Activist Hedge Funds and the Corporation

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ACTIVIST HEDGE FUNDS AND THE CORPORATION

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ABSTRACT

The long-term effects of hedge fund activism are controversial. Some empirical studies document that activism is associated with increased long-term firm value, suggesting that activists can better discipline management. Other studies, however, challenge these results, arguing that the incorporation of possible selection effects exposes activism as detrimental to long-term firm value.

This Article contributes to this ongoing debate, producing novel empirical evidence on the relationship between activist campaigns, the financial value of firms, key governance arrangements, and corporate legal rules. We first document qualitative evidence that untargeted “control” firms sharing similar characteristics to targeted firms perform better in the long term than the target firms, and then show that hedge fund activism is associated with increased risk-taking but has no significant impact on managerial incentives. These combined findings...
provide support for the view that the substantial private gains hedge funds realize through activism come at the expense of long-term firm value, rather than from increased managerial accountability.

Consistent with these results, we further show that defensive mechanisms matter for deterring hedge fund activism only as long as they provide an effective higher-level constraint to protect a firm’s commitment to long-term value creation, such as when they are premised on shareholder consent or embedded in a managerial-friendly legal environment. This would explain why staggered boards and incorporation in states with more anti-takeover statutes can deter future activist interventions, while the poison pill, surprisingly, does not. The Article concludes with recommendations to enhance the deterrent effect of current defensive mechanisms against short-term hedge fund activism.

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INTRODUCTION

Are activist hedge funds a “force for good,” targeting underperforming companies to bring about increased managerial accountability? Or are they professional arbitrageurs driven by short-term self-interest whose market power allows them to benefit at the expense of others? These questions relate not just to hedge fund activism itself, but pertain to the more fundamental debate over the appropriate division of authority between a corporation’s boards and its shareholders, a debate that has occupied corporate law scholars for decades.1 Activist hedge funds have reframed that debate in the past ten years, ostensibly bringing about a new class of “empowered shareholders” whose distinguishing trait is routine reliance on the proactive use of governance levers to achieve near-term investment objectives.2 It follows that if activist hedge fund campaigns could be shown to have beneficial effects for firm performance—as shareholder advocates argue—this would challenge the traditional board-centric model featuring limited shareholder governance rights. Conversely, if hedge fund activism were to emerge empirically as detrimental to targeted firms, this would undermine the case for shareholder empowerment, in spite of the increased favor it has received among both policymakers and market players in recent years.3

This Article sheds light on the long-term effects of hedge fund activism, as well as their broader implications, using novel empirical

1. Discussions over the optimal allocation of power within the corporation can be traced back to the classic debate between Adolph Berle and Merrick Dodd in the 1930s. See A. A. Berle, Jr., Corporate Powers as Powers in Trust, 44 HARV. L. REV. 1049 (1931) (defending shareholder property rights); E. Merrick Dodd, Jr., For Whom Are Corporate Managers Trustees?, 45 HARV. L. REV. 1145, 1147–48 (1932) (advocating the merits of managerial discretion).

2. As put by Marcel Kahan and Edward Rock, “[h]edge funds come close to being the archetypal short-term investor. For some funds, holding shares for a full day represents a ‘long-term’ investment.” Marcel Kahan & Edward B. Rock, Hedge Funds in Corporate Governance and Corporate Control, 155 U. PA. L. REV. 1021, 1083 (2007) (footnote omitted).

3. For a thorough discussion of these changes, see Marcel Kahan & Edward Rock, Embattled CEOs, 88 TEX. L. REV. 987, 995–1037 (2010).
evidence that bears on the relationship between the financial value of firms, activist campaigns, and key corporate governance arrangements and legal rules. This empirical evidence documents results supporting the view that the substantial private gains hedge funds realize through activism come at the expense of long-term firm value, rather than from the activists’ ability to hold managers more accountable. We therefore argue that shareholder advocates’ calls for reforms designed to advance the role, rights, and involvement of shareholders in corporate governance—based on the alleged benefits of hedge fund activism for firm performance⁴—should be rejected as unsupported by the data.

Theoretically, the shareholder advocates’ view that hedge fund activism provides value-maximizing governance inputs rests on the assumption that shareholders, as the corporation’s residual claimants, are better placed than potentially “captured” boards to control the classic problem of managerial moral hazard.⁵ Viewed through this lens, activist hedge funds emerge as the champions of dispersed and diversified shareholders, who are less able to effectively use their governance rights to control this problem.⁶ In stark contrast, traditionalists defending the centrality of the board of directors argue that hedge funds are impatient investors, whose interventions are directed at boosting a target’s short-term stock price, potentially at the expense of long-term value creation, rather than at bringing about increased managerial accountability.⁷

In response, shareholder advocates have traditionally dismissed short-termism concerns as theoretically weak in light of the pervasiveness of the moral hazard problem.⁸ However, as two of us have argued elsewhere, this counterargument fails to consider an additional principal-agent problem that arises in the shareholder-manager relationship—the shareholders’ “limited-commitment problem.”⁹ Because of their informational

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⁵. See infra Part I.A.1.
⁶. See infra notes 54–56 and accompanying text.
⁷. See infra Part I.A.2.
disadvantage vis-à-vis firm insiders, shareholders—all shareholders as a matter of fact—may be unable to tell whether poor short-term firm outcomes (e.g., low current earnings) signal managerial underperformance or the undertaking of attractive long-term investments whose benefits will not materialize until later. As a result, in response to such poor short-term outcomes, shareholders may rationally decide to vote to remove the directors and managers or advocate some other drastic corporate changes such as the sale of the company. Fearing this sort of shareholder retribution, managers may thus develop inefficient incentives for short-termist strategies. Within this theoretical framework, short-termism emerges as a much more pervasive problem than shareholder advocates acknowledge. Further, activist hedge funds naturally exacerbate the shareholders’ limited commitment problem, as they are more likely than other shareholders to intervene upon observing a short-term decline in earnings.

Motivated by the theoretical debate’s contradictory claims, empirical studies on hedge fund activism have mainly focused on the impact of activist hedge fund campaigns on firm value. In particular, the latest frontier of these studies is the investigation of long-term valuations after the start of an activist hedge fund campaign. Indeed, attempting to measure long-term valuations is the only method that can address the main challenge raised by the critics of activism, according to which hedge funds would profit from activism at the expense of a firm’s long-term value. Notably, in a recent study that had large echoes in the press, Lucian Bebchuk, Alon Brav, and Wei Jiang documented evidence they argue rejects this claim. Using a dataset of approximately 2,000 interventions during the period 1994–2007, they concluded that the performance of the hedge funds’ targets on average continued to increase for up to five years after the start of the hedge fund campaigns.


10. Distortions may also affect long-term stakeholders who are required to make long-term specific investments. See Cremers & Sepe, supra note 9, at 121–23.

11. The first comprehensive empirical study of hedge funds is Alon Brav et al., Hedge Fund Activism, Corporate Governance, and Firm Performance, 63 J. Fin. 1729 (2008).

12. See infra note 76.

13. See Bebchuk et al., supra note 4, at 1089.

14. See id. at 1090.
However, a primary challenge for empirical studies is to avoid selection effects that bias a dataset. Selection effects refer to the possibility that any observed change might be attributable to omitted factors that are related to the selection of the data—in this case to the fact that activist hedge funds do not randomly select which firms to target in their campaigns. Because the study by Bebchuk et al. (the “BBJ study”) documented that activist hedge funds tend to target companies that have been relatively poorly performing prior to the activist intervention, the possibility of selection effects seems particularly salient. For example, the observed subsequent improvements in firm value of the targets could be attributable to efforts undertaken directly by these firms to turn around performance, rather than to any disciplining effect from the activist hedge fund campaign itself.

In response to this concern, two of us, along with Erasmo Giambona and Eric Wang, have reexamined the long-term association of hedge fund activism and firm value in a recent study (the “CGSW study”) that uses the same (though extended through time) dataset of the BBJ study but adopts a “matching” procedure. Using this empirical methodology, which is widely recognized as a primary way to address selection issues, the long-term financial performance of firms targeted by hedge funds is compared to the long-term performance of a set of “control” firms. These firms are “matched” (i.e., selected) because they share essential characteristics with the targets in the period before the start of the activist hedge fund campaign, but they have not (yet) been targeted by activist hedge funds. Using matching, the CGSW study finds that firms targeted by activist hedge funds saw smaller gains in value in the years following the activist interventions than the group of control firms. It also found results consistent with the limited commitment view of hedge fund activism, documenting that the negative association between activist hedge fund campaigns and firm value is greater in firms with more long-term

16. See Bebchuk et al., supra note 4, at 1105–06.
20. See id. at 14–17 (discussing matching criteria).
investments in research and development and firms with longer-term relationships with stakeholders.22

This Article aims to further the understanding of the economic and legal mechanisms through which hedge funds’ activism influence firm value. We first consider whether there is any tradeoff in how hedge fund activism relates to the agency problems of managerial moral hazard and limited shareholder commitment. These problems are both important and not mutually exclusive, and therefore they could have heterogeneous effects on firms. For example, activist hedge fund campaigns could curb managerial moral hazard for some firms more than for others, potentially overcoming any exacerbation of the limited commitment problem and thus resulting in net positive effects for some subsets of firms. In order to explore this possibility, we focus on the relationship between activist hedge fund campaigns and corporate risk-taking, executive compensation, and the use of defensive legal measures—whether adopted at firm level or state level.23

We begin by examining a specific channel through which activist hedge funds may realize short-term gains at the expense of long-term firm value, namely the increase in corporate risk-taking (as proxied by a firm’s bankruptcy risk). As taught by finance theory, increasing a firm’s level of risk transfers value from the existing fixed claimants to current equity claimants.24 In response, fixed claimants such as creditors are likely to raise a firm’s cost of debt in subsequent periods, with the end result that increased risk-taking can reduce overall firm value in the long term. For hedge funds, however, pursuing high-risk, high-return short-term strategies is likely to be individually rewarding, given their short-term investment horizons. In support of the limited commitment view of activism, for targets and control firms with similar ex-ante bankruptcy risk, we find that the bankruptcy risk of the targeted firms is significantly higher than that of the control firms in the first three years after the hedge fund’s intervention and continues to be so thereafter. Specifically, the average bankruptcy risk of the targets is 10% higher than that of the control firms in the first three years and 11% higher thereafter.

22. See id. at 22–27.

23. Methodologically, we investigate the relationship between activism and corporate risk-taking and executive compensation by using matched samples in order to compare targeted firms to ex-ante similar control firms. See infra Part III.B–C. For the relationship between activism and the use of several defensive measures, we instead use logit models to assess the likelihood that a firm might become a target conditional on such measures. See infra Part IV.

Next, we turn to executive compensation, which plays a crucial role in the managerial agency view of activism. Indeed, shareholder advocates have long described excessive executive pay (or “pay-without-performance”) as providing the clearest evidence of the problems of board capture and managerial entrenchment. Further, and more pragmatically, activists routinely attack the use of allegedly excessive executive pay packages in their campaigns against underperforming targets. Accordingly, if hedge fund activism offered a corrective to managerial moral hazard, we would expect to find that activist campaigns produce significant changes in the executive compensation of targeted firms relative to control firms. However, considering various dimensions of executive pay, we find no significant changes. This indicates that either the targets’ executives did not extract excessive pay before the activist intervention or, if they did, they continued to do so afterward—where both explanations weaken the view that hedge fund interventions are effective at disciplining entrenched managers.

The central part of our empirical inquiry focuses on the relationship between hedge fund activism and various defensive legal measures. These measures have long been at the center of the debate on the appropriate division of power between boards and shareholders, largely because of the shareholder advocates’ claim that they promote value-decreasing managerial entrenchment. Weighing in on this debate, the BBJ study uses its result on the association of activism with long-term firm value to conclude that defensive measures such as the staggered board should be abandoned because they provide a significant impediment to value-increasing hedge fund activism. This conclusion, however, is derived from a causal interpretation of the long-term increase in the value of targets after the start of activist hedge fund campaigns. But the CGSW study shows this interpretation to be unwarranted, exposing the results in the BBJ study as being not robust to the incorporation of selection effects.

Further, under the managerial agency view of activism, defended by Bebchuk and other shareholder advocates, it is unclear why one would expect to observe less activism in firms with more defensive measures. Indeed, if defensive measures cause directors and managers to be significantly more entrenched, as these advocates argue, and if activism is beneficial to reduce such entrenchment, as they also argue, one would

25. See infra notes 49–52 and accompanying text.
26. See infra notes 152–55 and accompanying text.
27. See infra text accompanying notes 157–62.
28. See Bebchuk et al., supra note 4, at 1150.
expect to find *more, rather than less* activist interventions in firms that have adopted such measures. This would be the case because activists should expect to realize substantial efficiency gains by targeting firms with more entrenchment. The possible counterargument that the costs of removing any defensive measure exceed the prospective gains to activists also seems overstated in light of the powerful bargaining levers activists enjoy in the current corporate landscape and the increased ability they have gained to coerce boards to approve the removal of these measures.\(^{29}\)

Conversely, under the limited commitment view of activism, it seems reasonable to expect less activist interventions targeting firms with more defensive measures, as the use of such measures would signal a stronger firm commitment to long-term value creation and, hence, a higher likelihood that a board might defend vigorously against an activist attack.

Our results on the relationship between various defensive measures and the likelihood of becoming the target of a future hedge fund intervention are consistent with these conjectures. We find that the likelihood of these interventions is substantially lower for firms that (i) are incorporated in a managerial-friendly state with more anti-takeover statutes, or (ii) have adopted a staggered board, as long as the firm is also incorporated in a managerial-friendly state. Conversely, the adoption of a poison pill is unrelated to the likelihood of a future hedge fund campaign. Under the managerial agency view of activism, we would have expected to find that activism is undeterred by the adoption of defensive measures (because activists would receive higher gains from targeting “more entrenched” firms) or that it is equally deterred by different defensive measures (because removing such measures would be too costly to activists). Instead, our results suggest that the adoption of such measures matter differently to activists depending on whether they provide an effective higher-level constraint to protect a firm’s commitment to long-term value creation. This would explain why the staggered board, which is generally premised on shareholder consent,\(^ {30}\) could deter activism, while the poison pill, which can be unilaterally adopted by the board, could not. Indeed, shareholder consent to a defensive measure would signal to activists a higher likelihood that a firm might vigorously defend its commitment to

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29. See, e.g., Cremers & Sepe, supra note 9, at 98–99 (documenting evidence on increased destaggering); Guhan Subramanian, Delaware's Choice, 39 Del. J. Corp. L. 1, 2 (2014) (attributing the rise of destaggering to shareholder activists and academic research); John C. Coffee, Jr. & Darius Palia, The Wolf at the Door: The Impact of Hedge Fund Activism on Corporate Governance, 41 J. Corp. L. 545, 556–57, 558–59 (2016) (discussing the decline of staggered boards and poison pills).

the long term. In order to be credible, however, the protection provided by a staggered board needs to be “effective,” which in the current corporate scenario requires devices that can make it more difficult for activists to successfully pressure for destaggering, as occurs, for example, under the limits to shareholders rights provided by managerial-friendly legislations.31

Overall, our new findings, combined with those in the CGSW study, provide strong support for the limited commitment view of activism, while simultaneously weakening the case for the managerial agency view. Based on these findings, this Article proposes that policymakers and institutional investors should seek changes to revitalize board authority to resist activist attacks. In particular, consistent with our empirical results on the use of defensive measures, we argue that it would be desirable to redesign such measures so that they re-enable boards to mount an effective pre-emptive strategy against the threat of an activist campaign.

The remainder of this Article proceeds as follows. Part I provides the necessary background information on the current status of the theoretical and empirical debates on hedge fund activism, drawing on the prior research of two of us in the CGSW study to document the importance of selection effects in gauging the long-term association of hedge fund activism and firm value. Part II offers qualitative evidence to illustrate more concretely the changes activist campaigns produce in targeted firms relative to control firms with ex-ante similar characteristics. Part III presents novel empirical evidence on the relationship between hedge fund activism and, respectively, corporate risk-taking and executive compensation. Part IV presents novel evidence on the relationship between activism and the use of defensive measures. Part V discusses the policy implications of our analysis.

I. HEDGE FUND ACTIVISM AND FIRM VALUE: WHERE DO WE STAND?

Hedge fund activism is on the rise. In 2014 alone, activists launched 344 campaigns against U.S. public companies (up from 291 in 2013).32 In

31. Our results also challenge recent studies that contest the relevance of anti-takeover statutes. These studies argue that these statutes would “add[] little, if anything, to the defensive arsenal of most firms” once one considers the stronger deterrent effects of the poison pill. Emiliano M. Catan & Marcel Kahan, The Law and Finance of Antitakeover Statutes, 68 STAN. L. REV. 629, 634 (2016). Our evidence, however, suggests that where the outside threat is represented by an activist campaign, anti-takeover statutes offer a protective shield that the pill is unable to provide. See infra Part IV.C.

the period 2010–2015, one S&P 500 company out of two has had an activist fund on its share register and one out of seven has been the target of an activist attack.33 As put by the Economist, “Americans encounter firms that activists have targeted when they brush their teeth (Procter & Gamble), answer their phone (Apple), log in to their computer (Microsoft, Yahoo and eBay), dine out (Burger King and PepsiCo) and watch television (Netflix).”34 Activists also seem to be attacking increasingly larger firms. Targeted firms with a market capitalization over $10 billion have doubled since 2012.35 In the past two years, hedge funds brought attacks on even bigger firms, including Bank of New York Mellon (market capitalization of about $45 billion), custodian for many of the world’s biggest banks; Allergan, Inc. (market capitalization of about $60 billion), a major pharmaceutical company; and Du Pont (market capitalization of over $60 billion), one of the oldest and most profitable U.S. companies.36

The activists’ agenda, however, has remained largely unchanged. Increasing leverage, returning excess cash to shareholders, selling off non-core corporate assets, and cutting operating costs have been among the most frequent demands of activists, together with the replacement of incumbent CEOs and other top executives, especially where the latter attempted to resist the activists’ requests.37 The tactics employed to pursue these agenda items have ranged from the mere exchange of communications with the board or management to publicly criticizing targeted companies, concluding private agreements to obtain board representation, or even extending hostile acquisition offers.38 Most frequently, however, hedge funds have pushed for desired changes by launching proxy fights or threatening to do so39—typically seeking, and

34. Id.
37. See, e.g., Bratton, supra note 11, at 1741–45.
38. See id. at 1736–41, 1745–46 (drawing a distinction between non-confrontational and adversarial tactics); Kahan & Rock, supra note 2, at 1029–42 (providing concrete illustrations).
often gaining, the support of institutional investors. They have also been increasingly successful in pursuing these changes. In 2013, hedge funds initiated the majority of proxy fights and won most of them. In 2014, they won 73 percent of their proxy battles, gaining board seats at 107 companies, another all-time record. Economically, hedge funds have also been extremely successful, especially in the size of assets they manage, which has steadily increased in the recent past. In 2014, total assets managed by activist hedge funds surged to about $166 billion, an increase of about 150 percent from total assets of almost $65.5 billion in 2012.

Everyone involved in the current corporate governance debate agrees that the rise of hedge funds has brought about a novel class of empowered shareholders, who actively use governance levers to pursue their investment objectives. The high-powered compensation structure of hedge fund managers and the concentration of funds' investments in just a few targeted companies explain, among other factors, why the use of governance levers to achieve near- or intermediate-term investment objectives is rational for these investors. Disagreement, however, occurs when it comes to assessing the consequences of this change in the fact pattern, both as a theoretical and empirical matter. This Part provides the necessary background information on the current status of the theoretical and empirical debates about hedge fund activism. Part I.A discusses the different theories of hedge fund activism that have appeared in the literature, as well as their economic underpinnings. Part I.B briefly reviews existing empirical studies of activism, focusing on the implications of the various identification strategies that these studies have


43. Benoit & Grind, supra note 40.

44. See LEE & SCHLOETZER, supra note 41, at 2.

45. MOODY’S REPORT, supra note 35, at 4.

46. These managers’ standard compensation structure provides a 2 percent fee over the assets they manage plus a performance fee of 20 percent. See Kahan & Rock, supra note 2, at 1064-70 (providing an exhaustive discussion of the several factors that collectively make activism a rational choice for hedge funds).
employed to mitigate endogeneity concerns—the ever-present risk in empirical research that correlation might be mistaken for causation.

A. Theories of Hedge Fund Activism

Theoretical disagreement over the implications of hedge fund activism is largely a reflection of a broader disagreement over what problems matter most in corporate governance. On this premise, as discussed below, three main theoretical accounts of hedge fund activism can be accounted for in the existing corporate law scholarship. We refer to these accounts as, respectively, the “managerial agency view,” the “traditionalist view,” and the “limited commitment view.”

1. The Managerial Agency View

Shareholder advocates ground the defense of hedge fund activism—and more generally a governance model with empowered shareholders—on two basic assumptions. The first, and fundamental, assumption draws on Jensen and Meckling’s classical agency paradigm of the firm.\(^{47}\) Under this paradigm, the agency problem arising between shareholders and managers is managerial moral hazard—the risk that managers may take hidden actions in their own interests and at the expense of shareholders.\(^{48}\) In response to this problem, boards of directors should supervise managers in the interest of shareholders. For shareholder advocates, however, boards would be largely unhelpful in reducing managerial moral hazard. Boards would be impotent because entrenched managers could rely on their pervasive influence over the directors’ appointment process and the control over the flow of corporate information to capture directors, making them subservient to management or simply ineffective at fulfilling their monitoring function.\(^{49}\) The clearest evidence of board capture would be provided by the ability of executives to extract “pay-without-performance”\(^{50}\); high-powered compensation schemes that would pay

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executives more than “the minimum expected monetary payoff to be left [to agents] to preserve incentives”\(^{51}\) (i.e., what economists call information rents).\(^{52}\)

In response to these inefficiencies, shareholder advocates propose expanding the governance powers of shareholders.\(^{53}\) After all, if managerial moral hazard is the principal agency problem of corporate governance, who can be better placed than shareholders, as the corporation’s residual claimants, for constraining it?

Viewed through this lens, hedge funds thus emerge as the natural champions of the shareholder franchise. Under the Berle and Means canonical account of U.S. corporate governance, collective action problems prevent dispersed shareholders from using governance rights as an effective response to managerial moral hazard.\(^{54}\) While the re-concentration of equity ownership in the hands of institutional investors solved part of these collective action problems, the diversification of institutional investors’ interests still induced them to prefer exit (i.e., the sale of shares) over voice (i.e., the exercise of governance) as a remedy to managerial moral hazard.\(^{55}\) At best, these investors conceived of governance levers as “defensive”—designed to resist managerial initiatives—but never “offensive” or “proactive.”\(^{56}\) This is not true of activist hedge funds, which have turned the “offensive” use of governance levers and the pursuing of a proactive agenda into their distinctive features. It is thus unsurprising that shareholder advocates view activist hedge funds as an innovation that has finally turned shareholder governance rights into an effective means of value enhancement, with


\(^{52}\) See Laffont & Martimort, supra note 48, at 29.


\(^{54}\) See Adolf A. Berle, Jr. & Gardiner C. Means, The Modern Corporation and Private Property 6, 84–89 (reprint ed. 1982).


activist campaigns also promoting and coordinating interventions by traditionally more passive institutional investors.\(^{57}\)

The second assumption on which shareholder advocates rely in defending the merits of hedge fund activism is the efficiency of market prices in providing an informational focal point for the exercise of shareholder governance. Under this assumption, the traditional argument that board authority over the corporation needs to be preserved because of the informational disparity existing between firm insiders and outsiders would lose much of its strength. Indeed, under the (semi-strong form) Efficient Capital Market Hypothesis (ECMH) that market prices effectively aggregate all available public information,\(^ {58}\) market prices would effectively bridge that informational disparity. Accordingly, activist hedge funds would act as specialists in monitoring and undertaking fundamental analysis and combine with institutional investors, acting as specialists in low-cost diversification, to offer efficient, market-based stewardship of business decisions.\(^ {59}\)

2. The Traditionalist View

In stark contrast with the view of hedge fund activism defended by shareholder advocates, traditionalists who support the board-centric model of the corporation argue that activist hedge funds are essentially motivated by achieving short-term gains, regardless of the effects this may produce on long-term firm value.\(^ {60}\) Thus, whereas shareholder advocates view typical hedge funds’ demands for cutting operating expenses, increasing leverage or distributing dividends as beneficial to helping constrain empire building and other forms of private benefit seeking by entrenched managers,\(^ {61}\) traditionalists attack these actions as a quick way to drive up a company’s share price, without taking into account long-term effects.\(^ {62}\)

\(^{57}\) See Gilson & Gordon, supra note 40, at 867, 890, 893.


\(^{59}\) See Gilson & Gordon, supra note 40, at 867.

\(^{60}\) See Bebchuk et al., supra note 4, at 1093–96 (providing an overview of the scholarly positions defending what they refer to as the “myopic-activists claim”).

\(^{61}\) See id. at 1135–41 (referring to these actions as beneficial “investment-limiting” interventions).

Underpinning this approach to hedge fund activism are radically different assumptions regarding the relationship between shareholders, directors, and managers. Board traditionalists defend the primacy of the board of directors as the institution that is vested by law with virtually exclusive authority over the corporate affairs and that is charged with the protection of shareholder interests against the risk of managerial moral hazard. To these scholars, the board’s informational advantage provides the key economic argument for this allocation of corporate powers, while they reject the shareholder advocates’ view that market prices provide an informational focal point that is sufficient to fill the informational asymmetry between boards and shareholders.

Accordingly, traditionalists also argue that the board’s incentive to acquire private information—and to act on that information so as to maximize long-term firm value—risks being lost if less informed shareholders are granted the power to constantly disrupt board actions. They likewise reject the claim of board capture, maintaining that the intrinsic trustworthiness of experienced and well-accomplished directors makes this claim likely to be largely unsupported in practice, unlike the threat of short-termism, which would have real teeth in the current governance environment with increased hedge fund activism.

3. The Limited Commitment View

The major criticism advanced by shareholder advocates against the traditionalist view of hedge funds is that even if activism raises short-termism concerns, such concerns should not be placed on equal footing with the more fundamental issue of managerial moral hazard, which

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64. See, e.g., Stephen M. Bainbridge, Director Primacy: The Means and Ends of Corporate Governance, 97 N. W. U. L. Rev. 547, 557–59 (2003) (suggesting that the board of directors incarnates economist Kenneth Arrow’s description of a “central agency to which all relevant information is transmitted and which is empowered to make decisions binding on the whole firm.”).

65. For arguments defending the view that directors in the aggregate can be trusted to do what is good for shareholders, see Margaret M. Blair & Lynn A. Stout, A Team Production Theory of Corporate Law, 85 Va. L. Rev. 247, 315–19 (1999); Margaret M. Blair & Lynn A. Stout, Trust, Trustworthiness, and the Behavioral Foundations of Corporate Law, 149 U. Pa. L. Rev. 1735, 1800–07 (2001); Stephen M. Bainbridge, Director Primacy in Corporate Takeovers: Preliminary Reflections, 55 Stan. L. Rev. 791, 798–813 (2002).

remains the first-order governance problem. Under this assumption, the benefits of activism—and, more generally, shareholder empowerment—exceed any cost from increased short-termism.

As two of us have explained elsewhere, however, this account of shareholder empowerment fails to fully consider the market imperfections that affect corporate relationships. Drawing on the simplified outline provided by the Jensen and Meckling principal-agent model of the firm, shareholder advocates vindicate the optimality of shareholder empowerment. They do so assuming away heterogeneity in shareholders’ future consumption preferences as well as feedback from other markets, while also posing that all markets are complete and prices and value-relevant information are general knowledge. In the real corporate world, however, shareholders’ consumption preferences are not uniform. Shareholders may have shorter- or longer-term liquidity needs as well as different risk preferences. Further, real market structures are distant from the idealized structure of complete markets, in which non-uniform shareholders’ consumption preferences do not represent a problem because everything is tradable in advance. Hence, shareholder disagreement over production choices may occur.

The most tangible manifestation of this theoretical result is that such a disagreement is constantly observed between actual shareholders. If shareholders have optimal, un-conflicted incentives for corporate decision-making, why do different shareholders with similar information disagree so often about the best corporate policy to pursue? Proponents of shareholder empowerment have so far failed to address this central question.

What we refer to as the shareholders’ limited commitment problem challenges the additional assumption shareholder advocates make that market prices accurately reflect information on managerial performance. This assumption breaks down once one considers that, under the conditions of information asymmetry existing in the real corporate world, firm insiders such as directors and managers have private information that outside shareholders do not have and that cannot be easily shared with the latter. As a result, market prices may fail to be informative, meaning that prices may fail to capture the implications of directorial and managerial

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67. See supra note 8.
68. See Cremers & Sepe, supra note 9, at 109–12 (providing a general equilibrium explanation that strips away the assumption that shareholders necessarily have optimal incentives to offer value-maximizing inputs).
private information until those implications begin to show up in cash flows over time.\textsuperscript{69}

Market prices are especially likely to be uninformative in the case of firm-specific investments—such as investments in innovation or other intangible assets—as information about the fundamental value of these investments tends to be “soft,” that is, non-verifiable by outsiders even if insiders share their views with the former.\textsuperscript{70} At the same time, though, channeling resources to such investments tends to require large capital expenditures up front and, hence, to decrease earnings in the short term. This decrease in present earnings is a type of “hard” information that the current stock price can more easily incorporate, so that decreased earnings will tend to lead to lower short-term stock prices.\textsuperscript{71} As a result, shareholders may take the fall in short-term stock prices following the undertaking of a profitable long-term project to signal managerial underperformance\textsuperscript{72} and, hence, rationally decide to remove the manager or seek other changes in existing firm policies, or otherwise dump their shares, increasing the likelihood of a change in control.

The costs arising from these market imperfections are not limited to the expected loss of value caused by the mistaken removal of a “good” manager or the undertaking of inefficient changes in firm policies. More substantial costs arise from the likelihood that, ex ante, fear of shareholder retribution will induce managers to pass up profitable long-term projects that are more likely to be associated with lower short-term firm outcomes or overinvest in less profitable short-term projects.\textsuperscript{73} Similarly, important

\begin{footnotes}
\textsuperscript{69} More technically, non-informative prices are “nonmonotonic” in the sense that they do not follow a consistent informational pattern due to the information asymmetry problems existing between shareholders and managers. See Sepe, supra note 9 (manuscript at 28 n.138). The economic mechanisms explaining such inconsistency hinges on Bayesian updating, which identifies the process through which rational investors update their beliefs about firm value. See Paul R. Milgrom, Good News and Bad News: Representation Theorems and Applications, 12 BILL J. ECON. 380 (1981). Importantly, the possibility of price discontinuity does not require discarding even the semi-strong version of the ECMH hypothesis. Because the root cause of price discontinuity lies in the insiders’ private knowledge of business conditions, assuming that market contracting accurately reflects all available public information does not change the conclusion that the market may fail to perceive actions that are expected to be positive in the long-term as positive in the short-term.

\textsuperscript{70} See TIROLE, supra note 51, at 250.


\textsuperscript{72} See Sepe, supra note 9, at 28–32 (providing a numerical example).

\textsuperscript{73} While it might be tempting to downplay the importance of this kind of production as only affecting a restricted set of companies, this approach underestimates the vast transformation that corporate production has undergone in the last thirty to forty years. Under this transformation, investments in innovation and other long-term specific projects are no longer an exception, but
\end{footnotes}
stakeholders might be discouraged from investing optimally in the firm if the value of their firm-specific investments might be reduced by the shareholders’ ability to seek a change in investment policy, agree to a hostile takeover, or rapidly sell their shares.

This theoretical framework predicts that activist hedge funds can considerably exacerbate the limited commitment problem for two basic reasons. First, the risk of shareholder intervention—whether in the form of managerial removal, a change in current firm policies, or a change in control—significantly increases in a corporate environment featuring increased activism, as governance interventions are always individually profitable to hedge funds given their short-term investment interests. This is because market prices will still tend to react positively in the near term to the hard information of a disappointing firm outcome followed by the announcement of an activist campaign. Further, as confirmed by the anecdotal evidence, hedge fund activism will also tend to trigger intervention by other shareholders, such as institutional investors, as these investors may interpret the activist campaign as confirming the view that a low short-term firm outcome signals managerial underperformance. Second, hedge funds are more empowered than other shareholders to promote drastic short-term changes in a firm’s corporate governance or corporate policies as they can count on bargaining levers—such as the threat of an adversarial public campaign or a proxy fight—that de facto provide them with means to coerce board approval to desired changes, if not to replace incumbents.

B. Empirical Studies

Motivated by the theoretical debate’s contradictory claims, empirical studies on hedge fund activism have largely focused on investigating the financial wealth impact of activist hedge fund interventions. Underpinning this approach is one common assumption. If hedge fund activism is beneficial to constrain managerial moral hazard—as asserted by shareholder advocates—the empirical evidence should document that activism is value enhancing. Conversely, under the view that hedge fund activism exacerbates the shareholders’ limited commitment problem and the risk of short-termism, activism should be found to be value reducing.

arguably a defining feature of many twenty-first-century corporations. See Cremers & Sepe, supra note 9, at 120–21.
1. Short-Term Event Studies

Earlier empirical investigations of hedge fund activism have mainly taken the form of short-term event studies examining the stock price reactions to Schedule 13D filings, which investors are required to file with the Securities and Exchange Commission (SEC) when they acquire more than a five percent stake in public companies. These studies have generally found that firms targeted by activist hedge funds tend to earn positive abnormal returns at the announcement of an activist campaign, although the observed economic magnitude of the abnormal returns varies.

Short-term event studies of activism, however, cannot address the criticism that the short-term abnormal returns accompanying activist interventions might come at the expense of long-term declines in firm performance. Do actions such as cutting operating costs or increasing payout levels limit managerial empire building and wasteful expenditures, thereby adding to a firm’s sustained profitability, as argued by shareholder advocates? Or are they just a reflection of the activists’ ability to temporarily drive up the stock price so as to obtain quick profits, as maintained by critics of activism? By design, short-term event studies cannot answer these questions. Hence, while these studies have consistently showed that activism delivers, on average, short-term gains, they fail to address the more fundamental issue of whether activist interventions produce long-term value gains.

2. Long-Term Effects of Activism

Recognizing the limitations affecting short-term studies of activism, other empirical studies have attempted to undertake longer-term examinations of a target’s stock performance after a hedge fund campaign. In particular, in 2015, Lucian Bebchuk, Alon Brav, and Wei Jiang subjected what they refer to as the “myopic-activists claim” to a comprehensive empirical examination. Using a dataset of approximately

75. For a review of some of these studies, see generally Alon Brav et al., Hedge Fund Activism: A Review, 4 FOUND. & TRENDS FIN. 185 (2009).
76. See Bebchuk et al., supra note 4, at 1089. Brav et al. also investigated firm valuations up to a year following the start of activist campaigns, finding that positive returns at announcement are not reversed in the next twelve months. See Brav et al., supra note 11, at 1762–63. A year, however, might constitute too short a period of evaluation to provide conclusive evidence on the long-term effects of activism. See Martin Lipton, Wachtell, Lipton, Rosen & Katz, Bite the Apple; Poison the Apple; Paralyze the Company; Wreck the Economy, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG.
2,000 interventions during the period 1994–2007, they documented that a target’s performance generally continues to increase in the five-year period after the start of activist hedge fund campaigns and especially so when the activist campaign is “adversarial,” that is, employs hostile tactics.

These results, however, need to be interpreted with caution. Indeed, because Bebchuk et al. also found evidence that hedge funds tend to target relatively underperforming firms, one cannot exclude the possibility that a “selection issue” might affect their results. Empiricists talk of such issues (also referred to as a “specification error”) when changes in the dependent variable might be attributable to factors other than changes in the independent variable. By their very purpose, hedge funds are selective when choosing firms to target for activist interventions. Therefore, firms being targeted by these funds are not randomly selected but are substantially different from other firms. This heterogeneity of targeted firms could then be the source of the observed increase in firm value that accompanies activist hedge fund interventions, rather than this increase being due to the hedge fund intervention directly. In particular, the evidence that hedge funds tend to target firms that are underperforming relative to industry peers raises the possibility that a target’s subsequent increase in firm value might be attributable to actions that other corporate actors—including key employees, top executives, directors, long-term

(Feb. 26, 2013, 9:22 AM), https://perma.cc/J4N2-H7ZS (arguing that a meaningful evaluation of the long-term impact of hedge fund interventions should consider firm performance at least up to twenty-four months after the start of an intervention).

77. See Bebchuk et al., supra note 4, at 1098–1101.


79. See Bebchuk et al., supra note 4, at 1141–45.

80. See id. at 1105–06. This result is consistent with the empirical evidence documented in other recent studies. See, e.g., Hadiye Aslan & Praveen Kumar, The Product Market Effects of Hedge Fund Activism, 119 J. FIN. ECON. 226 (2016); Nickolay Gantchev et al., Governance under the Gun: Spillover Effects of Hedge Fund Activism (Aug. 6, 2016), (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2356544.

81. GREENE, supra note 15, at 56–58.
shareholders, and other stakeholders like large customers or suppliers—
might put in place to improve performance.

3. Matching and Hedge Fund Activism

The main difficulty of incorporating selection issues into empirical
studies is that it is impossible to observe the counter-factual. In the context
of hedge fund activism, this would mean considering, *ceteris paribus,*
what the financial value of firms targeted by activist hedge funds would
have been if they had not been targeted. Given this inherent limitation,
comparing the financial performance of targeted firms to the performance
of a set of “control” firms is the closest possible alternative to a real
counterfactual in this context.

“Control” firms are firms with essential characteristics (e.g., firm
value, size, level of leverage, year of observation) that are similar to the
characteristics exhibited by the set of “target” firms in the period prior to
the start of the activist hedge fund campaign. Therefore, the main
difference between control firms and target firms is that the former *have
not (yet) been targeted* though presumably hedge funds could have
targeted them for activist intervention. Accordingly, if the control firms
“match” the target firms in essential characteristics but for the activist
intervention itself, then a comparison of the relative performance of the
control firms and the targets in the time period following the start of the
activist hedge fund campaign should significantly mitigate the concern
that the results on activism are driven by heterogeneity of the targets.

The CGSW study, coauthored by two of us, along with Erasmo
Giambona and Eric Wang, employs such a “matching” procedure to revisit
the long-term effects of hedge fund activism, using the same (though
extended through time) dataset of the BBJ study that the authors of the
BBJ study generously shared with us. The CGSW study selects control
firms based on characteristics that it documents are important for
predicting which firms are targeted in activist hedge fund campaigns,

82. The main assumption required to ensure robustness of the matching between control firms
and targets is that the differences between them be “insubstantial,” such that (i) if activist hedge funds
would have targeted the control firms, their subsequent performance would have been similar to the
target firms’ performance, and (ii) if activist hedge funds would not have targeted the target firms,
their subsequent performance would have been similar to the control firms’ performance. Essentially,
this methodology assumes both that activist hedge funds tend to target firms with specific
characteristics that make these target firms good candidates to be targeted, and that among the set of
firms with such characteristics there is a certain randomness about which particular firms out of that
set are actually chosen as targets.

83. *See* Cremers et al., *supra* note 17.
employing several different methods to assign control firms to the targeted firms. In each of the study’s matched samples, the target and control firms are similar in key ways by construction: among other relevant characteristics, both have relatively poor performance and relatively low firm valuations in the five-year period before the start of the activist hedge fund campaign, and they also have similar firm size and profitability in the year before the initiation of the activist hedge fund campaign.

Using these matched samples to reconsider the evidence in the BBJ study, the CGSW study documents that the long-term change in the value of the targeted firms, as measured by Tobin’s Q, in the years after the start of an activist hedge fund campaign is on average significantly lower than the change in the Tobin’s Q of the control firms. This means that the long-term value of the firms in the control group(s) that were not targeted by activist hedge funds increased more than the value of the firms subject to an activist hedge fund campaign. Specifically, as shown by Figure 1 below, target and control firms have similar value up to four years before the start of the activist campaign, then the firm value of the targets tends to be 5.5% lower on average than the firm value of the control firms in the three years following the start of the hedge fund’s campaign, and about 9.8% lower on average thereafter.

84. See id. at 14–17.
85. See supra note 78. Unlike Bebchuk et al., supra note 4, at 1101, the CGSW study only uses Tobin’s Q to compare firm value in target and control firms, as stock returns tend to be a very noisy measure of long-term firm value. This also explain why Tobin’s Q (or, simply, “Q”), as Bebchuk et al. recognize, tends to be preferred as the standard metric of firm value in financial studies. See id.
86. See Cremers et al., supra note 17, at 17–19.
This finding suggests that the main result in the BBJ study—that firm value tends to go up after activist hedge funds commence their campaign—is likely driven by a selection effect. Activist hedge funds tend to target firms that have been relatively poorly performing in the past. However, the increases in value of the control firms suggest that other governance mechanisms or actors have been on average more successful than the typical activist hedge fund in turning these relatively poorly performing firms around.

Once firm heterogeneity and the selection effects of hedge fund activism are taken into account through matching, the valuation of the effects of activism thus emerges as being considerably more complicated. This is because activism is associated with reduced, rather than increased, firm value in the long term relative to non-targeted control firms with similar characteristics as the targeted firms. As a caveat, this does not

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87. Changes in firm value are measured as changes in Q as a percentage of sample average. The dotted lines indicate the 90% confidence intervals, as estimated using 1.7 standard deviations from the coefficient value on either side, for the difference between the respective changes in Tobin’s Q across the target and control samples, which suggest that these differences are (i) very small in the period preceding the start of the activist hedge fund campaigns and (ii) not only economically meaningful, but also statistically significant in the period after the start of the activist hedge fund campaign.

https://openscholarship.wustl.edu/law_lawreview/vol94/iss2/5
imply that activist hedge funds generally did not deliver value to their investors. Rather, these results strongly suggest that activist hedge funds have been successful stock pickers in the sample covered by the CGSW study, as the firms they targeted had positive abnormal stock returns in the period after the start of the activist campaigns. The fact that the control firms that were not targeted had even larger abnormal stock returns does not change that conclusion, even if it hints at a conflict of interest between investors in activist hedge funds and long-term or passive buy-and-hold investors.

The CGSW study shows that these basic results are robust to a wide variety of ways to match control firms to targeted firms as well as to different ways to compute performance, and further examines the possible channels of the reduction in long-term firm value associated with hedge fund activism. In particular, the results in the CGSW study are consistent with the view that activism exacerbates the limited commitment problem, as the relative underperformance of targeted firms (compared to the performance of the control firms) is particularly sizable for firms that rely more on specific investments (such as R&D investments, intangible assets, and patents) and firms in industries characterized by longer-term stakeholder relationships (such as firms with high contract specificity, high labor productivity, and intensive use of unsecured debt).

II. QUALITATIVE EVIDENCE

In this Part, we draw on the CGSW dataset to revisit some well-known activist hedge fund campaigns by assessing the targets’ performance against the performance of their control firms in that dataset. Indeed, hedge fund activism tends to make headlines either when things go very well or very poorly. Media stories, however, typically focus on how the target’s value changed before versus after the start of the activist hedge fund campaign—an approach that is unable to disentangle the effect of activism from other factors. In other words, popular accounts of activist interventions are subject to selection. Hence, the evidence presented in this Part should help control for these possible selection effects, while also more concretely illustrating the changes that activist hedge fund interventions bring about in target firms relative to control firms. This

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88. See Cremers et al., supra note 17, at 19–24.
89. See id. at 24–26.
90. See id. at 26–27.
91. See infra text accompanying notes 95–105; 114–19; 120–25.
evidence, therefore, should allow us to better understand how those changes relate to long-term firm value.

In selecting targeted firms, we focus on two broad categories that have been used to classify hedge fund campaigns: “control activism” and “governance activism.” Control activism refers to activist interventions that primarily involve changes in control, whether actual or attempted. Governance activism involves, instead, interventions aimed at influencing the target’s business strategy and corporate policies, ranging from the exercise of public pressure on an incumbent board, to the running of a proxy contest to gain board seats or replace the CEO, to litigation against the board.

A. Control Activism

Hedge funds have long been active in transactions involving changes in control, although they have been more likely to seek the sale of a targeted firm—or, conversely, to oppose the proposed acquisition of a target—than to make a bid to acquire a corporation. A well-known example of control activism is the 2004 activist campaign launched by renowned corporate activist Carl Icahn against Mylan Laboratories, then the largest American manufacturer of generic drugs. Icahn began amassing Mylan’s stock in July 2004 after its price had fallen following the company’s announcement of an offer to acquire King Pharmaceuticals, a producer of branded drugs, for $4 billion in cash. Upon disclosure of his 6.8 percent interest in Mylan in September 2004, Icahn attacked the company’s board, denouncing the proposed acquisition as overpriced and “an egregious [strategic] mistake.” He also announced his intention to launch a proxy fight to elect different directors to block the deal. The board’s adoption of a poison pill with a 10 percent threshold did not deter Icahn. In November 2004, in the continuing effort to force Mylan’s board to drop the deal with King, he

92. See Kahan & Rock, supra note 2, at 1034.
93. See id. at 1029.
94. See Bratton, supra note 39, at 1390.
95. See id. at 1377–79; Kahan & Rock, supra note 2, at 1036, 1075–78.
offered to buy Mylan for about $5.4 billion,\textsuperscript{99} while inviting offers by other potential bidders.\textsuperscript{100} The tactic worked. In January 2005, the board abandoned the announced acquisition, blaming a failure to agree on essential terms.\textsuperscript{101}

Icahn, however, did not drop his activist campaign until six months later, continuing to push for the sale of Mylan until the board announced a massive share repurchase program.\textsuperscript{102} He then made his exit and pocketed an estimated profit of over $40 million,\textsuperscript{103} while also taking credit for a 32 percent stock price increase since the start of his involvement in the company thirteen months earlier.\textsuperscript{104} “There is no question that shareholder activism has worked well to enhance shareholder value at Mylan”\textsuperscript{105} was Icahn’s conclusive statement on the subject matter.

The assessment of Mylan’s long-term performance against its control firm in the CGSW dataset, however, suggests that Icahn’s statement was less than accurate. As explained above, control firms are selected such that their essential characteristics are similar to the characteristics exhibited by the target before the start of an activist hedge fund campaign, including, among others, a firm’s Tobin’s Q, industry, and size. Based on these criteria, the firm that was selected as Mylan’s control in the CGSW study was Estée Lauder Companies Inc., one of the largest manufacturers of cosmetics and other beauty products worldwide. While one could object that pharmaceuticals and cosmetics represent two different sectors within the manufacturing industry, these sectors share sufficiently similar features to be comparable. Among others, these common features include labor-intensive production methods, high levels of capital expenditures and research and development (R&D) investments, competitive product market structures, and heavy regulation. Accordingly, we proceed to compare the financial performance of Mylan and Estée Lauder in the years following the start of Icahn’s activist campaign in Mylan in 2004.


\textsuperscript{100} Mylan Labs. Inc., Proxy Statement (Schedule 14A) 3–4 (Nov. 22, 2004) (filed by Carl C. Icahn et al.).

\textsuperscript{101} Mylan Labs. Inc., Mylan Comments on King Transaction (Rule 425 Communication) (Jan. 12, 2005).

\textsuperscript{102} Mylan Labs. Inc., Current Report (Form 8-K) (June 14, 2005); see also Bratton, supra note 39, at (describing Icahn’s campaign against Mylan).


\textsuperscript{104} Mylan Labs. Inc., Proxy Statement (Schedule 14A) (July 18, 2005) (filed by Carl C. Icahn et al.).

\textsuperscript{105} See id.
benchmarking the percentage changes in $Q$ for each company against the value of their $Q$ in 2004.

As shown by Figure 2 below, Mylan and Estée Lauder exhibit similar financial performance until 2003. In 2004, however, when Icahn begins his activist campaign, Mylan’s $Q$ (2.73) had fallen below the $Q$ of Estée Lauder (3.52)—consistent with the empirical evidence documenting that activist hedge funds tend to select underperforming companies.\textsuperscript{106} In 2005, the trend is reversed: when Icahn exits from his investment in Mylan, Mylan’s $Q$ registers an increase of 35.36%, while Estée Lauder’s $Q$ experiences a decrease of -21%. However, three years after the intervention, in 2007, the situation looks almost the opposite: Mylan exhibits a huge cumulative decrease of -54.5%, while Estée Lauder registers a much lower cumulative decrease of -19%. After five years, in 2009, the disparity between the two companies is even larger, with Mylan continuing to experience low valuations, while Estée Lauder begins to show clear signs of improved performance.

\textbf{FIGURE 2: TOBIN’S $Q$: MYLAN V. ESTÉE LAUDER}

A comparative approach to evaluate Icahn’s activist intervention in Mylan thus suggests that it was accompanied by detrimental, rather than beneficial, results for the company’s shareholders in the longer term. If so, one would then expect to find that Icahn’s campaign coincided with the

\begin{itemize}
\item \textsuperscript{106} See supra note 80 and accompanying text.
\end{itemize}
undertaking of corporate actions that contributed to increase Mylan’s $Q$ in the short-term (e.g., up to a year after the intervention) at the expense of long-term firm performance. As discussed above,\textsuperscript{107} fairly standard items on the typical hedge fund’s agenda that fit such actions are the undertaking of higher leverage and the reduction of capital expenditures, which are both typical “liquidity events.”\textsuperscript{108} In order to test this hypothesis, we consider how the levels of Mylan’s leverage and Capex\textsuperscript{109} changed after Icahn’s intervention relative to Estée Lauder’s levels. As also noted above, shareholder advocates look at these actions differently, suggesting that increasing leverage and cutting capital expenditures limit management’s tendency to invest excessively.\textsuperscript{110} However, in light of the data on Mylan’s long-term performance, considerable changes in the company’s leverage and Capex levels around Icahn’s intervention would be difficult to reconcile with these advocates’ theory of beneficial “investment-limiting” interventions.

As shown by Figure 3 below, the changes in Mylan’s leverage levels following the start of Icahn’s campaign are consistent with our conjecture. Between 2004 and 2005, Mylan increased its leverage by an astonishing 358%, while Estée Lauder only increased its leverage by 4.6%. While part of the 2005 leverage increase was caused by the share repurchase program used to satiate Icahn,\textsuperscript{111} the data suggest that this reading of the effects produced by Icahn’s intervention on the company’s leverage might be reductive. Indeed, three years after Icahn’s intervention, Mylan registered an even higher cumulative increase in leverage of 509%, while Estée Lauder’s leverage only increased by 34.7%. This suggests that the activist intervention might have fundamentally redirected Mylan’s investment strategies toward shorter-term horizons, as higher leverage levels naturally constrain the managers’ ability to use cash flows to fund longer-term investments.

\textsuperscript{107} See supra text accompanying notes 60, 62.
\textsuperscript{108} See Coffee & Palia, supra note 29, at 572.
\textsuperscript{109} Capex is the ratio of the book value of capital expenditures over total assets.
\textsuperscript{110} See supra text accompanying note 61.
\textsuperscript{111} Mylan Labs. Inc., Current Report (Form 8-K) (June 14, 2005).
The data on Capex levels, as shown by Figure 4 below, are also consistent with this account of the effects of the activist intervention in Mylan. While in 2004 Mylan increased its Capex by 30.46% (relative to an increase of 6.10% in Estée Lauder’s), three years later the company cut its Capex by 77.1% (relative to an increase of 35.84% in Estée Lauder’s). Since Icahn became active in the company only toward the end of 2004, the increase in Capex during that year is likely attributable to strategic decisions made by the board before his intervention. Conversely, the decline in Capex that begins in 2005 seems consistent with Icahn’s intervention causing a radical transformation in Mylan’s business policy—one that produced a drastic cut in long-term investments.
It could be argued, however, that Mylan is unrepresentative of cases in which activist hedge funds successfully seek a sale of the target, and that these other cases of activism may produce more beneficial effects—for example because activists are especially good at spotting firms that “make better candidates for sale than do others.” It is thus worth examining an example of control activism aimed at the sale of the target. An instructive example is the activist campaign launched by Third Point LLC (Third Point), another well-known activist hedge fund, against Pogo Producing (Pogo), an oil and natural gas company. Third Point targeted Pogo in 2006, after the company had been underperforming competitors for about three years—again consistent with activists’ preferences for underperforming targets. Soon after filing its original Schedule 13D, Third Point requested that Pogo’s board “immediately initiate a process to sell

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112. See Bratton, *supra* note 39, at 1380 (suggesting that Mylan is an outlier among target firms both for the unusually high payout granted to shareholders and the increase in leverage used to fund such payout).

113. See *id.* at 1390.

114. Pogo Producing Co. (Schedule 13D) (Nov. 21, 2006) (filed by Third Point LLC).

115. Catherine Shu, *Investors Seek to Stick It to Pogo*, BARRON’S (Jan. 3, 2007), http://www.barrons.com/articles/SB11701128670491702 (reporting that since the end of 2003, Pogo’s stock fell 1%, while the Standard & Poor's Midcap Oil and Gas Exploration and Production Index climbed 78%).
the Company in whole or several parts to the highest bidder or bidders.\textsuperscript{116}
The fund also mounted a public campaign lamenting that Pogo’s executives had wasted corporate cash on empire-building acquisitions and threatened to begin a proxy contest to replace a majority of the board of directors at the 2007 annual meeting.\textsuperscript{117} A few months later, Pogo’s board announced that a “strategic alternatives process, which includes the possible sale or merger of Pogo . . . [was] ongoing.”\textsuperscript{118} Pogo was then sold to Plains Exploration & Production Co. in November 2007, at an 18 percent premium over market price.\textsuperscript{119}

Thus, Pogo would seem a very successful hedge fund story. A matching approach, however, again reveals a less idyllic picture. Pogo’s control firm in the CGSW dataset (i.e., the firm within the same industry that had the closest $Q$ to Pogo before the intervention by Third Point) is Forest Oil. Of course, we do not have $Q$ observations for Pogo after 2007, but we have observations for Forest Oil. The conjecture here is that if Third Point’s pressure to sell Pogo accurately incorporated the view that it was time to remove underperforming managers from valuable assets, the acquisition premium paid to Pogo shareholders should capture the long-term value of better managed assets and thus be comparable to Forest Oil’s longer-term $Q$ observations. Yet, five years after Third Point’s intervention in Pogo, Forest Oil’s $Q$ had increased by 35.85%, almost double the premium paid for the sale of Pogo, suggesting that in hindsight the intervention of Third Point in Pogo was less beneficial than one might think. Of course, it could be that the sale of Pogo had hidden synergies that were not reflected in the premium paid at acquisition, but those hidden synergies would have had to be considerable indeed.

\textbf{B. Governance Activism}

While control activism focuses on change-in-control transactions, governance activism focuses on changing a firm’s business strategy through the exercise of governance levers. The activist campaign run by

\textsuperscript{116} See Letter from Daniel S. Loeb, CEO, Third Point LLC, to Mr. Paul G. Van Wagenen, Chairman, President, and CEO, Pogo Producing Company (Dec. 1, 2006), https://www.sec.gov/Archives/edgar/data/230463/000089914006001686/t120106c.txt.

\textsuperscript{117} See id.


Pershing Square Capital Management and Vornado Realty Trust against discount retailer J.C. Penney Company (“J.C. Penney”) provides a good example. In 2010, Pershing Square and Vornado disclosed their interest in the company,\(^\text{120}\) gained seats on the board of directors soon after,\(^\text{121}\) and then began a successful public campaign to replace J.C. Penney’s CEO at the time, Mike Ullman.\(^\text{122}\) The bet by Pershing Square and Vornado on J.C. Penney, however, was not a successful one. Sales plummeted under the new CEO, largely due to strategic mistakes in the company’s attempted makeover.\(^\text{123}\) Ullman was then called back until Pershing Square and Vornado tried to oust him again, but this time unsuccessfully.\(^\text{124}\) In 2013, the investors decided to exit from J.C. Penney by selling their shares, taking a huge loss.\(^\text{125}\)

J.C. Penney is another difficult case to reconcile with the view that activist hedge funds add value by being especially versed in spotting entrenched managers and directors that fail to act in a manner that serves the best long-term interests of their company. This difficulty emerges even more clearly if one compares J.C. Penney’s performance after the start of the activist campaign by Pershing Square and Vornado to the performance of its control firm in the CGSW dataset, Dollar General (another discount retailer). In 2009, before Pershing Square’s intervention, the two corporations exhibited similar financial performance, with J.C. Penney having a \(Q\) of 1.08, and Dollar General having a \(Q\) of 1.52. At the end of the year of the intervention, 2010, the \(Q\) of JC Penney increased by 7.13%, while the \(Q\) of Dollar General only increased by 3.29%—consistent with standard short-term performance patterns following activist interventions. However, four years after the intervention, in 2012, the \(Q\) of J.C. Penney

\(^{120}\) J.C. Penney Co. (Schedule 13D) (Oct. 8, 2010) (filed by Pershing Square Capital Management, L.P. et al.).


had decreased by 17.94% as opposed to the Q of Dollar General, which had increased by 41.18%.

The popular press blamed the company’s disarray on the hubris of Bill Ackman, the founder of Pershing Square, and Steven Roth, Vornado Chairman and CEO, suggesting that hedge funds should not meddle with “managing” companies, but rather should be content with acting as watchdogs that can keep executives with the right expertise on their toes. Yet, while hubris might explain why Pershing Square and Vornado stuck with J.C. Penney longer than usual for activists, this explanation does not help us understand what changes during the involvement of Pershing Square and Vornado played a role in the retailer’s failing performance. As in Mylan, a possible relevant change that emerges from the data is a substantial increase in leverage, as J.C. Penney on average increased its leverage by 19.49% during Pershing Square’s intervention, while Dollar General decreased its leverage by 25.68% over the same period of time.

III. HEDGE FUNDS, RISK-TAKING, AND EXECUTIVE COMPENSATION

The results of the CGSW study, and the anecdotal evidence illustrated in Part II, challenge the view that hedge fund activism generally offers a beneficial, market-driven corrective to managerial moral hazard. It is important to note, however, that managerial moral hazard and the shareholders’ limited commitment problem are not mutually exclusive. This means that these two problems could have different relevance for different firms, so that curbing managerial moral hazard and ensuring a longer-term firm commitment to value-creation could matter more to some firms than others. Under this hypothesis, if hedge fund activism was shown to reduce moral hazard, we could conclude not only that activism may have heterogeneous effects across firms, but perhaps also that activism may have net benefits for the performance of some subset of firms. On the other hand, if activism was not associated with significant moral hazard-related changes, one should conclude that to the extent that activism affects firm value directly, such effects seem to be dominated by the negative implications that arise from the exacerbation of the limited commitment problem. In this Part, and Part IV below, we expand the empirical investigation of the economic mechanisms through which hedge fund activism influences firm value with the aim of better understanding

whether these mechanisms point to heterogeneity in the effects of activism.

After describing our dataset and main variables, in this Part we focus on the relationship between activism and corporate risk-taking (as proxied by a firm’s bankruptcy risk) and executive compensation (as proxied by several measures capturing different dimensions of executive pay) by using matched samples to compare variations along these dimensions between a group of targets and their control firms over the period 1995–2011. As we explain in more detail below, if the limited commitment view of activism is accurate, corporate risk-taking could be an important channel through which hedge funds might seek short-term gains at the expense of long-term value, as increased risk-taking transfers wealth from creditors to shareholders. Conversely, examining a target’s executive compensation should help shed light on the effect of activism on managerial incentives and, then, indirectly on the accuracy of the managerial agency view of activism.

In Part IV, then, we consider the relationship between activism and the use of defensive measures. Indeed, the use of such measures, as well as hedge fund activism, are foundational components of the broader debate on the optimal allocation of power between boards and shareholders. Thus, examining how these measures and activism interact is of paramount importance to provide evidence to inform that broader debate.

A. Data Description

Our main data sample covers the period 1995–2011 and consists of all non-financial publicly traded firms in the Compustat database that are headquartered in the United States and that do not lack any data necessary to compute Tobin’s Q or any of our standard controls. These controls include firm size ($\text{LnSize}$), leverage ($\text{Leverage}$), the ratio of capital expenditures over the book value of total assets ($\text{Capex}$), the ratio of research and development expenditures over sales ($\text{R&D}$), the ratio of intangible assets over total assets ($\text{Intangibility}$), and return on assets (calculated as the ratio of the firm’s EBITDA over the book value of total assets, i.e., $\text{ROA}$). In addition, in all our logit regressions, we also control for a firm’s performance ($\text{Tobin’s Q}$). Note that the coefficients on standard controls, with the exception of Tobin’s $\text{Q}$, are not shown to save space.

127. See supra note 24 and accompanying text.
Our data come from several sources. Data for hedge fund intervention come from the first comprehensive study of hedge fund activism published by Alon Brav, Wei Jiang, Frank Partnoy and Randall S. Thomas (as subsequently updated by some of the authors in later works). This study identifies hedge fund interventions through Schedule 13D filings, while also using information on the filer type required to be disclosed under Item 2 of Schedule 13D to limit the sample to hedge funds, filtering out other firm types such as banks, brokerage companies, corporations, insurance companies, individuals, pension funds, and trusts. The study also relies on web-searches, newswires, and direct phone calls to help identify whether the filing entity is an activist hedge fund. Finally, it excludes filers who (i) only filed one 13D Schedule during the entire sample period, (ii) reported that the purpose of the acquisition was to get involved in bankruptcy reorganization or assume an arbitrage position in M&A activities, and (iii) do not explicitly report the reason for their acquisitions.

Data for our measure of risk, $Z$-Score, comes from Compustat. $Z$-Score incorporates information on a firm’s liquid assets, historical and current profitability, growth opportunities or market valuations of current assets, and asset turnover. By construction, a higher $Z$-Score indicates a firm with low bankruptcy risk, while a lower $Z$-Score indicates, conversely, a firm with more bankruptcy risk. For simplicity, we indicate our variable as $Z$-Score so that results can be more intuitively interpreted.

128. See Brav et al., supra note 11.
130. See Brav et al., supra note 11, at 1736–37.
131. See id. at 1737.
132. See id.
133. See id. at 1738.
134. The $Z$-Score is a widely used proxy for the risk of bankruptcy and was proposed by Edward Altman. See Edward I. Altman, Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy, 23 J. Fin. 589, 594 (1968). The $Z$-Score is calculated as follows: $Z = 1.2 \times T_1 + 1.4 \times T_2 + 3.3 \times T_3 + 0.6 \times T_4 + 0.99 \times T_5$. Here, $T_1 =$ Working Capital / Total Assets, a measure of the liquid assets in relation to the size of the company; $T_2 =$ Retained Earnings / Total Assets, a measure of profitability that reflects the company's historical earning power; $T_3 =$ Earnings Before Interest and Taxes / Total Assets, measuring current operating efficiency apart from tax and leveraging factors; $T_4 =$ Market Value of Equity / Book Value of Total Liabilities, proxy of the market’s perception of the efficient use of the firm’s assets; $T_5 =$ Sales / Total Assets, measure for total asset turnover. A $Z$-Score below 1.8 is generally interpreted as meaning that the company is likely headed for bankruptcy, while a $Z$-Score above 3.0 can be interpreted as suggesting that the firm is not likely to go bankrupt.

https://openscholarship.wustl.edu/law_lawreview/vol94/iss2/5
(i.e., a higher –Z-Score indicates more risk, while a lower –Z-Score indicates less risk).

Data on executive compensation come from the ExecuComp database. In particular, we focus on four measures of executive compensation: Log CEO Total Compensation CEO Pay Slice (CPS), CEO Delta, and CEO Vega. Log CEO Total Compensation is a proxy for the overall compensation payments received by CEOs, whether in the form of salary, bonuses, other annual compensation components, restricted stock grants, long-term incentive plans, option grants, or any other form of compensation. CPS is the fraction of the aggregate compensation of the firm’s top-five executive team captured by the CEO, introduced in a paper by one of us with Lucian Bebchuk and Urs Peyer.\(^{135}\) Information on a firm’s CPS is important because an excessive CPS might indicate a problem of board capture and therefore signal increased managerial moral hazard. CEO Delta measures the sensitivity of CEO compensation to stock price, capturing the alignment between shareholder and manager interests.\(^{136}\) Lastly, CEO Vega reflects the sensitivity of CEO compensation to stock return volatility, capturing the incentives in CEO compensation to increase risk-taking.\(^{137}\)

Data on historical incorporation information are retrieved from the dataset employed in a prior study on the association between firm value and (re)incorporation coauthored by two of us.\(^{138}\) This dataset combines data from two sources: the COMPHIST database with Compustat header history, whose effective dates start around 2007, and the CSTHIST database, whose effective dates start in 1994 and end around 2007. Incorporation information matters for our investigation of the relationship between corporate law rules and hedge fund activism because of the differences in the way states regulate takeovers. Starting in the late 1980s and early 1990s, most American states began to enact various types of anti-takeover statutes, which provided added protection to incumbent

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135. See Lucian A. Bebchuk et al., The CEO Pay Slice, 102 J. FIN. ECON. 199 (2011).

136. CEO Delta is estimated as the percent change in the value of a firm’s CEO option portfolio in year t for a one percent increase in stock price. See John Core & Wayne Guay, Estimating the Value of Employee Stock Option Portfolios and Their Sensitivities to Price and Volatility, 40 J. ACCOUNT. RES. 613, 615 (2002).

137. CEO Vega is expressed as the percent change in the value of a firm’s CEO option portfolio for a one percent increase in the volatility of the returns on the underlying stock. See id.

directors faced with an unsolicited tender offer.\footnote{See generally Lucian Bebchuk et al., Does the Evidence Favor State Competition in Corporate Law?, 90 CAL. L. REV. 1775, 1812–14 (2002) (citing GRANT A. GARTMAN, STATE ANTITAKEOVER LAW (2000)).} Incorporation information is thus relevant to capture the differences between states’ antitakeover (or pro-takeover) stances and, more generally, the extent to which a state legislation can be considered as more managerial-friendly or shareholder-friendly.

Finally, data on staggered boards (Staggered Board) and poison pills (Pill)—the two most common defenses firms can adopt to protect directors from the threat of removal—are obtained from the dataset employed in a prior study on the association between staggered boards and firm value coauthored by two of us along with Lubomir Litov.\footnote{K.J. Martijn Cremers et al., Staggered Boards and Long-Term Firm Value, Revisited, J. FIN. ECON. (forthcoming 2016) (manuscript at 12–13), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2264165.} The source for this dataset is the corporate governance database maintained by Risk Metrics (formerly, the Investor Responsibility Center). Staggered Board and Pill are indicator variables that are equal to one if a firm’s board is staggered or has adopted a visible poison pill respectively; otherwise they are zero.

B. Corporate Risk-Taking

Under the view that activism would exacerbate the limited commitment problem, activists can push for governance and policy changes that are driven by a short-term investment horizon and may introduce distortions in the ex-ante incentives of both managers and other stakeholders to optimally invest in the firm. One form these short-term changes can take is excessive risk-taking. Indeed, as fixed claimants, creditors and other stakeholders are exposed to the risk of wealth-transferring actions that enrich shareholders at their expense, with excessive risk-taking providing the classic example.\footnote{In addition to excessive risk-taking, other actions that may illegitimately transfer wealth from creditors to stockholders include the payment of excessively large dividends, the issuance of additional debt, and underinvestment. See Smith & Warner, supra note 24, at 118–19.} Economically, this problem arises out of the divergent upside and downside potential exhibited by creditors versus shareholders. As creditors possess a claim with limited upside and significant downside, they are largely indifferent to increases in returns from corporate assets, while they are highly sensitive to declines in asset value and thus prefer safer investment strategies. In contrast, as residual corporate claimants, shareholders are highly sensitive to increases in

equity returns, while the protection of limited liability makes them comparatively less sensitive to losses. Once a corporation has outstanding debt, this payoff structure induces shareholders to prefer riskier over safer projects. Indeed, if things go well, shareholders expect to capture most of the upside potential of such projects. If things turn awry, instead, creditors will bear a significant part of the losses.\textsuperscript{142}

Given their business model, hedge funds are especially likely to advocate—often successfully so—for greater risk taking either through pursuing riskier corporate projects or by increasing financial leverage, as both of these strategies can be expected to result in positive short-term stock returns. This spike in short-term stock returns, however, comes at the expense of creditor interests. Hence, creditors can be expected to respond to the higher likelihood of excessive risk-taking they face in a market with intense activism by demanding higher interest rates ex-ante, with the end result being reduced long-term firm value.

Empirically, if this interpretation of the relationship between hedge fund activism and excessive risk-taking is correct, we would expect to find that the bankruptcy risk exposure of hedge funds’ targets increases following the hedge fund’s intervention relative to the level of risk of firms that do not become hedge funds’ targets (i.e., firms in our control group). This prediction is strongly suggested by a study by April Klein and Emanuel Zur, who find substantially negative short-term abnormal bond returns around the start of activist hedge fund campaigns, especially when these campaigns are adversarial or when the hedge fund seeks board representation.\textsuperscript{143} They further find that these short-term bond returns are more negative for firms that subsequently reduce cash holdings and sell assets or increase total debt, suggesting that bondholders generally correctly anticipate an increase in risk.\textsuperscript{144} Finally, the Klein-Zur study documents a negative association between short-term equity returns and short-term bond returns, suggesting a transfer of wealth from bondholders to stockholders, in the days surrounding the announcement of the start of the activist hedge fund campaign.\textsuperscript{145}

\textsuperscript{144}. See id.
\textsuperscript{145}. See id. at 1737.
Building upon the short-term results in the Klein-Zur study, we focus on the long-term repercussions, again using a matched sample to incorporate selection effects. Specifically, in Appendix Table A we run multivariate –Z-Score regressions (i.e., where –Z-Score is the dependent variable) in a matched sample, identifying hedge funds’ targets and their controls using the same matching criteria employed in the CGSW study. Column (1) includes year and firm fixed effects, while Column (2) uses firm fixed effects rather than industry fixed effects. Robust standard errors are clustered at firm level to account for the tendency of governance provisions to be stable across time.

As shown by Figure 5 below, which reproduces the results of Column (1) of Appendix Table A, the empirical evidence supports our theoretical hypothesis. In our matched sample, target firms and control firms have similar bankruptcy risks up to four years before the start of the activist campaign, where the minor difference is statistically insignificant. However, the bankruptcy risk level of the target firms is significantly higher than that of the control firms in the first three years after the hedge fund’s intervention (i.e., from t to t+3) and continues to be so thereafter (i.e., from t+3 to t+5). Our results are both statistically and economically significant. Specifically, the average bankruptcy risk measure is 10% higher for the targeted firms than for the controls in the first three years and is 11% higher thereafter.

146. Our –Z-Score regressions do not control for ROA as this control is essentially included in the Z-Score calculation.

147. See supra note 82 and accompanying text.


149. We calculate these economic magnitudes by dividing the coefficients (0.389 for the period from t to t+3 and 0.419 for the period after t+3) by the average value of –Z-Score in the sample, which is 3.76.
C. Executive Compensation

Our results on the long-term increase of corporate risk-taking in firms targeted by hedge funds (relative to control firms) add to the CGSW results about the detrimental long-term financial value association of activist interventions and lend further support to the related limited commitment view of activism. However, under the conjecture that activism may have heterogeneous effects, it could be that activism also helps to reduce managerial moral hazard and that this may matter more to some firms than others. To further explore this hypothesis, we focus here on the relationship between executive compensation and activist interventions.

150. Changes in firm value are measured as changes in –Z-Score as a percentage of sample average. The dotted lines indicate the 90% confidence intervals, as estimated using 1.7 standard deviations from the coefficient value on either side, for the difference between the respective changes in –Z-Score across the target and control samples, which suggest that these differences are (i) very small in the period preceding the start of the activist hedge fund campaigns and (ii) not only economically meaningful, but also statistically significant in the period after the start of the activist hedge fund campaign.
As discussed earlier, excessive executive pay (also referred to as “pay without performance”) is described by shareholder advocates as providing the clearest evidence of the problems of board capture and managerial moral hazard.\textsuperscript{151} Further, public criticism of the excessively generous compensation packages of cash, stock grants, options, and other benefits allegedly provided to executives of targeted firms has become a fixture of activist campaigns. For example, Dan Loeb, founder and head of the activist hedge fund Third Point, has built a reputation for his withering criticism of excessive executive compensation and other executive waste at targeted companies. In the “colorful” letters he regularly writes to accompany Third Point’s disclosure of interest in targeted companies, Loeb has attacked target executives for, among other things, awarding themselves unjustified compensation in the millions of dollars,\textsuperscript{152} using the firms as their “personal ‘honey pot,’”\textsuperscript{153} the general “lack of expense discipline,”\textsuperscript{154} and even for feasting “on organic delicacies and imbib[ing] vintage wines at a cost to shareholders of multiple hundreds of thousands of dollars.”\textsuperscript{155}

If it truly is the case that hedge fund activist campaigns offer a corrective to managerial moral hazard, then one would expect to observe significant changes in the targets’ executive compensation (relative to non-targeted firms) following such interventions. Empirically, we test this hypothesis by investigating the association between hedge fund interventions and four different variables of executive compensation—Log CEO Total Compensation, CEO Pay Slice, CEO Delta, and CEO Vega (all described in Part III.A above)—in a matched sample. In identifying hedge funds’ targets and their controls, we again use the same matching criteria employed in the CGSW study,\textsuperscript{156} but with a (smaller) sample where information on executive compensation is available. Likewise, we also always include year and firm fixed effects and report robust standard errors clustered at firm level.

\textsuperscript{151} See supra text accompanying notes 49–52.
\textsuperscript{152} Letter from Daniel S. Loeb, CEO, Third Point LLC, to Mr. William F. Ruprecht, Chairman, President and CEO, Sotheby’s (Oct. 2, 2013), https://www.sec.gov/Archives/edgar/data/823094/000119312513388165/d605390dex993.htm [hereinafter Loeb’s Letter to Ruprecht].
\textsuperscript{153} Letter from Daniel S. Loeb, CEO, Third Point LLC, to Mr. Irik P. Sevin, Chairman, President and CEO, Star Gas Partners L.P. (Feb. 14, 2005), https://www.sec.gov/Archives/edgar/data/1002590/000099914005000128/2774169.txt.
\textsuperscript{154} See Loeb’s Letter to Ruprecht, supra note 152.
\textsuperscript{155} See id.
\textsuperscript{156} See supra note 84 and accompanying text.
As shown in Appendix Table B, in contrast to the managerial agency view that activism provides a beneficial corrective to instances of managerial moral hazard, we find no significant changes in the executive compensation of targets as compared to the compensation of control firms from one year to three years after the start of an hedge fund campaign.

In particular, the lack of changes in Log CEO Total Compensation suggests that the level of information rents extracted by the CEO is left unaltered by activist hedge fund campaigns. This, in turn, may imply two things: either the CEO did not extract excessive rents before the intervention or, if she did so, she continued to extract the same inefficient level of rents after the intervention. Importantly, both possibilities are incompatible with the hypothesis that the ability of hedge funds to better discipline management explains the private gains they realize through activist interventions.

Similarly, the lack of changes in CPS suggests that either the fraction of the aggregate compensation captured by the CEO before the intervention was not excessive or, if it was, it continued to be so after the intervention. Again, both these interpretations challenge the managerial agency view of activism.

The lack of changes in CEO Delta is possibly even more telling, as this variable captures the level of alignment between shareholder and manager interests, i.e., the degree of pay for performance. Hence, the fact that CEO Delta is unaffected by hedge fund interventions seems to suggest that shareholder and manager interests were either sufficiently aligned before such interventions or that any misalignment continued afterwards.

Further, the lack of significant results on CEO Vega provides an important intuition on the source of the increase in bankruptcy risk that we document takes place in firms targeted by hedge funds in the years following the start of an activist hedge fund campaign. As CEO Vega captures the incentives in the CEO’s compensation contract to increase risk, our results suggest that the increase in the targets’ risk exposure are unlikely to be related to distortions arising in the risk incentives of the targets’ CEOs prior to the activist campaign. Overall, these results thus seem to reject the view that hedge fund interventions are effective at disciplining entrenched managers and, therefore, challenge the managerial agency theory of activism.

IV. HEDGE FUNDS AND SHAREHOLDER COMMITMENT

Our analysis of the relationship between hedge fund activism, on the one hand, and corporate risk-taking and executive compensation at
targeted firms, on the other, delivers results that strengthen the view that activist interventions exacerbate the shareholder limited commitment problem and, conversely, provide no support for the managerial agency view of activism. In this Part, we continue to explore these competing views of hedge fund activism. We do so by focusing on the relationship between activism, governance arrangements, and legal rules that both limit the shareholders’ ability to remove incumbent directors (and, more generally, intervene in the corporate affairs) in the near term, and make it more difficult for a prospective acquirer to proceed with a hostile acquisition.

A. Defensive Measures and Hedge Fund Activism

To shareholder advocates, private arrangements and rules designed to protect incumbents from shareholder interference—which they denote by the pejorative term of “insulation measures”—serve to entrench managers, promoting increased managerial moral hazard. Staggered boards and poison pills provide classic examples of such measures. Under a staggered board, directors are grouped into different classes (usually three) each serving a longer term (usually three years), so that each class of directors stands for reelection in successive years, rather than annually as under the default unitary board structure. In combination with a poison pill, the adoption of a staggered board is conventionally described as providing incumbents with de facto veto power over hostile bids. This is because a poison pill so dilutes a bidder’s economic rights that the only way to complete a takeover is to remove the pill first by appointing new directors. But if a company also has a staggered board in place, a prospective bidder will need to endure the costly delay of waiting through two-election cycles before being able to replace a majority

157. As observed by the Delaware Supreme Court Chief Justice Leo E. Strine, Jr., the term “insulation advocates,” which shareholder advocates use to describe the positions of the defendants of board primacy, has an inherently negative connotation and “create[s] an intellectual straw man . . . to burn down easily.” Leo E. Strine, Jr., Can We Do Better by Ordinary Investors? A Pragmatic Reaction to the Duelling Ideological Mythologists of Corporate Law, 114 COLUM. L. REV. 449, 450–51 (2014).
158. See Lucian Bebchuk et al., What Matters in Corporate Governance?, 22 REV. FIN. STUD. 783, 785 (2009) (documenting evidence that staggered boards and other defensive measures are associated with negative firm value).
159. See id. at 790–94.
160. See Cremers & Sepe, supra note 9, at 76–77 (discussing the law of staggered boards).
162. See Bebchuk et al., supra note 161, at 904–05 (setting forth terms of a standard poison pill).
of the board—a circumstance that substantially reduces a hostile bidder’s ability to gain control of the target.

The anti-takeover statutes adopted by what we refer to as managerial-states also serve to provide added protection to incumbent directors faced with unsolicited tender offers, and are therefore similarly opposed by shareholder advocates defending the need for unencumbered shareholder activism in corporate governance.

The assessment of defensive measures, however, radically changes once one incorporates the shareholders’ limited commitment problem into the analysis. Under this broader analytical framework, these measures—especially if premised on shareholder consent—emerge as helpful to commit shareholders to the evaluation of directorial and managerial actions in the longer term, when it is more likely that market prices will accurately reflect the fundamental value of those actions. They do so by making it more difficult for shareholders to remove incumbents in the near term—whether through a proxy contest or a takeover—and correspondingly weakening the shareholders’ ability to use the threat of early removal to interfere with business decisions. So viewed, defensive mechanisms would provide a commitment device to prevent shareholders from exercising their disciplining power at a time when this power might harm, rather than benefit, them.

Weighing in on the debate on defensive measures, the BBJ study uses its results on the long-term effects of activism to argue that those results support the shareholder advocates’ claim that such measures are undesirable. In making this argument, the study seems to willingly ignore a series of more recent works—including a comprehensive study coauthored by two of us—which challenge the view that staggered boards are detrimental to shareholder interests. According to Bebchuk et

163. See K.J. Martijn Cremers et al., Commitment and Entrenchment in Corporate Governance, 110 NW. L. REV. 727 (2016) (documenting that defensive measures premised on shareholder consent are associated with increased firm value).

164. See Cremers & Sepe, supra note 9, at 123–26 (discussing the commitment value of the staggered board); see also Lynn A. Stout, Do Antitakeover Defenses Decrease Shareholder Wealth? The Ex Post/Ex Ante Valuation Problem, 55 STAN. L. REV. 845, 853–56 (2002) (criticizing past empirical studies for failing to consider the ex ante benefits of defensive measures).


166. See Bebchuk et al., supra note 4, at 1150, 1155.


168. See Cremers & Sepe, supra note 9.
al., what matters is only that in their investigation activist interventions are on average associated with beneficial outcomes in the long term. Therefore, since “having a staggered board provides a significant impediment to hedge fund activism,”\(^{169}\) the adoption of a staggered board should be deemed detrimental to shareholder interests.

When examined in light of the CGSW study, however, this account of staggered boards (and, by analogy, other defensive measures) presents several difficulties. First, by challenging the view that hedge fund activism produces beneficial long-term results, the CGSW study also challenges the claim made by Bebchuk et al. that the empirical evidence on activism weighs in favor of unitary board structures.\(^{170}\) Further, while the CGSW results can be fully reconciled with recent empirical findings documenting a positive association of staggered boards and long-term firm value, the BBJ study remains unable to explain such findings.

But the CGSW study also challenges the conclusions drawn by the BBJ study about the adoption of defensive measures in a more subtle way. The claim that the adoption of significant limits to shareholders rights would raise substantial impediments to hedge fund activism seems fully consistent with the view that activism exacerbates the limited commitment problem. If the ability of forcing changes in corporate policies to rapidly drive up share prices explains hedge funds’ gains—as both the results of the CGSW study and the additional evidence presented in this Article suggest—the existence of devices that strengthen a board’s ability to resist drastic short-term corporate changes would naturally make a firm less appealing to hedge funds.

On the contrary, this claim seems more difficult to reconcile with the managerial agency view of activism defended by Bebchuk and other shareholder advocates. Under this view, the value created by hedge fund activism essentially arises from the disciplinary function served by hedge funds vis-à-vis opportunistic managers. One would thus expect to find more, rather than less, hedge fund activism in firms that have adopted defensive measures. After all, if it is true that hedge fund activists have particular expertise and power to discipline entrenched managers, as shareholder advocates claim—and if such measures entrench management and encourage moral hazard, as shareholder advocates claim as well—then activists should realize substantial efficiency gains by targeting firms with more defensive measures.

\(^{169}\) See Bebchuk et al., supra note 4, at 1149.

\(^{170}\) See id. at 1150.
In response, however, a shareholder advocate could argue that when a firm can resort to defensive measures, the costs of an activist campaign are likely to outweigh any potential gains accruing to hedge funds. This argument, however, is unsatisfactory both in theory and in practice. First, even if the cost of activism increases when a firm has adopted defensive measures, so do the gains that hedge funds may expect to realize. Second, the changes occurring in corporate practices in the past decade suggest that the costs of removing defensive measures have substantially decreased, at least when these measures are adopted at firm level.

Consider, for example, the staggered board. Contrary to the conventional view that effective staggered boards are a “powerful defense against removal” of incumbents, the empirical evidence documents that U.S. firms have increasingly shifted their boards from staggered to unitary since the 2000s. As suggested by several commentators, increased destaggering would be one of the most telling manifestations of the power gained by shareholders in corporate governance in the recent past, as a result of both changes in the marketplace (including the rise of activist hedge funds) and in the legal landscape governing it. In particular, the combination of voting recommendations in favor of destaggering proposals by proxy advisors and newly available shareholder governance levers (such as majority voting and vote-withholding campaigns) would have significantly enhanced the ability of shareholders to pursue successful destaggering campaigns.

171. See Bebchuk et al., supra note 158, at 791.
172. See Cremers & Sepe, supra note 9, at 99–100.
173. For a thorough discussion of these changes, see Kahan & Rock, supra note 3.
175. The recommendation that companies should have a unitary board, or that shareholders should seek a destaggering proposal, figures among the most important voting guidelines that proxy advisors routinely provide to investors. See, e.g., INSTITUTIONAL SHAREHOLDER SERVICES, INC., 2014 U.S. PROXY VOTING SUMMARY GUIDELINES 10 (2013), http://www.issgovernance.com/file/files/2014ISSUSummaryGuidelines.pdf.
176. Under plurality voting, the directors who receive most of the votes cast are elected to the board, so that every nominee only needs one vote to be elected. Hence, engaging in a withhold (or “just say no”) campaign could express shareholders’ dissent with director nominees, but doing so only rarely led to material changes under this voting procedure. With the rise of majority voting, however, things have radically changed, as only nominees who receive a majority of the votes cast are now elected to the board. Vote withholding has thus acquired direct legal significance today, as shareholders can effectively use this process to throw incumbents out of office without having to file a proxy statement with the SEC. See Kahan & Rock, supra note 3, at 1010–11.
177. The Harvard Shareholder Rights Project (SRP), a clinical program established at Harvard Law School to assist institutional investors in the submission of precatory proposals to destagger the board, has contributed to board destaggering at around one hundred S&P 500 and Fortune companies.
For all these reasons, while Bebchuk et al. do not support their conclusions about the relationship between activism and defensive measures with empirical evidence, such empirical examination seems warranted. We provide such an examination by using logit models to assess the likelihood that a firm might become a hedge fund’s target conditional on (i) different anti-takeover statutes, (ii) incorporation in Delaware relative to incorporation in states with more anti-takeover statutes, and (iii) the adoption of a staggered board or a poison pill.

B. State Anti-Takeover Statutes

We begin our analysis of the relationship between hedge fund activism and a firm’s defensive measures by investigating the likelihood that a firm might become the target of an activist hedge fund intervention in the next year conditional on different state-level anti-takeover statutes. In our sample as a whole, the unconditional probability that a firm might become a hedge fund target next year is 2.47%.

In our analysis, we focus on the five most common types of anti-takeover statutes, defining the following variables: Control-Share-Acquisition, Fair Price, Poison-Pill-Endorsement, Constituency, and Business Combination. In addition to examining how hedge fund activism relates to the adoption of each of these statutes, we also employ an anti-takeover index that estimates the likelihood of a future activist intervention based on the number of such statutes a state has. As observed in just three years. See SHAREHOLDER RIGHTS PROJECT, http://srp.law.harvard.edu (last visited Jan. 1, 2016).

178 These variables are defined as follows: (i) Control Share Acquisition is defined as a dummy variable equal to one if a firm is incorporated in a state that has adopted a statute requiring the bidder to win approval of a majority of disinterested shares (typically between 20% and 50%) in order to be able to exercise the voting rights of its control stake (and is equal to zero otherwise); (ii) Fair-Price is a dummy variable equal to one if a firm is incorporated in a state that has adopted a statute requiring a bidder who has succeeded in gaining a control block to pay a “fair” price (e.g., the same price paid to acquire the control block) to the remaining shareholders, so as to prevent two-tier acquisitions with a low back-end (and is equal to zero otherwise); (iii) Poison-Pill-Endorsement, a dummy variable equal to one if a firm is incorporated in a state that has adopted a statute authorizing the use of poison pills (and is equal to zero otherwise); (iv) Constituency, a dummy variable equal to one if a firm is incorporated in a state that has adopted a statute authorizing the use of defensive tactics in order to defend the interests of non-shareholder constituencies, such as employees or creditors (and is equal to zero otherwise); and (v) Business Combination is a discrete variable equal to: (a) one, if a firm is incorporated in a state that has adopted a statute preventing a bidder from engaging in a range of transactions with an acquired company (such as mergers, liquidations, and sales of assets) for up to three years after the bidder has acquired a controlling stake, (b) two, if a firm is incorporated in a state in which the delay imposed by the business combination statute for engaging in interested transactions extends to a period of up to five years, or (c) zero, if the firm is incorporated in a state that has not adopted a business combination statute.
by Lucian Bebchuk and Alma Cohen, “antitakeover statutes are possibly important not only in what they actually do but also in what they signal. . . . Therefore, the number of statutes adopted by a given state might be important [as they signal a stronger state anti-takeover stance].” On this assumption, Bebchuk and Cohen introduced an anti-takeover index that assigned to each state a score from zero to five based on the number of anti-takeover statutes adopted by the state. We similarly employ a 6-level State ATP Index, which closely mirrors the anti-takeover index of Bebchuk and Cohen, except that it assigns separate scores for three-year and five-year business combination statutes, which prohibit the raider from engaging in a freeze-out merger and other transactions with the target. The motivation for introducing this slightly different anti-takeover index is to attempt to better capture the differences between “stronger” and “weaker” business combination statutes. Indeed, the differences between five-year and three-year business combination statutes are not just of a “quantitative” nature, but also “qualitative,” since the former tends to bar a larger number of transactions than the latter.

Table 1 below shows our results. Columns 1 to 5 assess how the probability that a firm might become a hedge fund’s target next year is related to each anti-takeover statute. Column 6 then shows results for the 6-level State ATP Index.

180. Id.
181. The 6-level State ATP Index thus attaches a score from zero to six to each state, with any state that has a five-year business combination statute being coded as also having a three-year business combination statute. See Cremers & Sepe, supra note 138, at 11–13 (introducing the 6-level State ATP Index).
182. For example, New York’s five-year business combination statute bars any substantial sale of assets or merger after the threshold is crossed without prior approval. See N.Y. BUS. CORP. L. § 912 (Consol. 2016). Conversely, the Delaware’s three-year statute defines the term “business combination” narrowly so as to cover only transactions between the target and the bidder or its affiliates. See 8 DEL. CODE ANN. tit. 8, § 203 (2016). Further, Delaware’s three-year Business Combination statute is a default provision, which makes it easier for firms to opt out of this provision. See id.
TABLE 1: PROBABILITY OF BECOMING A HEDGE FUND TARGET AND STATE ANTITAKEOVER STATUTES

This table presents the marginal effects estimates from logit regressions of the ex-ante probability of becoming a hedge fund target next year on different state antitakeover statutes and firm-level controls as of the end of this year. The hedge fund data is from the updated dataset used in Brav et al. (2008) and covers the period 1995 to 2011. The dependent variable is an indicator equal to one if the firm is targeted by a hedge fund in a given year, and zero otherwise. To construct our sample, we use all firms that have not been targeted by a hedge fund in the past five years. After a firm is targeted by a hedge fund, we drop it from our sample. We allow the firm to re-enter the sample if it has not been targeted by a hedge fund for at least five years. In the table, t-statistics appear between parentheses and are based on robust standard errors clustered by firm. Below the t-statistics of the state antitakeover statutes, as well as the 6-level State ATP Index, the percentage indicates the economic significance of the marginal change in the ex-ante probability of becoming a hedge fund target next year relative to the unconditional probability in the sample, which is 2.47%. This percentage is calculated as the marginal change from 0 to 1 for indicator variables and from 0 to 6 for the 6-level State ATP Index. We control for the firm’s Tobin’s Q as well as the standard controls LnSize, Leverage, CAPEX, R&D, Intangibility and ROA. Coefficients on standard controls are not shown in order to save space. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% (two-tail) test levels by ***, **, and * respectively.

<table>
<thead>
<tr>
<th>Uncond. Prob. of becoming target next year:</th>
<th>2.47%</th>
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<tbody>
<tr>
<td>Control-Share-Acquisition</td>
<td>-0.407%*** (2.76)</td>
</tr>
<tr>
<td></td>
<td>-20%</td>
</tr>
<tr>
<td>Fair-Price</td>
<td>-0.474%*** (3.37)</td>
</tr>
<tr>
<td></td>
<td>-23%</td>
</tr>
<tr>
<td>Poison-Pill-Endorsement</td>
<td>-0.558%*** (2.55)</td>
</tr>
<tr>
<td></td>
<td>-17%</td>
</tr>
<tr>
<td>Constituency</td>
<td>-0.426%*** (3.01)</td>
</tr>
<tr>
<td></td>
<td>-21%</td>
</tr>
</tbody>
</table>
As shown by Table 1, all the antitakeover statutes negatively predict a future hedge fund intervention with meaningful economic magnitudes and strong statistical significance. Similarly, our anti-takeover index also negatively predicts a future hedge fund intervention, so that the higher the number of statutes, the less likely it is that a firm will become a hedge fund’s target next year. In particular, the coefficient estimates suggest that reincorporation from a state with a zero State ATP Index score to a state with State ATP Index of 6 is associated with a 29% lower probability of becoming a hedge fund’s target next year relative to the 2.47% unconditional probability in our sample.

When read against the results obtained by the CGSW study the additional evidence provided by this Article on the increase of bankruptcy risk in firms targeted by hedge funds, these findings seem to suggest that state anti-takeover statutes make firms less “appealing” to activist hedge funds, as they strengthen a board’s ability to resist activists’ demands for short-term changes.

Nevertheless, a shareholder advocate could interpret this evidence as suggesting that anti-takeover statutes weaken activists’ ability to credibly threaten a change in control to discipline managers and, for this reason, make such firms less interesting to activists. Further, unlike in the case of insulation measures that are adopted at firm level (e.g., a staggered board), activists would be less able to “fight” for the removal of state anti-takeover statutes, as such removal would involve the relatively rare step of

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183. This percentage is obtained by multiplying the coefficient estimate (i.e., 0.10%) by the number of antitakeover statues (i.e., 6) divided by the unconditional probability of becoming a target (i.e., 2.07%).
reincorporating the firm into a state without such anti-takeover statutes or the even more drastic step of lobbying for legislative change. Thus, even if in principle activists could obtain significant gains from disciplining management at firms incorporated in states with more anti-takeover statutes, they would lack the means to do so effectively. However, even abstracting from the evidence on the negative wealth-impact of activism, this latter interpretation of the relationship between anti-takeover statutes and hedge fund activism seems unlikely to be accurate.

As noted earlier, hedge fund activists are not typically strategic bidders aiming to acquire a control block in the companies they target. In this respect, Icahn’s campaign regarding Mylan is an outlier. More commonly, hedge funds seek changes through the exercise of governance levers, such as threatening a public campaign involving confrontation with the incumbent board or a proxy contest aimed at appointing new directors on the board, often seeking the support of institutional investors. The case of Pogo is thus more illustrative of typical activist tactics, as Third Point was able to successfully push for the sale of the company while only retaining about 8 percent of its stock.

Of course, undertaking these tactics does not preclude a hedge fund from eventually seeking, or threatening to seek, full control. In most cases, however, the exercise of this “ultimate threat” has been unnecessary to advance an activist’s agenda. This suggests that anti-takeover statutes should not constitute an insurmountable impediment to activist campaigns aimed at disciplining entrenched managers. Indeed, while these statutes make it more difficult for hedge funds to credibly threaten a change in control, they do not prevent activists from waging other actions—in particular, conducting a proxy contest—which are usually sufficient to produce changes in targeted companies. Therefore, our results on state anti-takeover statutes are difficult to reconcile with the managerial agency view that activist gains arise from better managerial discipline.

Conversely, the limited commitment view of activism seems easier to reconcile with such results. Under this view, incorporation in a state that makes it more difficult for activists to undertake a change in control would signal that a firm is more likely to engage with the activists in a defensive fashion and resist an activist attack. Viewed this way, incorporation in such states would serve the function of a higher-level constraint protecting

184. See supra note 94 and accompanying text.
185. See supra notes 95–105 and accompanying text.
186. See supra note 39 and accompanying text.
187. See supra note 119.
a firm’s commitment to the long term, similar to higher-level constitutional constraints that are designed to protect first-level constraints acting on the same problems.\textsuperscript{188} The adoption of supermajority requirements for changing constitutional provisions provides a classic example.\textsuperscript{189} By hindering subsequent changes to relevant constitutional provisions, these requirements make those provisions meaningful. Similarly, incorporation in a state with anti-takeover statutes would strengthen a board’s commitment to the long term. This is because boards would be better placed to defend vigorously against the usual forms of an activist attack when they have less reason to fear the ultimate threat of a change in control.

The results we obtain for the impact of corporate constituency statutes (Constituency, shown in Column (4))\textsuperscript{190} on future activist interventions further seem to support the limited commitment view of hedge fund activism, while correspondingly undermining the managerial agency view. Indeed, as compared to other anti-takeover statutes, the adoption of a corporate constituency statute is acknowledged as having much less influence in preventing a takeover.\textsuperscript{191} Consequently, if the shareholder advocates’ view that anti-takeover statutes deter hedge fund interventions by weakening the effectiveness of activist attacks was correct, one would expect firms incorporated in a state with a corporate constituency statute to be more likely to become a hedge fund’s target than firms incorporated in states with stronger anti-takeover statutes. Conversely, under the limited commitment view of activism, one would expect the corporate constituency statute to be especially valuable in strengthening a firm’s commitment to the long term. Indeed, while this statute may represent less of an impediment for the activists’ ability to threaten a change of control, it enables an incumbent board to resist that threat based on the commitment the board has undertaken toward a firm’s stakeholders (such as employees and creditors) rather than just the firm’s shareholders. Therefore, if the limited commitment view of activism is accurate, firms

\begin{itemize}
  \item \textsuperscript{188} See Jon Elster, Ulysses Unbound 115–18 (2000) (discussing the instruments that are used in the political context to safeguard constitutional commitments).
  \item \textsuperscript{189} See id.; see also Stephen Holmes, Passions and Constraints (1995) (defending supermajority rules as a means to enable “ordinary politics.”).
  \item \textsuperscript{190} As explained above, corporate constituency statutes authorize the use of defensive tactics to defend the interests of non-shareholder constituencies, such as employees or creditors. See supra note 178.
\end{itemize}
should be less likely to become a hedge fund’s target if they are incorporated in a state with such a statute than if they are incorporated in states that adopted other anti-takeover statutes.

Our results are consistent with the second hypothesis: \textit{Constituency} is more negatively related to a future hedge fund intervention than stronger anti-takeover statutes, with this effect being both statistically and economically significant. Specifically, a firm incorporated in a state that adopted a corporate constituency statute is 21\% less likely to become a hedge fund’s target next year relative to the 2.47\% unconditional probability in our sample.

\textbf{C. Delaware and Managerial States}

The above analysis of the relationship between anti-takeover statutes and activist hedge fund interventions suggests that such measures may strengthen a firm’s commitment to longer-term value creation, hence deterring future activism. In this Part, we continue to explore that relationship by considering the effects of incorporation in Delaware (indicated in our empirical results by the dummy variable \textit{Delaware Incorporation}) on the likelihood of a future activist intervention. Indeed, because Delaware is the dominant state in the (re)incorporation market, it is more likely that it may present unobservable characteristics that may affect our results—suggesting that the relationship between Delaware incorporation and activism is worth separate examination.

Further, Delaware only has a 3-year business combination statute (so that firms in our sample that are incorporated in Delaware have a \textit{State-ATP-Index} level of 1). Thus, in the empirical literature, Delaware is typically described as having among the mildest anti-takeover legislations and, hence, as being a relatively shareholder-friendly state.\textsuperscript{192} On this premise, we then also consider the relevance of incorporation in Delaware relative to incorporation in a set of “Managerial States” (indicated by the dummy \textit{Managerial State Incorporation}), comprised of observation from 17 states that have a \textit{State-ATP-Index} level of 5 or 6. The largest number of observations comes from New York, followed by (in order of the number of observations) Minnesota, Nevada, Pennsylvania, Ohio, Massachusetts, New Jersey, Georgia, Maryland, Wisconsin and Indiana (plus 6 other states with relatively few observations).

Table 2 below shows our results. Column (1) presents results for Delaware Incorporation, while Column 2 presents results for Managerial State Incorporation over the period 1995–2011.

**TABLE 2: PROBABILITY OF BECOMING A HEDGE FUND TARGET AND STATE OF INCORPORATION**

This table presents the marginal effects estimates from logit regressions of the ex-ante probability of becoming a hedge fund target next year on the state of incorporation and firm-level controls as of the end of this year. We consider the relevance of incorporation in Delaware versus in a set of Managerial States in the full sample (1995–2011). In the table, t-statistics appear between parentheses and are based on robust standard errors clustered by firm. Below the t-statistics of the indicator variables for the state of incorporation, the percentage indicates the economic significance of the marginal change in the ex-ante probability of becoming a hedge fund target next year, arising from a change of 0 to 1 for each indicator variable, as a percentage of the unconditional probability in the sample used, which is equal to 2.07%. We control for the firm’s Tobin’s Q as well as the standard controls LnSize, Leverage, CAPEX, R&D, Intangibility, and ROA. Coefficients on standard controls are not shown in order to save space. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% (two-tail) test levels by ***, **, and * respectively.

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<tbody>
<tr>
<td>Uncond. Prob. of becoming target next year:</td>
<td>2.07%</td>
<td></td>
</tr>
<tr>
<td>Delaware Incorporation</td>
<td>0.54%***</td>
<td>-0.43%***</td>
</tr>
<tr>
<td></td>
<td>(4.38)</td>
<td>(2.89)</td>
</tr>
<tr>
<td></td>
<td>+26%</td>
<td>-21%</td>
</tr>
<tr>
<td>Managerial State Incorporation</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobin's Q</td>
<td>-0.00469***</td>
<td>-0.00475***</td>
</tr>
<tr>
<td></td>
<td>(7.64)</td>
<td>(7.47)</td>
</tr>
<tr>
<td>Standard Controls Included</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>N</td>
<td>55,435</td>
<td>55,435</td>
</tr>
<tr>
<td>Pseudo-R2</td>
<td>0.0114</td>
<td>0.0105</td>
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Results for our logit regressions show that incorporation in Delaware positively predicts a hedge fund intervention in the next year, while
incorporation in a Managerial State negatively predicts a hedge fund intervention in the next year. Specifically, relative to a 2.07% unconditional probability that a firm in our sample might become a hedge fund target next year, a firm incorporated in Delaware has a 26% higher probability of becoming a target, while a firm incorporated in a Managerial State has a 21% lower probability of doing so.

We interpret these results as consistent with our general results on the relationship between anti-takeover statutes and hedge fund activism shown in Table 1. On the one hand, Delaware, as a more shareholder-friendly state, would be more likely to promote future activist interventions, as activists would have fewer reasons to anticipate a defensive stance by the board of Delaware firms. On the other, Managerial States would deter activism, as activists would anticipate increased board hostility from firms incorporated in such states, which, in turn, would hinder the activists’ ability to pursue desired short-term changes in the target’s governance or business policy.

Nevertheless, a shareholder advocate could argue that in order to draw conclusions about the relationship between a firm’s state of incorporation and hedge fund activism, one would need to investigate the association between firm value and state corporate law. Indeed, if incorporation into Delaware (which we find to facilitate activism) was associated with a higher firm value, this advocate would have a strong argument against our interpretation of the relationship between state corporate law and activist interventions—and, conversely, in favor of the managerial agency view of such interventions. The same would hold if incorporation into Managerial States (which we find to deter activism) were associated with a lower firm value.

Two of us, however, have recently coauthored a paper on the association between state corporate law and firm value in which we find results that negate the above conjecture.¹⁹³ In examining this association over the period 1994–2012 for all U.S. firms in the Compustat database, we find that firm value decreases when a firm reincorporates in Delaware, while it increases when it reincorporates in a Managerial State.¹⁹⁴ Read against the CGSW study and the results of Table 2 above, this additional evidence strongly supports the limited commitment view of activism. It does so by suggesting that the relatively shareholder-friendly stance of Delaware’s law may be a possible channel through which re-incorporation

¹⁹³. See Cremers & Sepe, supra note 138.
¹⁹⁴. See id. at 4, 23–25.
in Delaware decreases firm value, while the higher-order constraints provided by the laws of Managerial States against activism may explain why reincorporation into one of such states increases firm value.\(^{195}\)

An additional possible objection to this conclusion is that our analysis does not take into account that a state’s body of corporate law also consists of judge-made law. Under this objection, it could be argued that the Delaware courts’ approach to the use of defensive measures seems more compatible with Delaware being a managerial-friendly state than a shareholder-friendly one. Indeed, since the 1985 seminal decision in *Moran v. Household International, Inc.*, which approved the legitimacy of the poison pill,\(^{196}\) Delaware courts have tilted decidedly toward upholding “the primacy of directorial power” in deciding whether a takeover bid should move forward.\(^{197}\) This argument, however, fails to fully incorporate the standards to which Delaware’s approval of a board’s defenses is conditioned, as originally established in *Unocal Corp. v. Mesa Petroleum Co.*\(^{198}\) Under those standards, a board bears the burden of proving both that the defenses it has adopted respond to a “cognizable threat” and that such defenses are reasonable in relation to the threat posed—that is, are not “draconian, by being either preclusive or coercive.”\(^{200}\)

Further, the above argument also fails to incorporate the other relevant aspect of the Delaware courts’ approach to the use of defensive measures: the protection of the proxy contest as a safety valve the shareholders can use if displeased with directorial actions. Under this protection, an incumbent board is required to meet the “compelling justification”\(^{201}\).
standard established in *Blasius* to be allowed to use tactics that have the “primary purpose” of interfering with or impeding the exercise of shareholders’ voting rights. Under these limitations to the use of defensive measures, Delaware case law has arguably “preserved for hedge fund activists the right to enjoy the fruits of electoral victory.” Likewise, Delaware seems to have preserved the effectiveness of the threat of launching a proxy contest as a lever to obtain desired changes. Thus, a possible channel for the value-decreasing impact of Delaware reincorporation may lie with the relatively activist-friendly stance of Delaware courts. Nevertheless, it could be argued that this conclusion is drawn without considering the relationship between hedge fund activism and the two most common firm-level defenses a board can adopt—the staggered board and the poison pill. We hence turn to that examination next.

**D. Staggered Boards and Poison Pills**

Shareholder advocates argue that when a firm has both a staggered board and a poison pill in place, the safety valve of the shareholder franchise is more illusory than real. On the one hand, the pill would prevent insurgents from acquiring a controlling block of shares. On the other, the staggered board would prevent them from removing a majority of the board in one electoral round, significantly limiting an insurgent’s ability to remove the pill and gain voting control of the target.

This view of staggered boards and poison pills, however, fails to account accurately and fully for both the changes that have occurred in the corporate landscape in the past fifteen years and the qualitatively different threat posed by hedge funds relative to corporate raiders. In light of the new bargaining levers acquired by shareholders, staggered boards would be much less “effective” in protecting a board from the threat of removal today, since shareholders have grown increasingly successful in coercing board approval of destaggering.

Further, the poison pill would provide an intrinsically less effective defense against the threat of an activist hedge fund campaign relative to a classic takeover threat. The primary consequence of a poison pill is to

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203. *See Briggs, supra* note 39, at 693.
204. *See Bebchuk et al., supra* note 161, at 890, 902, 909.
hinder stock accumulations beyond a certain threshold.\textsuperscript{206} Most activists, however, do not aim at accumulating large blocks of a target’s stock, as smaller stakes (usually at around 5 to 10 percent) may be enough to wage an effective proxy contest for director elections, especially if an activist can count on the support of institutional investors, as has frequently been the case. Carl Icahn, for example, was not deterred by Mylan’s adoption of a poison pill, even though Mylan’s pill had a low ten percent threshold.\textsuperscript{207} Additionally, similar to the case of staggered boards, activists have acquired sufficient bargaining power in the current corporate scenario that they may be able to coerce boards to remove the pill “willingly” or otherwise circumvent the pill. Thus, in the recent battle fought for the control of Sotheby’s board, the board “willingly” decided to remove a pill it had adopted precisely to defeat the attack of activist investor Third Point.\textsuperscript{208}

In order to test the opposite views of the relationship between the adoption of defensive measures and hedge fund activism, in Table 3 below we use a logit model to assess how the likelihood that a firm might become a hedge fund’s target next year is related to currently having adopted a staggered board and a poison pill, respectively. More specifically, Column (1) shows result for the adoption of a staggered board for our full sample of firms; Column (2) shows results for the adoption of a poison pill for our full sample of firms; Column (3) shows results for the combined defense provided by adoption of a staggered board and a poison pill (Staggered Board \times Pill); and, finally, Column (4) shows results for the adoption of a staggered board among only the firms that do not also have a poison pill in place (Staggered Board \times No Pill).

\textsuperscript{206} See supra note 162.
\textsuperscript{207} See supra note 98 and accompanying text.
\textsuperscript{208} Significantly, the board’s decision took place after the board had obtained a favorable judgment by the Delaware Chancery Court that the use of a two-tier pill (i.e., a pill providing for different triggering thresholds for activists and non-activists investors) was not “preclusive.” See Third Point LLC v. Ruprecht, No. 9469-VCP, 2014 Del. Ch. LEXIS 64 (Del. Ch. May 2, 2014).
TABLE 3: PROBABILITY OF BECOMING A HEDGE FUND TARGET: STAGGERED BOARDS AND POISON PILLS

This table presents the marginal effects estimates from logit regressions of the ex-ante probability of becoming a hedge fund target next year on indicator variables for whether the firm has a staggered board (Staggered Board) and/or a poison pill (Pill) with firm-level controls as of the end of this year. The sample consists of the intersection of the full sample in Table 1 with the firms for which we have information on their board structure and whether they have a poison pill. In the table, t-statistics appear between parentheses and are based on robust standard errors clustered by firm. Below the t-statistics of the indicator variables for the state of incorporation, the percentage indicates the economic significance of the marginal change in the ex-ante probability of becoming a hedge fund target next year, arising from a change of 0 to 1 for each indicator variable, relative to the percentage of the unconditional probability in the sample used, which is equal to 2.03%. We control for the firm’s Tobin’s Q as well as the standard controls LnSize, Leverage, CAPEX, R&D, Intangibility, and ROA. Coefficients on standard controls are not shown in order to save space. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% (two-tail) test levels by ***, **, and * respectively.

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<th>(1)</th>
<th>(2)</th>
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<th>(4)</th>
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<tbody>
<tr>
<td>**Uncond. Prob. of becoming</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>target next year:</td>
<td>2.03%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Staggered Board</strong></td>
<td>-0.44%*</td>
<td>-0.46%*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.81)</td>
<td>(1.86)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Pill</strong></td>
<td>-0.04%</td>
<td>0.04%</td>
<td>0.18%</td>
<td></td>
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<tr>
<td></td>
<td>(0.18)</td>
<td>(0.15)</td>
<td>(0.49)</td>
<td></td>
</tr>
<tr>
<td><strong>Staggered Board × Pill</strong></td>
<td>-0.33%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.93)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Staggered Board × No Pill</strong></td>
<td>-0.59%*</td>
<td></td>
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<tr>
<td></td>
<td>(1.69)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Tobin’s Q</strong></td>
<td>-1.04%***</td>
<td>-1.05%***</td>
<td>-1.05%***</td>
<td>-1.05%***</td>
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<tr>
<td></td>
<td>(5.85)</td>
<td>(5.83)</td>
<td>(5.86)</td>
<td>(5.85)</td>
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<tr>
<td></td>
<td>(0.03)</td>
<td>(0.08)</td>
<td>(0.10)</td>
<td>(0.10)</td>
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As shown by Column (1) of Table 3, firms that adopted a staggered board are considerably less likely to become a hedge fund’s target. This effect is both statistically and economically significant, with a firm that adopted a staggered board having a 22% lower probability of becoming a hedge fund target in the next year, relative to the 2.03% unconditional probability in our sample. Conversely, results for the adoption of a poison pill, shown in Column (2), are statistically insignificant. Results for the effect of having a staggered board combined with a poison pill, shown in Column (3), are similarly statistically insignificant, while the disentangled effect of a staggered board, shown in Column (4), is both statistically and economically significant. As compared to the results considering the adoption of a staggered board for our full sample, the adoption of a staggered board in firm without a poison pill is associated with an even larger reduction in the probability of a future hedge fund intervention. Indeed, a firm that has a staggered board but no poison pill has a 29% lower probability of becoming a hedge fund target the next year relative to the 2.03% unconditional probability in our sample.

Overall, the results of Table 3 seem consistent with the anecdotal evidence that hedge funds are not strategic bidders, but rather prefer the leverage of voice, often in combination with a proxy contest, to push for change. This would explain why a poison pill does not seem to exert much influence on the likelihood of future activist interventions, as the effectiveness of a poison pill against a proxy contest involving an activist hedge fund is more limited than in the takeover context involving a strategic bidder.

Importantly, this evidence also seems to challenge the conclusion by recent studies that have severely criticized prior empirical research focusing on anti-takeover statutes. In particular, these studies have claimed that after the introduction of the poison pill, such statutes have “added little, if anything, to the defensive arsenal of most firms,” because the adoption of a pill has equal or stronger defensive value than the anti-takeover statutes.\footnote{See Catan & Kahan, \textit{supra} note 31, at 634.} On the contrary, our evidence suggests that once hedge fund activism is added to the picture, incorporation in a state that
has adopted anti-takeover statutes provides a protection to incumbent boards that a poison pill cannot.

As discussed earlier, the weakening effect that anti-takeover statutes have on the ultimate threat of a change in control does not *per se* prevent activists from successfully seeking changes in a target’s governance or business policy.210 However, this effect matters on the board’s side as it better positions a board to defend against potential activist attacks, making a board’s commitment to the long term more credible.211 Relative to anti-takeover statutes, it is true that a poison pill may theoretically provide an even stronger constraint against the threat of a change of control—as the pill prevents the acquisition of a control block, while the statutes mostly tend to limit the actions an insurgent can take once she has acquired control.212 In practice, however, a board’s commitment to the long-term under a poison pill is likely to be less credible than under incorporation in a state with anti-takeover statutes, as avoiding a state statute requires taking steps that are more costly to activists than avoiding or working around the defense provided by the pill. In other words, in the current corporate landscape where activists have grown increasingly able to coerce board approval to remove the pill or otherwise circumvent this defense,213 the adoption of a pill would no longer offer a higher-level constraint to protect a board’s commitment to the long term, in the same way incorporation in a state with anti-takeover statutes does.

Concerning the adoption of a staggered board, two possible complementary explanations may account for the strong deterrent effect highlighted by the results presented in Table 3. First, a staggered board, unlike a poison pill, is a defense premised on shareholder consent.214 This “bilateral” nature of the staggered board seems to strengthen our hypothesis that a defensive measure is effective in deterring future activist intervention only as long as it can credibly signal to activists a firm’s commitment to long-term value creation. When this commitment is premised on shareholder consent, it would be naturally more credible than when it comes exclusively from the board. This is because measures that

210. *See supra* Part IV.A.
211. *See id.*
214. In Delaware, and most other states, shareholder approval is required to adopt a staggered board after the initial charter or bylaws are in place. JASON D. MONTGOMERY, INV’R RESPONSIBILITY RESEARCH CTR., CLASSIFIED BOARDS 4 (1998); *see, e.g.*, DEL. CODE ANN. tit. 8, § 141(d) (2015). The notable exception is Maryland, where the board has unilateral power to adopt a staggered board. See MD. CODE ANN., CORPS. & ASS’NS § 3-803 (LexisNexis 2015).
can be unilaterally adopted by the board, such as the poison pill, would be more likely to reflect a willingness of the directors to entrench themselves than a “real” commitment to the long term. Accordingly, activists could anticipate less board resistance upon the adoption of unilateral defensive measures relative to bilateral measures. Nonetheless, and again in contrast with what one would expect to find under the managerial agency view of activism, activists seem to remain indifferent to the higher likelihood of entrenchment signaled by a pill relative to a staggered board.

Second, a staggered board produces effects that bear directly on the acquisition of voting control, rather than the acquisition of a control block. Given hedge funds’ preferences for the use of the proxy route in their activist campaigns, this could explain why the staggered board is better equipped to provide effective deterrence against future activist interventions.

Under either explanation, however, if it is true that the ability of activists to pressure boards to dismiss a pill may help explain why the pill no longer provides an effective higher-level constraint to protect a board’s commitment to the long term, we would expect to find that the deterrent effect of staggered boards could be similarly weakened in circumstances where activists can more easily coerce a board’s approval to destagger. Based on the results we obtain for the relationship between incorporation in Delaware versus a Managerial State and the likelihood of a future hedge fund intervention, we thus conjecture that the adoption of a staggered board provides an effective impediment against activism only as long as it is complemented by the support provided by incorporation into a Managerial State. In such a case, the anticipation by activists of a credible board commitment to long-term value creation would induce activists to anticipate greater resistance against proposals to destagger the board. Conversely, the adoption of a staggered board in a relatively activist-friendly state such as Delaware would be less effective in deterring future activist interventions, as activists would rate destaggering proposals to be more likely to succeed within this legal environment.

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215. See Cremers & Sepe, supra note 9, at 101–03 (documenting that defensive measures that can be unilaterally adopted by the board tend to be associated with reduced firm value and hence seem more likely to be motivated by an entrenchment purpose than a commitment one); Ronald J. Gilson, Seeking Competitive Bids Versus Pure Passivity in Tender Offer Defense, 35 STAN. L. REV. 51, 51 (1982) (suggesting that defensive tactics which require shareholder approval, such as staggered boards, may represent an efficient commitment from shareholders to managers and boards not to dismiss these agents prematurely, but nothing that tactics that do not require board approval may inefficiently reduce shareholder value).
In order to test this further conjecture, in Table 4 below we show results from using a logit model to estimate the likelihood that a firm with a staggered board might become a hedge fund’s target next year conditional on the firm being incorporated in (i) Delaware (DE in Column (1)), (ii) a state other than Delaware (not DE in Column (2)), (iii) a Managerial State (MS in Column (3)), and (iv) a state other than a Managerial State (Not MS in Column (4)).

**TABLE 4: PROBABILITY OF BECOMING A HEDGE FUND TARGET: STAGGERED BOARDS AND STATE OF INCORPORATION**

This table presents the marginal effects estimates from logit regressions of the ex-ante probability of becoming a hedge fund target next year on an indicator variable for whether the firm has a staggered board with firm-level controls as of the end of this year. The sample consists of the intersection of the full sample in Table 1 with the firms for which we have information on their board structure and whether they have a poison pill. Each column considers a different sub-sample: DE considers only firms incorporated in Delaware, Not DE considers all firms not incorporated in Delaware, MS considers only firms incorporated in a group of Managerial States, and Not MS considers all firms not incorporated in the group of Managerial States. In the table, \( t \)-statistics appear between parentheses and are based on robust standard errors clustered by firm. Below the \( t \)-statistics of the indicator variables for the state of incorporation, the percentage indicates the economic significance of the marginal change in the ex-ante probability of becoming a hedge fund target next year, arising from a change of 0 to 1 for the staggered board indicator variable, as a percentage of the unconditional probability in the sample used, which is 2.1%. We control for the firm’s Tobin’s Q as well as the standard controls \( \ln \)Size, Leverage, CAPEX, R&D, Intangibility and ROA. Coefficients on standard controls are not shown in order to save space. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% (two-tail) test levels by ***, **, and * respectively.

<table>
<thead>
<tr>
<th>Firms incorporated in:</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<tbody>
<tr>
<td>Uncond. Prob. of becoming target next year:</td>
<td>1.99%</td>
<td>2.10%</td>
<td>2.16%</td>
<td>2.07%</td>
</tr>
<tr>
<td>Staggered Board</td>
<td>-0.14%</td>
<td>-0.91%***</td>
<td>-1.43%***</td>
<td>-0.13%</td>
</tr>
<tr>
<td>Tobin’s Q</td>
<td>-0.82%***</td>
<td>-1.51%***</td>
<td>-1.54%***</td>
<td>-0.99%***</td>
</tr>
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</table>

- \( \ln \)Size, Leverage, CAPEX, R&D, Intangibility and ROA. Coefficients on standard controls are not shown in order to save space. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% (two-tail) test levels by ***, **, and * respectively.
Consistent with our conjecture, Table 4 shows that the deterrent effect of staggered boards on hedge fund activism is entirely driven by a firm’s incorporation into a Managerial State—or, more generally, a state other than Delaware. As shown in Column (1), the adoption of a staggered board in a firm incorporated into Delaware has no statistically significant association with the likelihood of a future hedge fund intervention. This is consistent with our hypothesis that hedge fund activists anticipate a staggered board to be less of an impediment in Delaware, as destaggering proposals would have better chances under Delaware’s relative activist-friendly legal environment.

Conversely, incorporation in a state other than Delaware, as shown in Column (2), is associated with a considerable increase in the anti-activism force of a staggered board, with the related effect being both statically and economically significant. Specifically, a firm with a staggered board in place and incorporated in a state other than Delaware has a 43% lower probability of becoming a hedge fund target next year relative to a 2.1% unconditional probability in our sample of firms not incorporated into Delaware.

The most significant result, though, is that of Column (3), which documents that a firm with a staggered board in place and incorporated into a Managerial State has a 66% lower probability of becoming a hedge fund target next year relative to a 2.16% unconditional probability in our sample of firms incorporated in a Managerial State. This is consistent with our hypothesis that hedge fund activists anticipate a staggered board to be a major impediment in a Managerial State, as boards of firms that incorporated into a state with a managerial-friendly legislation can be expected to be more likely to oppose a destaggering proposal. Finally, this result is also confirmed by the evidence in Column 4, which shows that the effect of having a staggered board for firms that are not incorporated into a Managerial State is insignificant.

V. POLICY CONSIDERATIONS

As highlighted in the Introduction, the debate over the effects of hedge fund activism stand at the center of the broader, and fundamental, corporate law debate over the optimal allocation of power between boards and shareholders. Based on the evidence that hedge fund activism is
followed by long-term benefits to targeted firms, Bebchuk, Brav and Jiang argued that legal rules and governance arrangements should promote stronger shareholder rights and thereby facilitate activist interventions. 216 The combined empirical evidence documented by the CGSW study and this work, however, suggests differently.

This evidence shows that it is essential to incorporate selection effects of hedge fund activism, which target primarily underperforming firms. Once one uses a comparative approach, activist hedge funds emerge as exacerbating the limited commitment problem, without seemingly compensating for this effect through increased managerial accountability, thus resulting in negative implications for sustainable firm growth. Contrary to the arguments of shareholder advocates, this evidence indicates that concerns about the detrimental long-term effects of hedge fund activism are warranted. It also suggests that policymakers and institutional investors would do well to reconsider the direction of corporate governance policies and practices, specifically towards recommendations that help constrain the short-term distortions arguably produced by hedge fund activism.

To this end, in this Part, we explore two possible paths for reform. We first consider proposals that have been advanced to “fix the activists”—i.e., to induce hedge funds to internalize the long-term consequences of the changes they seek in a firm’s corporate governance and investment policy. Our concern with these proposals is mainly of a pragmatic nature, since it is unclear whether their implementation would be feasible in the current political environment. We next argue that a more practical route to redress current inefficiencies would involve re-empowering U.S. corporate boards. Board power and shareholder power are balancing vessels, as increasing one necessarily means reducing the other. In recent years, the gains made by shareholders in general, and activists in particular, have increasingly eroded board authority over the corporation. Hence, recalibrating the balance of power to restore the authority boards of directors have historically held in U.S. corporate law would help “fix” both targets and activists, while offering the advantage of involving less drastic, and hence more feasible, changes. In particular, as we discuss below, our empirical findings indicate that a straightforward—and relatively parsimonious—way to re-empower U.S. corporate boards would be to restore their ability to use defensive measures such as staggered boards to effectively secure a firm’s commitment to long-term value creation.

216. See Bebchuk et al., supra note 4, at 1091, 1148, 1155.
A. Fixing the Activists

Among the various reform proposals advanced in recent years to address the short-term distortions engendered by activist hedge funds, there are proposals to amend the tax treatment of long-term capital gains, introduce voting rights limitations, and expand SEC disclosure requirements have occupied the center-stage.

Recommendations for the adoption of tax strategies designed to modify the current treatment of reduced tax rates for long-term capital gains have come from academics, international think-tanks, market participants, and even political circles. These recommendations share the common view that amending the tax code to require longer-term holdings to benefit from reduced long-term tax rates for capital gains would introduce a beneficial form of Pigouvian taxation, deterring “hit-and-run” activists. To the point, in a post on the Harvard Law School Forum on Corporate Governance and Financial Regulation published in February 2014, Carl Icahn dismissed the accusation that activists seek speedy profits, because they “do not enjoy paying short-term capital gains tax rates.”

What he did not tell, however, is that under current tax laws a one-year investment is already considered a long-term investment. Icahn also omitted to specify that the current average holding period for activist hedge funds is less than a year.

Thus, a regressive tax regime for the allocation of long-term capital-gains benefits could be desirable to moderate the current pressure exerted by activists for short-term changes and sudden corporate governance

219. See Andrew Ross Sorkin, BlackRock’s Chief, Laurence Fink, Urges Other C.E.O.s to Stop Being So Nice to Investors, N.Y. TIMES: DEALBOOK (Apr. 13, 2015), http://www.nytimes.com/2015/04/14/business/dealbook/blackrocks-chief-laurence-fink-urges-other-ceos-to-stop-being-so-nice-to-investors.html?_r=0 (reporting content of an April 2015 letter by Larry Fink, the CEO of Blackrock, the largest asset manager worldwide, to the CEOs of five hundred of the nation’s largest companies, in which Fink proposed to reform the tax code to cut subsidies for short-term investments and suggested that an investment should only qualify as long-term if it lasts for a minimum period of three years).
220. See Andrew Ross Sorkin, Clinton Aim Is to Thwart Quick Buck on Wall St., N.Y. TIMES, July 28, 2015, at B1.
223. Brav et al., supra note 75, at 204 tbl.4.2, panel C.
transitions. Nevertheless, we are unsure that a reform of the tax code would be politically feasible, at least not any time soon.\textsuperscript{224} An additional proposal that has gained traction in academic circles considers the possibility of introducing corporate governance arrangements that would calibrate shareholders’ voting rights proportionally to the length of ownership. Under this proposal, shareholders who keep shares for longer periods would benefit from increased voting power and, correspondingly, shareholders holding shares for shorter periods would be penalized by less voting power.\textsuperscript{225} Anchoring the exercise of shareholder governance to the length of a shareholder’s investment horizon, this proposal would prevent hedge funds from exploiting the corporate voting system as a lever to seek short-termist changes.

On the other hand, however, recommendations to modify voting rights arrangements seem to suffer from both feasibility issues and potential inefficiencies. First, as long as the proposed arrangements affect all shareholders, it is unclear how this reform would impact other fundamental business decisions such as the approval of a merger requiring a supermajority vote. Conversely, if these modifications were limited to only some categories of shareholders, establishing practical criteria to distinguish one category from the other would be problematic. Perhaps more importantly, limiting shareholders’ voting rights in the short term could have unwanted effects, as it would deprive shareholders committed to a long-term investment of the means needed to engage with the firm and advocate for implementing desirable changes and, therefore, could deter the pursuit of optimal investments.

Proposals for early Schedule 13D disclosure requirements—\textsuperscript{226} and, more generally, to tighten existing disclosure requirements for activist investors—\textsuperscript{227} seem easier to implement and would be desirable to both

\textsuperscript{224} See Coffee & Palia, supra note 29, at 595.


\textsuperscript{227} See, e.g., Strine, supra note 157, at 499 (theorizing about the adoption of a system where “[t]here was complete, up-to-date information about the economic interests of stockholders who have
promote greater transparency among investors and eliminate the incentives for potentially abusive tactics allowed by the current ten-day reporting window. In response to this proposal, shareholder advocates have argued that tightening existing disclosure requirements would lead to a reduction in activist engagements. They further argue that “[w]hether such a reduction would be detrimental or beneficial depends, in turn, on the validity of the myopic-activists claim,” that is, on whether hedge fund activism is associated with decreased or increased firm value in the long term.

We agree that this may be the right way of framing the issue, although it is not clear to us why a shorter reporting window would deter activists committed to interventions that create long-term value. Since the market is unlikely to anticipate the full value of those interventions, a shorter reporting window should not have a substantial impact on long-term hedge fund campaigns. Conversely, such a change would matter for arbitrageurs who speculate on short-term price differences connected to an activist intervention. In any event, we disagree that the empirical evidence supports the shareholder advocates’ conclusion that “hedge fund activism is associated with beneficial long-term consequences.” As the combined results of the CGSW study and this work document, hedge fund activism seems associated with negative long-term effects on targeted firms when it is examined through an appropriate matching methodology. Thus, while the Securities and Exchange Commission (SEC) currently seems to have taken a step back from earlier plans to reexamine disclosure requirements, these results should inform any future examination of the subject by the Commission.

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228. Section 13(d) of Regulation 13D of the Securities and Exchange Act of 1934 does not require filing the disclosure requirement triggered by the acquisition of beneficial ownership of more than 5% of a company’s shares until ten days after the acquisition of this ownership interest. See 17 C.F.R. § 240.13d-1(a) (2012).

229. See Lucian A. Bebchuk & Robert J. Jackson, Jr., The Law and Economics of Blockholder Disclosure, 2 HARV. BUS. L. REV. 39, 47–51 (2012); see also Joshua Gallu, Secret Corporate Raids to Become Harder Under SEC Rule Revision, CORP. COUNS. Mar. 7, 2011, at 2, 2 (quoting William Ackman as saying that closing the ten-day window would decrease the number of activist investors).

230. See Bebchuk et al., supra note 4, at 1153.

231. Id.

B. Fixing the Target

While a broad range of policy measures have been proposed with the intent of “fixing the activists,” surprisingly few proposals have considered the possibility of intervening on the target’s side by re-empowering boards. This lack of proposals favoring enhanced board authority seems largely a product of the view that doing so might compromise the potential beneficial effects of activism as a disciplinary device—a view held even among those who accept that such effects bear their own costs. 233 Our empirical findings, however, suggest that this is an overrated concern. Hedge fund activism does not seem to bring about more managerial accountability and, in any event, its negative effects on the shareholders’ limited commitment problem—and hence the risk of short-termism—emerge as largely dominant. Viewed through this lens, reforms designed to re-empower boards with the necessary authority to resist activist hedge fund interventions should not be regarded as limiting the rights of shareholders as a collective, but rather as enabling the efficient exercise of those rights towards long-term, rather than short-term, value creation. 234

The diminished ability of boards of directors to use defensive measures effectively to gain protection from short-termist tactics provides the clearest manifestation of the current trend toward the erosion of board power in favor of shareholders in general and activists in particular. Contrary to the shareholder advocates’ view that holds these defenses as highly effective to protect incumbents, both staggered boards and poison pills no longer seem to be as effective in practice. 235 As a result, these defenses are no longer sufficient to credibly secure a board’s commitment to long-term value creation.

The issue presents itself most vividly for the staggered board. Given the activists’ preference for, and ability to successfully exploit, the proxy contest system, the staggered board would seem to be the most effective defense to counteract activist hedge fund campaigns, as the primary effect of a staggered board is to delay an activist’s ability to secure voting control through a proxy fight. In principle, this delay effect should help

233. See William W. Bratton & Michael L. Wachter, The Eclipse of the Shareholder Paradigm 69 (Jan. 15, 2015) (unpublished manuscript) (on file with authors) (recognizing the cost of shareholder empowerment, but defending activist hedge fund interventions as “a sort of test that enriches the market’s base of information”); Coffee & Palia, supra note 29, at 85 (suggesting that the solutions to the distortions induced by hedge fund activism need to avoid insulating managers).
235. See supra text accompanying notes 172–77, 205–08.
deter “hit-and-run” activists, by forcing activists to stick with a corporation for at least two-election cycles before gaining board control, hence committing the activist to a longer-term investment. Today, however, as indicated by our results, the defensive value of the staggered board to discourage activist campaigns seems considerably reduced—at least for the large majority of U.S. corporations incorporated in Delaware.

In response to this state of affairs, we argue that restoring the commitment value of staggered boards, and other defensive mechanisms, towards long-term value creation is a necessary first step to re-empower U.S. boards. Pragmatically, this requires measures that can secure the effectiveness of the staggered board as a means to grant directors protection from the threat of short-term removal. As an implementation matter, what forms these measures should take is likely to depend on whether heavyweight players such as institutional investors will side with activist investors, as they have frequently done in the past, or take steps to support a corporation’s boards and management, as recent signs suggest they might do.

In the first case, as two of us have argued elsewhere, a legal response designed to turn the staggered board into a quasi-mandatory provision would be desirable in order to prevent activists from being able to coerce board approval to destagger or otherwise circumvent the staggered board’s delay effect. In brief, under this proposal, the board should have exclusive authority to initiate a charter amendment to opt out of a state-mandated staggered board default, while the shareholders’ right to present a destaggering proposal should be limited. This would substantially reduce the leverage that activist shareholders currently have against boards and, in turn, reduce the risk of coerced board approval to destagger. For added protection, and in order to ensure widespread shareholder agreement to board destaggering against unilateral activist pressure, the decision to remove a staggered board should also be subject to a charter-based two-thirds supermajority requirement.

236. See supra note 39 and accompanying text.
237. See infra notes 238–39.
238. See Cremers & Sepe, supra note 9, at 75, 138–39. A quasi-mandatory rule would provide for a “sticky default” to block the “more socially problematic opt-outs,” that is, proposals for destaggering initiated by the shareholders while coercing board approval. Conversely, it would not block the “less socially problematic opt-outs,” which include destaggering proposals initiated by the board itself and approved by a large majority of shareholders. See id. at 138; see also Ian Ayres, Regulating Opt-Out: An Economic Theory of Altering Rules, 121 YALE L.J. 2032, 2086–87 (2012) (introducing the concept of sticky default).
239. See Cremers & Sepe, supra note 9, at 139.
240. See id.
A less radical private-ordering response, however, could suffice if institutional investors decided to turn the tide back on hedge fund activism. Breaking old patterns, institutional investors have recently gone on the record to voice short-termist concerns about activist hedge fund interventions and, more importantly, voted against activist proposals and in favor of incumbents. Focusing on these developments, some commentators have begun to refer to 2015 as an “inflection year,” suggesting that a more balanced corporate governance paradigm might already be emerging. If this prediction proves accurate, a primary beneficial effect we could expect to witness is a decrease in (or an end to) the current destaggering trend. Indeed, as the support of institutional investors for hedge fund activism has often significantly contributed to the hedge funds’ ability to successfully carry out their interventions, the withdrawal of this support would weaken the funds’ bargaining power vis-à-vis boards while strengthening the force of board defenses.

Hedge funds, however, have already developed activist tactics that rely less on the support of other institutional investors, such as the “wolf pack”—under which several hedge funds join forces acting loosely in parallel fashion, while carefully avoiding forming a “group” for purposes of federal securities laws. The advantage of this tactic is to allow hedge funds to circumvent triggering earlier disclosure obligations about their stake in the target and their future intentions, enabling the “wolf pack” to quietly accumulate substantially larger stakes in target companies and thereby gain correspondingly stronger bargaining power vis-à-vis incumbent boards. Hence, the proposal for measures that can strengthen the defensive force of staggered boards and other protecting...
mechanisms—such as, for example, a charter-based supermajority requirement for approval of destaggering—would remain beneficial even under a market adjustment that saw institutional investors increasingly siding with directors rather than activist hedge funds.

One possible concern with our recommendations is whether enhancing the force of current defensive measures would raise issues under any of the standards applied by Delaware courts to evaluate the legitimacy of such measures. In principle, it should not. The adoption of a staggered board, even combined with a supermajority voting requirement for its removal, does not by itself trigger the Unocal standards of draconian measures. A staggered board only reduces the number of candidates that will be elected at the annual shareholder meeting, weakening a hedge fund’s bargaining levers by hindering access to the board and the exercise of voting control. It neither contains coercive features that have an effect on how the votes themselves are cast nor makes the likelihood of success in a proxy contest “realistically unattainable.” The adoption of a staggered board also does not by itself trigger the Blasius standard, since it does not reduce the effectiveness of the shareholder vote. Similarly, while the adoption of a pill magnifies the importance of the delay effect induced by the adoption of a staggered board—as this combined defense delays the acquisition of both a control block and voting control—it does not by itself trigger the preclusivity standard, as established by the Delaware Supreme Court in 2010 in Versata Enterprises v. Selectica Inc.

In practice, however, it is conceivable that the specific circumstances of the case and the combination of defenses used by a target to fend off an activist attack may trigger any of the above standards. For example, the delay effect of a staggered board is substantially strengthened if the corporation has adopted a cumulative voting procedure for the election of directors. This procedure strengthens the delay effect by allowing shareholders to cast all of their votes for a single board nominee when the company has multiple openings on its board.

To offer a concrete illustration, consider the case where an activist is expected to control the majority of the votes (say two thirds) and the incumbent directors only the minority (say one third). Assume that the corporation has a staggered board of nine directors with three classes.

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245. See supra text accompanying notes 192–99.
246. See supra note 196.
247. See supra note 198.
Under a straight-voting system, the activist could get control of the board after two elections as she could appoint three directors at the first election and another three at the subsequent election. With cumulative voting, instead, the activist will need to wait until the third election cycle to get control of the board, as she will only be able to elect two directors at each annual election. If the board introduced cumulative voting upon learning of an activist attack, especially if in combination with a low threshold pill, we cannot exclude that the defense could be found to be preclusive or even to violate the Blasius standard.

In response, we argue that it would be desirable for Delaware courts to consider the type of insurgent that is involved in the transaction motivating the introduction of a defensive measure, and adopt more lenient standards to evaluate the board’s use of defensive measures when the threat comes from an activist hedge fund. Absent the ability to respond to an activist attack with potentially draconian measures, a board might well lack the means to fend off such an attack. This suggestion seems consistent with the approach adopted by Delaware courts in some recent cases involving activists with a reputation for only short-term interests in the companies they target, or an attack by a wolf pack, where the chancellors have held boards to a lower burden for establishing the reasonableness of defensive actions.249

CONCLUSION

This Article empirically examines whether hedge fund activism may have heterogeneous effects, i.e., produce beneficial long-term effects on the managerial moral hazard front that offset the negative long-term effects it bears for the shareholders’ limited commitment problem and the risk of short-termism. The evidence we document on the relationship existing between activist hedge fund interventions, on the one hand, and corporate risk-taking, executive compensation, and the adoption of defensive measures, on the other, is inconsistent with the hypothesis of heterogeneity in the effects of activism.

Contrary to what shareholder advocates assert, and in spite of the activists’ propaganda, the substantial private gains realized by hedge funds through activism do not seem to reflect a particular ability of these investors to activate management teams. Rather, hedge funds seem to

primarily focus on targets where they expect to find less board resistance to short-termist changes in corporate governance and business policy that typically accompany activists’ campaigns. Thus, hedge fund interventions result in increased risk-taking, but do not appear to change the structure of managerial incentives.

Further weakening the view that hedge funds bring about increased managerial accountability, the funds also seem indifferent to defensive measures that are more troubling from an entrenchment perspective, such as poison pills that boards can unilaterally adopt. Conversely, and consistent with the view that hedge funds primarily act to exploit the short-term information inefficiencies of financial markets, activist hedge fund campaigns are deterred by measures that delay their ability to command corporate changes and, hence, commit them to a longer-term investment. These measures include “effective” staggered boards, which this Article has shown presently means a staggered board that is combined with other devices that than can prevent “easy” ex-post destaggering by activists—such as the incorporation in states with more anti-takeover statutes and that are, thus, more managerial friendly.

Concerns about the detrimental long-term effects of hedge fund activism are thus warranted. Policymakers and institutional investors should give serious consideration to the introduction of measures designed to reduce the room of arbitrage for short-term activist interventions. Likewise, corporate law rules and common law courts should favorably consider defensive measures that enable boards to resist attacks by activists lacking long-term “skin in the game.”
APPENDIX TABLE A

Activist Hedge Fund Campaigns and Bankruptcy Risk

This table presents the coefficient estimates from pooled OLS regressions. The dependent variable is \(-Z\)-Score, a proxy for bankruptcy risk. The hedge fund data is from the updated dataset used in Brav et al. (2008) and covers the period 1995 to 2011. Firm-level data are from Compustat for the period 1995–2011. The sample includes firms targeted by hedge funds and control firms (identified using the Abadie-Imbens matching estimator described in the CGSW study). “t” is an indicator equal to one for the year in which a firm is targeted by a hedge fund, and zero for every other year before or after the targeting event year. This indicator is also equal to one for the matched control firm. “HF_Target \times t to t+3” is an indicator equal to one for firms targeted by a hedge fund in the year of the targeting event and in the three years thereafter, and zero for every year before or after year \(t+3\). “HF_Target \times t to t+3” is always equal to zero for the matched-control pairs (firms not targeted by a hedge fund). The other time dummies are defined similarly. We restrict the sample to non-financial firms. In the table, \(t\)-statistics appear in brackets and are based on robust standard errors clustered by firm. Standard controls include LnSize, Leverage, Capex, R&D and Intangibility. Coefficients on standard controls are not shown in order to save space. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% (two-tail) test levels by ***, **, and * respectively.
## Dep. Var.: –Z-Score

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<tr>
<td>( t-4 ) to ( t-1 )</td>
<td>0.330***</td>
<td>0.223**</td>
</tr>
<tr>
<td></td>
<td>(3.60)</td>
<td>(2.09)</td>
</tr>
<tr>
<td>( t ) to ( t+3 )</td>
<td>0.256**</td>
<td>0.133</td>
</tr>
<tr>
<td></td>
<td>(2.30)</td>
<td>(0.98)</td>
</tr>
<tr>
<td>Post ( t+3 )</td>
<td>-0.201</td>
<td>-0.266</td>
</tr>
<tr>
<td></td>
<td>(1.18)</td>
<td>(1.41)</td>
</tr>
<tr>
<td>HF__Target ( \times t-4 ) to ( t-1 )</td>
<td>0.0993</td>
<td>0.0375</td>
</tr>
<tr>
<td></td>
<td>(0.85)</td>
<td>(0.26)</td>
</tr>
<tr>
<td>HF__Target ( \times t ) to ( t+3 )</td>
<td>0.389***</td>
<td>0.257</td>
</tr>
<tr>
<td></td>
<td>(3.16)</td>
<td>(1.59)</td>
</tr>
<tr>
<td>HF__Target ( \times Post ) ( t+3 )</td>
<td>0.419**</td>
<td>0.277</td>
</tr>
<tr>
<td></td>
<td>(2.33)</td>
<td>(1.26)</td>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-digit SIC Industry-FE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm-FE</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Year-FE</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Other controls included</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Obs.</td>
<td>25,795</td>
<td>25,795</td>
</tr>
<tr>
<td>R-2</td>
<td>0.228</td>
<td>0.180</td>
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</table>
APPENDIX TABLE B

Activist Hedge Fund Campaigns and CEO Compensation

This table presents the coefficient estimates from pooled OLS regressions. The dependent variable in Column (1) is Log CEO Total Compensation, in Column (2) is the CEO Pay Slice, in Column (3) is the CEO Delta, and in Column (4) is CEO Vega. The hedge fund data is from the updated dataset used in Brav et al. (2008) and covers the period 1995 to 2011. Firm-level data are from Compustat for the period 1995–2011. The sample includes firms targeted by hedge funds and control firms (identified using the Abadie-Imbens matching estimator described in CGSW). “t” is an indicator equal to one for the year in which a firm is targeted by a hedge fund, and zero for every other year before or after the targeting event year. This indicator is also equal to one for the matched control firm. “HF_Target × t to t+3” is an indicator equal to one for firms targeted by a hedge fund in the year of the targeting event and in the three years thereafter, and zero for every year before or after year t+3. “HF_Target × t to t+3” is always equal to zero for the matched-control pairs (firms not targeted by a hedge fund). The other time dummies are defined similarly. We restrict the sample to non-financial firms. In the table, t-statistics appear in brackets and are based on robust standard errors clustered by firm. Standard controls include LnSize, Leverage, Capex, R&D and Intangibility. Coefficients on standard controls are not shown in order to save space. Statistical significance of the coefficients is indicated at the 1%, 5%, and 10% (two-tail) test levels by ***, **, and * respectively.
### Table 1: Regression Results

<table>
<thead>
<tr>
<th>Dep. Var.:</th>
<th>Log CEO Total Comp.</th>
<th>CEO Pay Slice</th>
<th>CEO Delta</th>
<th>CEO Vega</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>t-4 to t-1</td>
<td>0.00148</td>
<td>-0.00466</td>
<td>-0.140</td>
<td>-0.0456</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(-0.73)</td>
<td>(-0.54)</td>
<td>(-0.81)</td>
</tr>
<tr>
<td>t to t+3</td>
<td>-0.00404</td>
<td>-0.00808</td>
<td>-0.321</td>
<td>-0.127</td>
</tr>
<tr>
<td></td>
<td>(-0.11)</td>
<td>(-0.90)</td>
<td>(-0.80)</td>
<td>(-1.59)</td>
</tr>
<tr>
<td>Post t+3</td>
<td>0.00340</td>
<td>0.0182</td>
<td>-0.0337</td>
<td>-0.125</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(1.45)</td>
<td>(-0.06)</td>
<td>(-1.12)</td>
</tr>
<tr>
<td>HF_Target × t-4 to t-1</td>
<td>-0.0192</td>
<td>0.00882</td>
<td>-0.144</td>
<td>0.0487</td>
</tr>
<tr>
<td></td>
<td>(-0.47)</td>
<td>(1.02)</td>
<td>(-0.35)</td>
<td>(0.57)</td>
</tr>
<tr>
<td>HF_Target × t to t+3</td>
<td>-0.0204</td>
<td>0.00844</td>
<td>0.0868</td>
<td>0.00836</td>
</tr>
<tr>
<td></td>
<td>(-0.38)</td>
<td>(0.76)</td>
<td>(0.18)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>HF_Target × Post t+3</td>
<td>-0.0858</td>
<td>-0.00682</td>
<td>0.587</td>
<td>0.0706</td>
</tr>
<tr>
<td></td>
<td>(-1.37)</td>
<td>(-0.55)</td>
<td>(0.96)</td>
<td>(0.48)</td>
</tr>
<tr>
<td>Firm-FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Year-FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Other controls included</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Obs.</td>
<td>6,596</td>
<td>6,596</td>
<td>6,462</td>
<td>5,857</td>
</tr>
<tr>
<td>R-2</td>
<td>0.758</td>
<td>0.369</td>
<td>0.688</td>
<td>0.720</td>
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</table>