	2	5.7%	66	30	45.5%
State Street	41	27	65.9%	76	61	80.3%
T. Rowe Price Associates	29	4	13.8%	54	28	51.9%
TIAA-CREF Asset Management	38	17	44.7%	70	47	67.1%
Vanguard Group	55	31	56.3%	99	73	73.7%
Wells Fargo Advisors	19	3	15.8%	35	19	54.3%
California Public Employees Retirement System	52	19	36.5%	93	51	54.8%
California State Teachers' Retirement System	32	9	28.1%	61	36	59.0%
Canada Pension Plan Investment Board	14	3	21.4%	29	18	62.1%
Colorado PERA	22	7	31.8%	37	21	56.8%
Florida State Board of Administration	39	6	15.4%	71	36	50.7%
New York State Teachers' Retirement System	20	9	45.0%	36	23	63.9%
Ohio Public Employees Retirement System (OPERS)	15	5	33.3%	26	16	61.5%
State Teachers' Retirement System of Ohio	23	4	17.4%	45	23	51.1%
Teacher Retirement System of Texas	21	1	4.8%	39	19	48.7%
The New York State Common Retirement Fund	29	4	13.8%	51	24	47.1%

Table 4: Returns to institutional investors around 13D announcements and probability of voting against the activists

The sample contains 67 proxy contests of public US companies between 2013 and 2017 in which ISS endorsed the activists' director nominees. All returns are over the (-1,+1) trading days event window. Market-adjusted abnormal returns, market-model, the Fama French three-factor model are relative to the CRSP value-weighted index benchmark.

A. SIC industry definition

	Target return	Rival return	Institutional investor return					
			Top decile		*Bottom decile*			
			Return	Vote Against	Return	Vote Against		
			(1)	(2)	(3)	(4)	(1)-(3)	(2)-(4)
Market-adjusted return								
Mean	3.37%	0.16%	4.75%	21.55%	-2.00%	34.48%	6.75%	-12.93%
T value (StdCsect Z)	(5.53**)	(2.54**)					43.20***	-5.10***
Median	2.82%	-0.03%	3.99%		-1.80%		5.79%	
Market-model abnormal return								
Mean	3.69%	0.19%	5.02%	21.55%	-1.88%	32.62%	6.60%	-11.07%
T value (StdCsect Z)	(5.84***)	(3.13***)					42.69***	-3.3***
Median	2.86%	0.02%	4.21%		-1.88%		6.09%	
FF 3-factor-model abnormal return								
Mean	3.53%	-0.02%	4.70%	20.17%	-1.83%	30.04%	6.52%	-9.87%
T value (StdCsect Z)	(5.61***)	(-0.09)					40.69***	-2.47**
Median	2.62%	-0.04%	3.58%		-1.58%		5.16%	
Raw return								
Mean	3.73%	0.89%	7.88%	16.37%	-2.91%	32.74%	10.79%	-16.37%
T value (StdCsect Z)	(5.85***)	(12.76***)					70.04***	-4.11***
Median	2.94%	0.69%	8.14%		-2.75%		10.89%	

B. TNIC industry definition

	Target return	Rival return	Institutional investor return					
			Top decile		*Bottom decile*			
			Return	Vote Against	Return	Vote Against		
			(1)	(2)	(3)	(4)	(1)-(3)	(2)-(4)
Market-adjusted return								
Mean	3.37%	-0.35%	4.06%	21.17%	-2.64%	30.18%	6.70%	-9.01%
T value (StdCsect Z)	(5.53**)	(-4.525***)					35.16***	-2.18**
Median	2.82%	-0.03%	3.26%		-2.29%		5.55%	
Market-model abnormal return								
Mean	3.69%	-0.18%	4.38%	23.98%	-2.71%	29.28%	7.09%	-5.07%
T value (StdCsect Z)	(5.84***)	(-2.42**)					38.32***	-1.26
Median	2.86%	0.02%	4.01%		-2.03%		6.04%	
FF 3-factor-model abnormal return								
Mean	3.53%	-0.24%	4.81%	21.71%	-2.82%	31.53%	7.64%	-9.82%
T value (StdCsect Z)	(5.61***)	(-3.31***)					34.77***	-2.22**
Median	2.62%	-0.04%	4.18%		-2.82%		7.00%	
Raw return								
Mean	3.73%	0.52%	4.62%	19.82%	-3.39%	27.93%	8.01%	-8.11%
T value (StdCsect Z)	(5.85***)	(6.27***)					43.36***	-2.01**
Median	2.94%	0.69%	3.94%		-3.12%		7.06%	

Table 5: Estimating probability of voting for the activists from industry portfolio returns using holdings before meeting dates

This table presents the estimation results of linear probability models of vote decision on institutional investor return using the sample of proxy contests in which ISS backed the directors nominated by the activists. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. The industry portfolio return is measured on SIC 4-digit level for each institution-meeting pair over (-1,1) window. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

Panel A.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	1.842**	1.803**	1.131**	1.594**	0.787
	(2.31)	(2.26)	(2.03)	(2.19)	(1.25)
Business Tie		-0.023	-0.022*	-0.001	-0.003
		(-1.42)	(-1.88)	(-0.06)	(-0.23)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2315	2315	2314	2308	2307
R-squared	0.006	0.009	0.165	0.243	0.384

Panel B.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	2.408**	2.352**	2.122**	2.293***	2.309***
	(2.56)	(2.50)	(2.44)	(2.67)	(2.72)
Business Tie		-0.022	-0.020*	-0.001	0.000
		(-1.39)	(-1.92)	(-0.04)	(0.03)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1579	1579	1578	1579	1578
R-squared	0.009	0.013	0.187	0.222	0.387

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Estimating probability of voting for the activists from industry portfolio returns using alternative industry definition

This table presents the estimation results of linear probability models of vote decision on institutional investor return. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). In Panel C, the rivals are defined as the "nearest 20" rivals measured by the similarity scores in the TNIC data. In Panel D, the rivals are defined the same as in Panel C and sample is for frequent voters. In Panel E, target firms are limited to non-MNC firms. In Panel F, the target firms are limited to non-MNC firms and sample is for frequent voters. The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. The industry portfolio return is measured using Hoberg and Phillips 10-K Text-based Network Industry Classifications (TNIC) over (-1,1) window. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

Panel A.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	0.983*	1.010*	1.168	0.501	0.493
	(1.69)	(1.74)	(1.45)	(0.93)	(0.62)
Business Tie		-0.028*	-0.027**	-0.006	-0.007
		(-1.94)	(-2.39)	(-0.36)	(-0.53)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2220	2220	2219	2215	2214
R-squared	0.001	0.006	0.151	0.245	0.380

Panel B.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	1.150	1.196	2.047**	0.616	1.233*
	(1.15)	(1.21)	(2.31)	(0.63)	(1.69)
Business Tie		-0.028*	-0.025**	-0.006	-0.004
		(-1.94)	(-2.41)	(-0.37)	(-0.30)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1531	1531	1530	1531	1530
R-squared	0.002	0.010	0.171	0.217	0.372

Panel C. "nearest 20" rivals

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	0.791	0.821	0.967	0.211	0.163
	(1.01)	(1.08)	(1.52)	(0.27)	(0.26)
Business Tie		-0.028*	-0.027**	-0.006	-0.007
		(-1.96)	(-2.41)	(-0.36)	(-0.53)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2256	2256	2255	2249	2248
R-squared	0.001	0.006	0.149	0.243	0.373

Panel D. "nearest 20" rivals and frequent voters

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	1.174	1.246	2.844***	0.600	2.154**
	(1.14)	(1.25)	(2.86)	(0.59)	(2.34)
Business Tie		-0.028*	-0.025**	-0.006	-0.003
		(-1.95)	(-2.40)	(-0.37)	(-0.28)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1562	1562	1561	1561	1560
R-squared	0.002	0.009	0.169	0.214	0.369

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Estimating probability of voting for the activists on whether the target company has publicly-traded competitors

This table presents the estimation results of linear probability models of vote decision on whether the target company has publicly-traded competitors. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. No publicly-traded competitors is a dummy that takes the value one if the target company has no publicly-traded competitors. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Firm-level controls include 13D announcement returns of target firms, Tobin's Q, ROA, stock return, leverage, dividend yield, institutional ownership, and dissident group ownership. Standard errors are clustered at the meeting level.

Panel A.

	(1) vote	(2) vote	(3) vote	(4) vote
No publicly-traded competitors	0.096***	0.110***	0.086***	0.073*
	(3.98)	(4.15)	(2.77)	(1.75)
Business Tie		-0.029*	-0.007	-0.011
		(-1.92)	(-0.44)	(-0.65)
Meeting Fixed Effects	N	N	N	N
Institution Fixed Effects	N	N	Y	Y
Meeting-level controls	N	N	N	Y
N	2323	2323	2316	1947
R-squared	0.001	0.005	0.238	0.266

Panel B.

	(1) vote	(2) vote	(3) vote	(4) vote
No publicly-traded competitors	0.074***	0.092***	0.079**	0.080*
	(2.89)	(3.19)	(2.53)	(1.81)
Business Tie		-0.029*	-0.007	-0.011
		(-1.88)	(-0.45)	(-0.65)
Meeting Fixed Effects	N	N	N	N
Institution Fixed Effects	N	N	Y	Y
Meeting-level controls	N	N	N	Y
N	1582	1582	1582	1340
R-squared	0.001	0.007	0.210	0.239

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Market Reactions of Activism Events

This table presents abnormal returns around announcement dates based on tactics used by activists and voting results. The sample is activism events from 2009 to 2017. Cumulative abnormal returns (CARs) are estimated using the Fama French three-factor model. Panel A presents the CARs of activism events based on the activists' tactics (proxy contests). Panel B presents the CARs of activism events based on voting outcomes of the proxy contests from 2009 to 2017. Panel C presents the CARs of activism events based on voting outcomes of the proxy contests in which ISS backed the directors nominated by the activists in the voting sample from July 2013 to June 2017.

Panel A.

		Tactics		
		(1)	(2)	(1)-(2)
CAR window		No proxy fight	Proxy fight	Diff
(-1,+1) CAR	AVG	3.07%	3.52%	-0.45%
(-1,+1) CAR	MED	[1.63%]	[1.68%]	[-0.05%]
(-1,+5) CAR	AVG	3.70%	4.68%	-0.98%
(-1,+5) CAR	MED	[1.88%]	[2.48%]	[-0.60%]
(-5,+5) CAR	AVG	4.60%	5.95%	-1.35%
(-5,+5) CAR	MED	[2.75%]	[3.57%]	[-0.82%]
(-10,+10) CAR	AVG	5.61%	7.08%	-1.47%
(-10,+10) CAR	MED	[3.37%]	[4.78%]	[-1.41%]
(-20,+20) CAR	AVG	6.54%	9.63%	-3.10%**
(-20,+20) CAR	MED	[4.94%]	[5.44%]	[-0.50%]

Panel B.

		Voting results		
		(1)	(2)	(1)-(2)
CAR window		Activists won	Activists lost	Diff
(-1,+1) CAR	AVG	3.17%	3.07%	0.09%
(-1,+1) CAR	MED	[1.45%]	[1.40%]	[0.06%]
(-1,+5) CAR	AVG	3.60%	4.88%	-1.28%
(-1,+5) CAR	MED	[1.76%]	[2.98%]	[-1.22%]
(-5,+5) CAR	AVG	4.40%	7.07%	-2.67%
(-5,+5) CAR	MED	[2.38%]	[4.50%]	[-2.11%]
(-10,+10) CAR	AVG	5.92%	6.38%	-0.46%
(-10,+10) CAR	MED	[2.96%]	[4.82%]	[-1.85%]
(-20,+20) CAR	AVG	9.70%	9.15%	0.55%
(-20,+20) CAR	MED	[3.98%]	[5.20%]	[-1.21%]

Panel C.

		Voting results		
		(1)	(2)	(1)-(2)
CAR window		Activists won	Activists lost	Diff
(-1,+1) CAR	AVG	3.69%	2.79%	0.89%
(-1,+1) CAR	MED	[2.90%]	[1.97%]	[0.93%]
(-1,+5) CAR	AVG	7.19%	3.49%	3.69%
(-1,+5) CAR	MED	[4.44%]	[2.94%]	[1.49%]
(-5,+5) CAR	AVG	8.41%	4.43%	3.98%
(-5,+5) CAR	MED	[4.92%]	[3.87%]	[1.05%]
(-10,+10) CAR	AVG	8.08%	5.81%	2.27%
(-10,+10) CAR	MED	[6.87%]	[5.10%]	[1.77%]
(-20,+20) CAR	AVG	7.62%	8.92%	-1.29%
(-20,+20) CAR	MED	[6.38%]	[9.38%]	[-3.00%]

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: The real effects of proxy contests: Stock returns of close-call proxy contests

This table presents abnormal returns of target firms and their rivals around meeting results dates and announcement dates in close-call proxy contests from July 2013 to June 2017. I restrict the sample of votes to those that fail or win by a small margin (within 3 percentage points between the management nominees with the lowest support and dissident nominees with the highest support and vice versa). Cumulative abnormal returns (CARs) are estimated using the Fama French three-factor model. Panel A presents the results when the activists lost. Panel B presents the results when the activists won.

*, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

Panel A. Proxy contests in which the activists lost.

Date	Window	Target	Rival (SIC)	Rival (TNIC)
13D date	(-1, +1) return	3.10%***	-0.43%	-0.68%***
Voting result date	(-1, +1) return	-3.25%**	0.09%	0.15%*

Panel B. Proxy contests in which the activists won.

Date	Window	Target	Rival (SIC)	Rival (TNIC)
13D date	(-1, +1) return	7.15%**	-0.69%	-0.77%
Voting result date	(-1, +1) return	5.28%***	-0.71%%	-0.34%

Figure 1: **Timeline of DuPont's proxy fight with Trian Fund Management (the activist) and measurement of direct incentives**

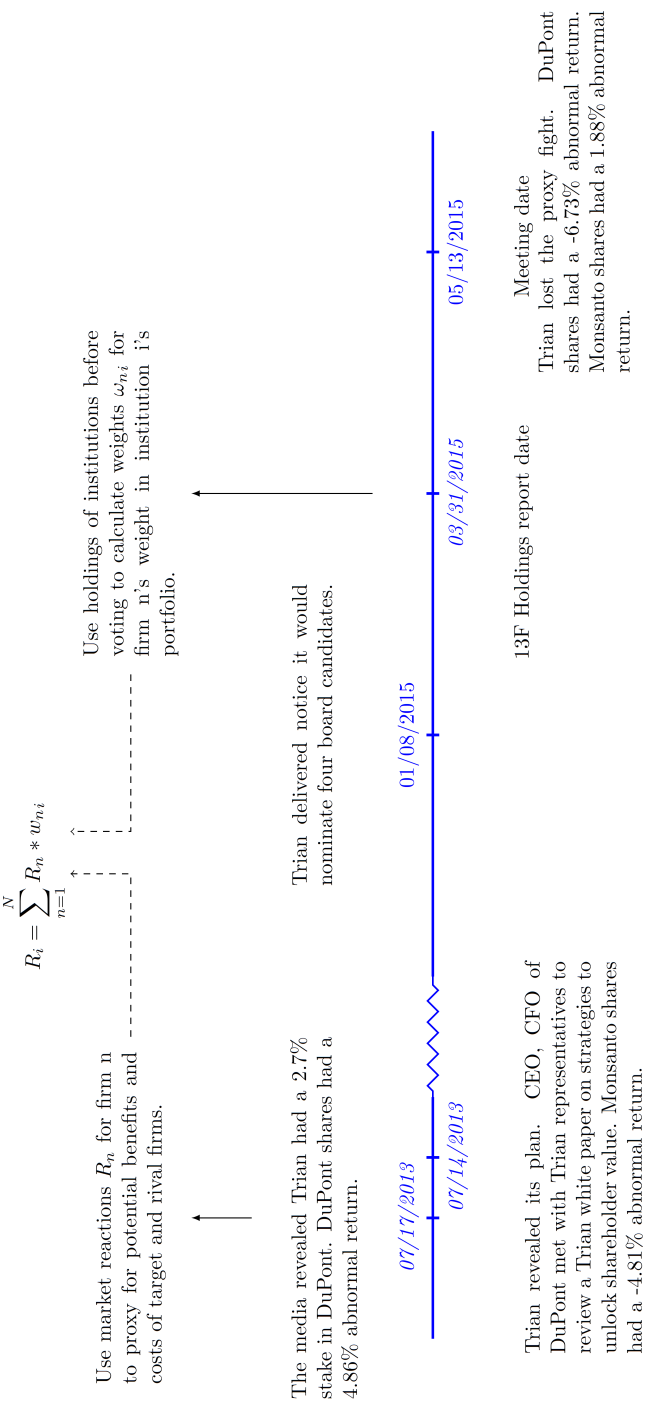
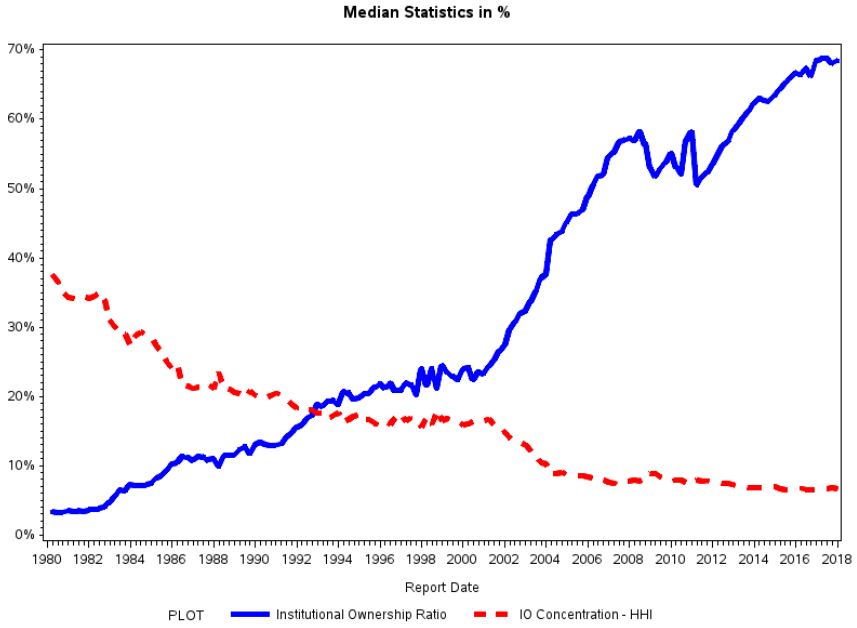


Figure 2: **Insitutional ownership characteristics over time**

This figure plots the median institutional ownership and institutional ownership concentration (HHI) from 1980 to 2018. Institutional ownership is calculated as the number of shares held by 13F filers scaled by the total number of outstanding for each firm. Institutional ownership concentration (HHI) is the sum of squares of each institution's ownership in a firm scaled by the squared total institutional ownership of the firm.



This figure plots the percentage of common ownership from 1980 to 2018. The y-axis is the percentage of firms in our sample that are owned by at least one institutional blockholder that simultaneously holds a block in at least one other same-industry firm. Blockholders are defined as institutional investors with at least 5% ownership in a firm and classify industry by four-digit SIC codes.

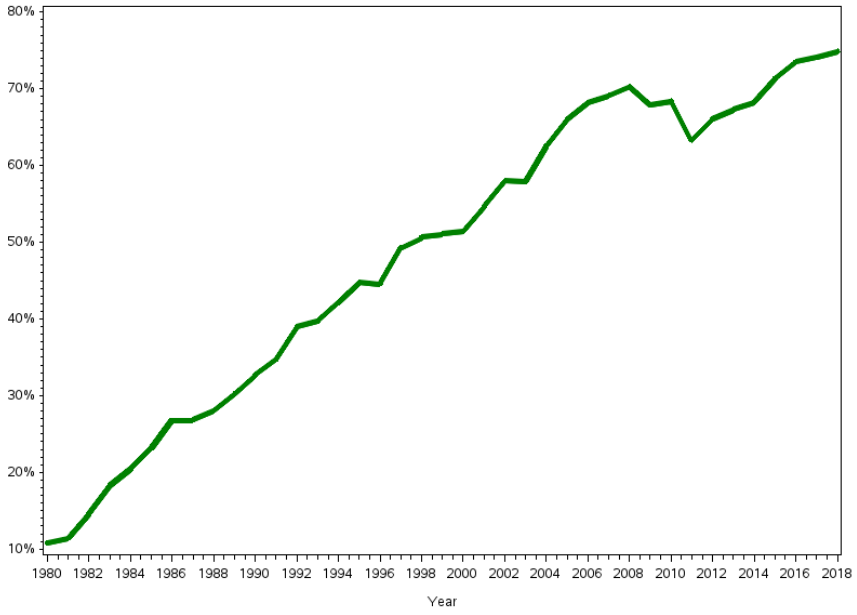


Figure 3: **Activism Events by Year**

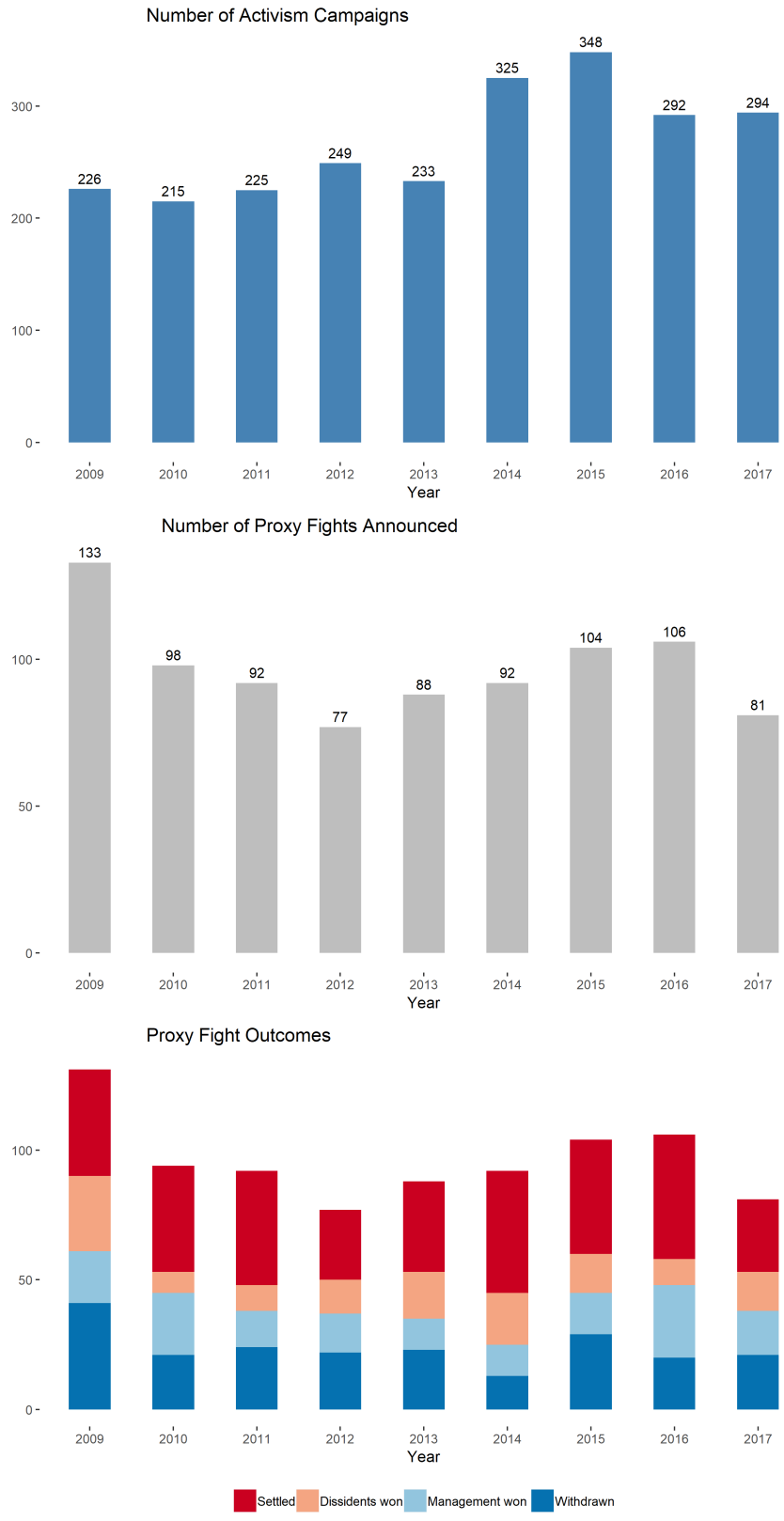


Figure 4: **Histogram of rejection rate of meetings**

This figure plots the distribution of the average rejection rate in the sample that contains 67 proxy contests of public US companies between 2013 and 2017 in which ISS endorsed the activists' director nominees.

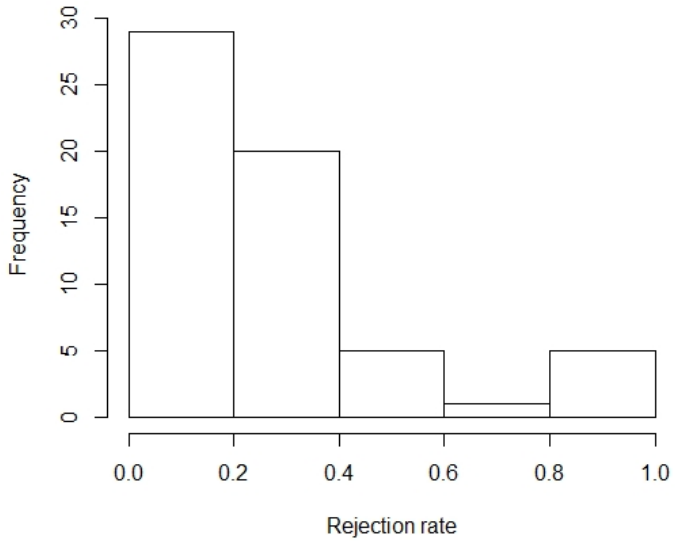


Figure 5: **Average Probability of voting for the activists and institutions' industry portfolio returns**

This figure plots the average ratio of institutions voting for the activists and institutions' industry portfolio returns. The industry portfolio returns are grouped in 10 bins and then for each bin the average support rate of institutions is calculated. The sample contains 67 proxy contests of public US companies between 2013 and 2017 in which ISS endorsed the activists' director nominees.

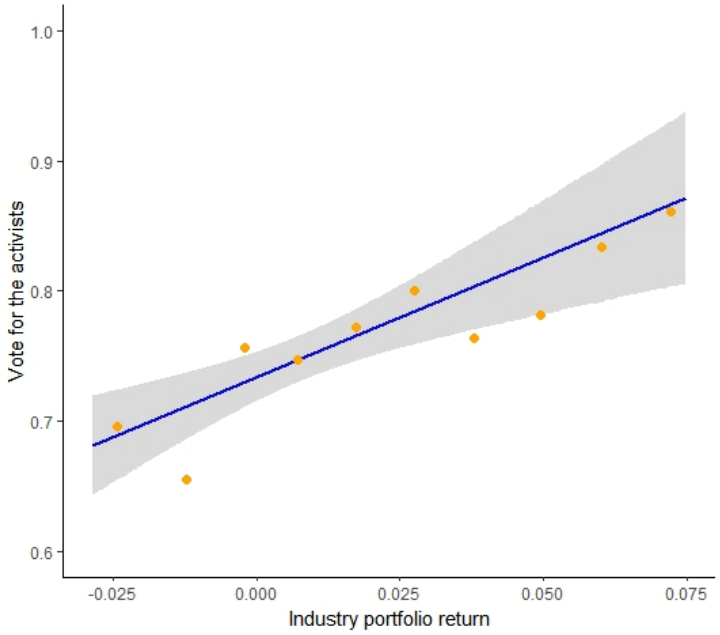


Table A1: Asset under Management of the Top U.S. Mutual Funds (June 2016)

Ranked according to Asset under Management in passive index funds. Multi-asset funds have been assumed to invest 60% in equities and 40% in bonds.

Fund Family	AUM (equity total)	AUM (passive equity)	Passive AUM/ Total AUM
BlackRock	2,644	2,166	81.30%
Vanguard	2,270	1,839	81.10%
State Street	1,377	1,275	96.90%
Fidelity	1,004	170	16.90%
Invesco	377	85	22.50%
T. Rowe Price	337	30	8.90%
BNY Mellon	247	14	6.90%
Capital Group	838	0	0%
Wellington Mgmt.	476	0	0%
JP Morgan Chase	342	0	0%
Franklin Templeton	297	0	0%
Goldman Sachs	254	0	0%
Dimensional F. Adv.	245	0	0%

Table A2: Estimating probability of voting for the activists from types of institutions

This table presents estimation results of linear probability models of vote decision on institution type. Passive takes value 1 if a mutual fund family has over 90% AUM passively managed (as of December 2016 and as defined in CRSP mutual fund database). Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

	(1) vote	(2) vote
Passive	-0.293***	-0.300***
	(-9.27)	(-9.85)
Business Tie	-0.023	-0.021
	(-1.28)	(-1.52)
Meeting Fixed Effects	N	Y
N	2323	2322
R-squared	0.049	0.211

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Market Reaction of Proxy Contest Outcomes

This table presents abnormal returns around meeting dates of 67 proxy contests in the voting sample. Cumulative abnormal returns (CARs) are estimated using Fama French three-factor model.
*, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

		Voting results			
		(1)	(2)	(1)-(2)	
CAR window		Activists won	Activists lost	Diff	
(0,+1) CAR	AVG	0.52%	-1.07%	1.59%	
(0,+1) CAR	MED	[0.76%]	[-1.28%]	[2.04%]	
(-1,+5) CAR	AVG	2.02%	-2.12%	4.14%	
(-1,+5) CAR	MED	[1.02%]	[-3.88%]	[4.89%]	***
(-1,+10) CAR	AVG	0.91%	-4.64%	5.55%	
(-1,+10) CAR	MED	[1.79%]	[-6.44%]	[8.23%]	**
(-1,+20) CAR	AVG	-1.83%	-6.28%	4.45%	
(-1,+20) CAR	MED	[2.64%]	[-6.88%]	[9.53%]	**

Table A4: Cross-sectional regression analysis of activism filings on rivals and voting decisions

This table presents the relation between rivals' abnormal returns (in percentage points) and rivals characteristics and activism objectives. Leverage is the book leverage and Cash is the cash assets scalec by total assets. The events are categorized based on the activists filings and news releases into financial strategy/operation, governance, sale of target, and general (no specific agenda). One event could have multiple objectives. Standard errors are clustered at the meeting level.

	(1) Abnormal return	(2) Abnormal return
Financial	0.150	-0.911
	(0.07)	(-0.48)
Strategy/Operation	-1.645***	-1.517**
	(-2.99)	(-2.42)
Governance	1.069*	1.149*
	(1.79)	(1.70)
Sale of Target	1.084	1.100
	(1.09)	(0.98)
General	0.808	0.792
	(0.73)	(0.64)
Book Leverage		-0.871**
		(-2.03)
Cash		0.939
		(1.21)
Firm Size		0.024
		(0.27)
N	2520	2312
R-squared	0.041	0.048

This table presents the relation between Institutions' voting decisions and activism objectives. The events are categorized based on the activists filings and news releases into financial, strategy/operation governance, sale of target, and general (no specific agenda). One event could have multiple objectives Standard errors are clustered at the meeting level.

	(1) vote	(2) vote
Financial	-0.043	-0.034
	(-1.38)	(-1.17)
Strategy/Operation	-0.078***	-0.093***
	(-2.92)	(-3.82)
Governance	0.131***	0.111***
	(4.76)	(4.35)
Sale of Target	0.130***	0.114***
	(3.14)	(3.01)
General	0.070*	0.049
	(1.76)	(1.34)
Institution Fixed Effects	N	Y
N	2315	2308
R-squared	0.042	0.275

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Estimating probability of voting for the activists from industry portfolio returns using holdings before meeting dates

This table presents the estimation results of linear probability models of vote decision on institutional investor return using the full sample of proxy contests from July 2013 to June 2017. Panel A and C present the results for the full sample. Panel B and D present the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. The industry portfolio return is measured on SIC 4-digit level or using Hoberg and Phillips 10-K Text-based Network Industry Classifications (TNIC) for each institution-meeting pair over (-1,1) window. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. ISS Endorsement is a dummy that takes the value one if ISS backed directors nominated by the activists and zero otherwise. Glass Lewis Endorsement is a dummy that takes the value one if Glass Lewis backed directors nominated by the activists and zero otherwise. Standard errors are clustered at the meeting level.

Panel A. SIC rivals

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote	(6) vote
Industry Portfolio Return	0.843**		0.610**	1.058**	0.504*	0.865*
	(2.29)		(2.16)	(2.30)	(1.83)	(1.97)
Business Tie		-0.010**	-0.009**	-0.009***	0.001	0.001
		(-2.60)	(-2.46)	(-2.69)	(0.26)	(0.20)
ISS Endorsement		0.545***	0.545***	*absorbed*	0.541***	*absorbed*
		(15.31)	(15.30)		(14.65)	
Glass Lewis Endorsement		0.215***	0.214***	*absorbed*	0.214***	*absorbed*
		(8.15)	(8.09)		(8.03)	
Meeting Fixed Effects	N	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	N	Y	Y
N	3629	3629	3629	3628	3625	3624
R-squared	0.001	0.415	0.416	0.485	0.504	0.567

Panel B. SIC rivals and frequent voters

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote	(6) vote
Industry Portfolio Return	1.246***		0.980***	1.610**	0.970***	1.814***
	(2.81)		(2.81)	(2.22)	(2.93)	(2.71)
Business Tie		-0.009**	-0.009**	-0.007*	0.002	0.004
		(-2.43)	(-2.23)	(-1.71)	(0.33)	(0.68)
ISS Endorsement		0.562***	0.562***	*absorbed*	0.553***	*absorbed*
		(11.83)	(11.81)		(11.56)	
Glass Lewis Endorsement		0.202***	0.202***	*absorbed*	0.199***	*absorbed*
		(6.51)	(6.48)		(6.36)	
Meeting Fixed Effects	N	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	N	Y	Y
N	2523	2523	2523	2521	2523	2521
R-squared	0.002	0.426	0.428	0.508	0.494	0.572

Panel C. TNIC rivals

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote	(6) vote
Industry Portfolio Return	0.927*		0.861**	1.263*	0.534	0.910
	(1.67)		(2.16)	(1.93)	(1.34)	(1.41)
Business Tie		-0.026**	-0.026**	-0.026***	-0.015	-0.015*
		(-2.48)	(-2.44)	(-3.74)	(-1.18)	(-1.69)
ISS Endorsement		0.560***	0.557***	*absorbed*	0.556***	*absorbed*
		(15.73)	(15.77)			
Glass Lewis Endorsement		0.204***	0.207***	*absorbed*	0.205***	*absorbed*
		(7.56)	(7.72)			
Meeting Fixed Effects	N	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	N	Y	Y
N	3423	3423	3423	3422	3420	3419
R-squared	0.001	0.419	0.420	0.483	0.504	0.564

Panel D. TNIC rivals and frequent voters

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote	(6) vote
Industry Portfolio Return	1.187		1.379**	2.232**	1.022**	1.718*
	(1.64)		(2.64)	(2.30)	(2.06)	(1.93)
Business Tie		-0.026**	-0.026**	-0.024***	-0.015	-0.013
		(-2.47)	(-2.41)	(-3.32)	(-1.20)	(-1.53)
ISS Endorsement		0.581***	0.577***	*absorbed*	0.574***	*absorbed*
		(12.49)	(12.52)		(12.37)	
Glass Lewis Endorsement		0.184***	0.190***	*absorbed*	0.189***	*absorbed*
		(5.86)	(6.12)		(6.05)	
Meeting Fixed Effects	N	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	N	Y	Y
N	2420	2420	2420	2418	2420	2418
R-squared	0.001	0.429	0.431	0.504	0.495	0.567

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Estimating probability of voting for the activists from industry portfolio return using holdings before 13D announcement dates

This table presents the estimation results of linear probability models of vote decision on institutional investor return. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. The industry portfolio return is measured on SIC 4-digit level for each institution-meeting pair over (-1,1) window. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

Panel A.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	1.511*	1.465*	0.495	1.407*	0.154
	(1.88)	(1.83)	(0.74)	(1.86)	(0.25)
Business Tie		-0.028*	-0.027**	-0.006	-0.008
		(-1.73)	(-2.40)	(-0.34)	(-0.57)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2323	2323	2322	2316	2315
R-squared	0.004	0.008	0.166	0.241	0.383

Panel B.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	2.217**	2.152**	1.555*	2.121**	1.703*
	(2.35)	(2.29)	(1.69)	(2.43)	(1.91)
Business Tie		-0.027*	-0.025**	-0.005	-0.003
		(-1.68)	(-2.32)	(-0.32)	(-0.25)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1582	1582	1581	1582	1581
R-squared	0.008	0.014	0.187	0.217	0.381

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Estimating probability of voting for the activists from industry portfolio return using holdings before meeting date ((-1,5) event window)

This table presents estimation results of linear probability models of vote decision on institution investor return. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. Industry portfolio return is measured on SIC 4-digit level for each institution-meeting pair over (-1,5) window. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

Panel A.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	0.381	0.365	1.032**	0.274	0.966**
	(0.80)	(0.76)	(2.55)	(0.55)	(2.09)
Business Tie		-0.023	-0.022*	-0.002	-0.003
		(-1.47)	(-1.89)	(-0.10)	(-0.24)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2315	2315	2314	2308	2307
R-squared	0.000	0.004	0.166	0.239	0.385

Panel B.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	0.459	0.433	1.384**	0.479	1.526**
	(0.84)	(0.79)	(2.32)	(0.80)	(2.51)
Business Tie		-0.023	-0.021*	-0.001	0.000
		(-1.45)	(-1.92)	(-0.09)	(0.02)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1579	1579	1578	1579	1578
R-squared	0.001	0.005	0.187	0.215	0.387

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: Estimating probability of voting for the activists from industry portfolio return using holdings before meeting date ((-10,10) event window)

This table presents estimation results of linear probability models of vote decision on institution investor return. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. Industry portfolio return is measured on SIC 4-digit level for each institution-meeting pair over (-10,10) window. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

Panel A.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	0.477	0.470	0.369*	0.403	0.332*
	(1.56)	(1.54)	(1.71)	(1.40)	(1.67)
Business Tie		-0.023	-0.022*	-0.002	-0.003
		(-1.45)	(-1.87)	(-0.11)	(-0.23)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2315	2315	2314	2308	2307
R-squared	0.003	0.006	0.165	0.241	0.385

Panel B.

	(1) vote	(2) vote	(3) vote	(4) vote	(5) vote
Industry Portfolio Return	0.437	0.427	0.624*	0.363	0.627**
	(1.23)	(1.20)	(1.93)	(0.98)	(2.06)
Business Tie		-0.023	-0.020*	-0.002	0.000
		(-1.44)	(-1.89)	(-0.11)	(0.03)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1579	1579	1578	1579	1578
R-squared	0.002	0.007	0.186	0.216	0.386

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A9: Estimating probability of voting for the activists from industry portfolio return using holdings before meeting date

This table presents estimation results of conditional logit models of vote decision on institution investor return. Panel A presents the results for the full sample. Panel B presents the results for frequent voters (institutions that vote in more than 40 proxy contests from 2013 to 2017). The dependent variable is a dummy that takes the value one if the fund vote for the activist and zero otherwise. Industry portfolio return is measured on SIC 4-digit level for each institution-meeting pair. Business tie is a continuous variable $log(1 + compensation)$. Compensation is the total compensation received by fund families for services rendered in relation to 401(k) plans as the sum of direct and indirect compensation and 0.5% of assets under management. Standard errors are clustered at the meeting level.

Panel A.

	(1)	(2)	(3)	(4)	(5)
	vote	vote	vote	vote	vote
Industry Portfolio Return	8.293*	8.032*	7.931	8.453	8.510
	(1.88)	(1.82)	(1.52)	(1.47)	(1.23)
Business Tie		-0.108**	-0.109**	-0.008	-0.008
		(-2.44)	(-2.46)	(-0.15)	(-0.14)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	2315	2315	2286	2117	2091

Panel B.

	(1)	(2)	(3)	(4)	(5)
	vote	vote	vote	vote	vote
Industry Portfolio Return	12.470**	12.234**	14.851**	17.551**	22.960**
	(2.24)	(2.19)	(2.00)	(2.45)	(2.42)
Business Tie		-0.105**	-0.108**	0.005	0.006
		(-2.31)	(-2.31)	(0.09)	(0.11)
Meeting Fixed Effects	N	N	Y	N	Y
Institution Fixed Effects	N	N	N	Y	Y
N	1579	1579	1547	1551	1520

t statistics in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A10: Operating performance changes after the activists obtained board seats

This table reports statistics of target company operating performance in years before and after proxy fights launched by activist investors. The sample is firms that went to proxy fight and eventually gave board seats to the activists. In the columns marked "Year-by-Year Industry Adjusted," the operating performance is in excess of the average of same-industry peers.

*, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

Panel A.

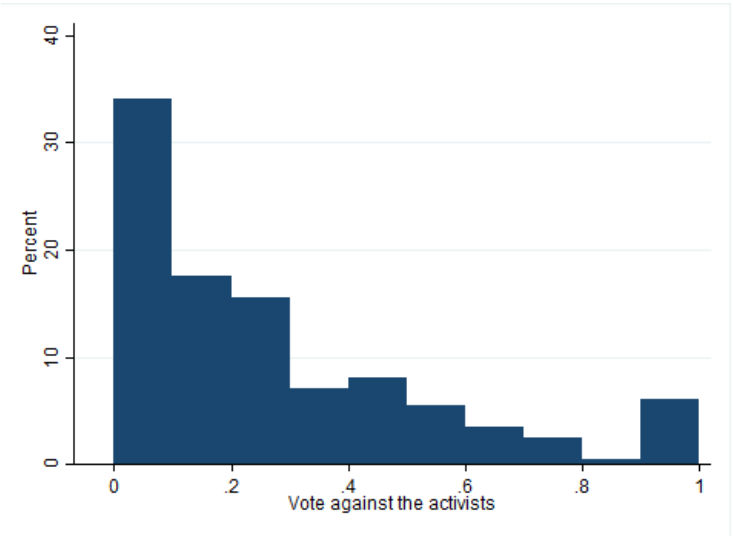
	ROA (EBITDA/Assets)			
	Year-by-Year Industry Adjusted	t-statistic	Raw	t-statistic
t-2	-4.58%		1.57%	
t-1	-5.80%		-2.07%	
Event year	-0.60%		3.50%	
t+1	-0.10%		4.65%	
(t+1)-(t-1)	5.70%	1.45	6.72%**	2.39
(t+1)-(t-2)	4.47% *	1.89	3.08%	1.4

Panel B.

	Tobin's Q			
	Year-by-Year Industry Adjusted	t-statistic	Raw	t-statistic
t-2	-0.34		1.60	
t-1	-0.67		1.62	
Event year	-0.49		1.72	
t+1	-0.23		1.93	
(t+1)-(t-1)	0.44 ***	3.07	0.32**	2.31
(t+1)-(t-2)	0.11	0.56	0.33	1.68

Figure A1: **Distribution of institutions by average support for management and disagreement with ISS and Glass Lewis**

All institutions



Large mutual funds and pension funds

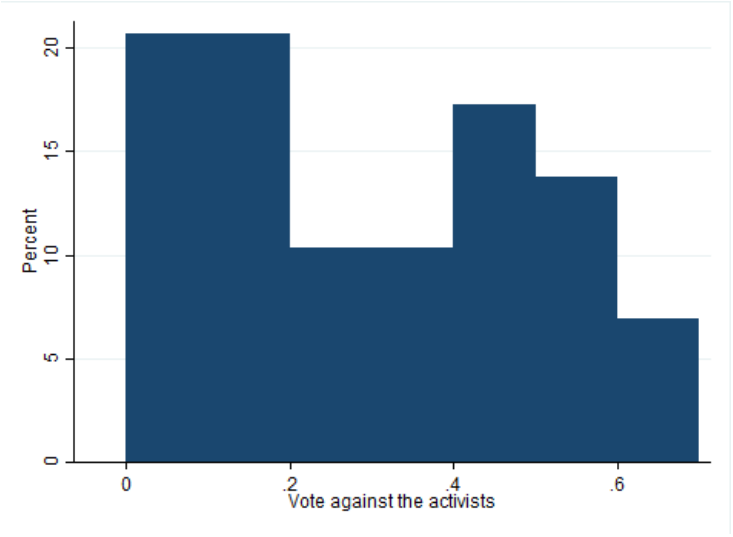


Figure A2: **Average Probability of voting for the activists and institutions' industry portfolio returns (subsample)**

This figure plots the average ratio of institutions voting for the activists and institutions' industry portfolio returns. The industry portfolio returns are grouped in 10 bins and then for each bin the average support rate of institutions is calculated. The sample contains 34 proxy contests of public US companies between 2013 and 2017 in which ISS endorsed the activists' director nominees and the 13d announcement returns are above median (2.815%).