

The Rise of Anti-Activist Poison Pills

Finance Working Paper N° 869/2023

February 2025

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Abstract

We study contractual innovations in poison pills, focusing on low ownership thresholds and acting-in-concert provisions as defensive tactics against shareholder activism. Using unique data on hedge fund access to SEC filings to proxy for intervention threats, we find that firms facing such threats are more likely to adopt poison pills. Compared to other firms under activists' scrutiny, those adopting pills experience fewer 13D filings, lower CEO turnover, and are less likely to implement corporate policies commonly targeted by activists, such as reducing investment and increasing share buybacks. Our findings inform policies regulating defensive measures against activists' interventions.

Keywords: Poison pills, activism, hedge funds, market for corporate control, takeovers

JEL Classifications: G30, G34, K22

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The Rise of Anti-Activist Poison Pills*

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1 Introduction

Hedge fund activism emerged as a major force for managerial discipline during the 2000s (Brav et al., 2015). Activists typically leverage corporate democracy by acquiring relatively small but meaningful stakes in firms they view as undervalued or inefficiently managed. They advocate for governance changes, capital structure adjustments, and increased payouts (Brav et al., 2008; Boyson et al., 2017; Fos, 2017; Gantchev et al., 2019), often running proxy contests to appoint preferred board members and replace existing management (Brav et al., 2008).

However, it remains unclear how corporate boards and managers respond to the threat of hedge fund activism. While there is extensive literature on the defensive tactics used in response to potential takeovers, relatively little research explores strategic responses to hedge fund activism, potentially due to two key challenges.

First, hedge fund threats are often not directly observable. Hedge funds are required to disclose their holdings through a Schedule 13D only when they exceed the 5% ownership threshold. However, it is likely that the threat of an intervention begins earlier, through covert stock accumulations or private communications with management (Gantchev, 2013; Eldar and Wittry, 2021; Kirmse, 2024). Consequently, researchers focusing solely on public campaigns initiated after 13D filings may overlook the full range of hedge fund threats.¹

Second, the set of defensive tactics that could be effective against activists is not well-understood.² That is, firms have many anti-takeover defenses at their disposal, but most are not applicable to hedge funds. For example, classified boards can make it difficult for challengers to obtain a board majority, but hedge funds rarely seek to appoint a majority of the board (Gow et al., 2024). Advance notice bylaws can be directed against hedge funds, but are unlikely to significantly deter activists, as they simply require shareholders to provide advance notice of a potential contest or shareholder proposals (Nathan, 2013).

Anecdotal evidence suggests that *poison pills*, widely regarded as the most powerful anti-takeover defense (Coates, 2000), have increasingly been used to deter activist hedge funds

¹For example, Boyson and Pichler (2019) provide evidence from the early 2000s that firms adjust corporate governance structures, including poison pills, following public activist campaigns.

²For detailed legal and institutional analysis of anti-activist devices, see Internet Appendix Section IA.A.

from acquiring significant stakes (Kahan and Rock, 2019; Eldar and Wittry, 2021). Notable examples include Avis and J.C. Penney, which adopted poison pills to limit hedge fund ownership and influence (Lattman, 2013; Benoit, 2017). These pills feature low ownership thresholds that trigger rights for other shareholders to purchase shares at a discount. Additionally, contractual innovations can further limit ownership. For example, acting-in-concert provisions aggregate stakes across investors, effectively lowering ownership thresholds for individual funds that act together as wolf packs (Brav et al., 2022), and synthetic equity provisions treat derivatives as equity, limiting the ability of hedge funds to enter into swap transactions based on the value of the target.

Our paper is the first to provide systematic evidence on the use and effectiveness of poison pills as defensive tactics against activist threats. First, we document the evolution of the contractual features of poison pills designed to deter activists. Second, we exploit a novel proxy for potential activist interventions based on hedge fund access of firm public filings to link poison pill adoptions to hedge fund threats, even in the absence of a 13D. Specifically, hedge fund clicks on these public filings are associated with a significant increase in the likelihood of pill adoption in the following quarter. Third, we provide evidence that anti-activist poison pills have significant effects as a defensive tactic against activism. After adopting anti-activist pills, firms are less likely to face public campaigns, experience CEO turnover, or implement policies commonly advocated by activists, such as increased payouts or reduced investments.

We construct a novel database of hand-coded provisions of all poison pill adoptions during the 2003-2017 period.³ Unlike prior studies that treat poison pills as homogeneous, we document the unique design features of each pill using firms’ public disclosure documents. To the best of our knowledge, this represents the most comprehensive and detailed historical database of poison pills assembled to date.⁴

We find that the design features of poison pills have changed significantly over time (see Figure 1). In particular, ownership triggers in the typical plan have decreased dramatically.

³We focus on 2003-2017 because our measure of hedge fund activism is based on SEC log file data that available only for this period. Additionally, this period marks the proliferation of hedge fund activism.

⁴For comparison, Thomson Reuters’ SDC Platinum and FactSet’s Shark Repellent databases include some provisions but lack coverage of key features and can contain coding errors (Karthauss et al., 2021).

In fact, in the most recent period, over 40 percent of pills are net operating loss (“NOL”) pills with trigger thresholds of only 5 percent. Although the legal justification for this threshold is based on tax considerations, such a threshold can substantially limit activists’ engagement.⁵ Furthermore, the use of acting-in-concert and synthetic equity provisions has surged by over 200% since the 2003–2007 period. Notably, these provisions have become common even in low-trigger pills, further constraining hedge fund interventions.

The proliferation of pills with low trigger thresholds underscores their growing strategic importance. In the latter part of our sample, the number of pills with trigger thresholds of 10% ownership or less has rivaled or even exceeded the number of hostile hedge fund interventions (see Figure 2). While institutional proxy advisors have pressured firms to reduce pill adoptions and shorten their duration, such that fewer firms maintain active pills (e.g., see Renjie and Xia, 2024), poison pills remain significant for three reasons. First, the number of anti-activist pills has actually *increased* through time. Second, sheer numbers do not capture the salience of poison pills. In fact, anecdotal evidence from Thomson Reuters’ SDC Platinum Issuances database suggests that the number of pills in the late 2010s exceeded those recorded during the 1990s takeover wave, a period when there was little disagreement about the importance of poison pills. Third, a pill’s true impact lies in the board’s ability to adopt short-duration pills specifically targeting activists on short notice, without shareholder approval. Thus, hedge funds operate under the constant threat of pill adoptions, even if no active pill is currently in place.⁶

We also find that firms adopting pills with strong anti-activist provisions tend to be larger than the average public firm in our sample (see Figure 3B), consistent with the gradual increase in hedge funds’ ownership stakes in large firms, averaging almost 10% (see Section IA.B.2 of Internet Appendix). Thus, poison pills are not merely a defensive tool for small firms, where it may be easier to acquire a substantial stake, but are increasingly used by larger firms to deter activist challenges.

It is also important to emphasize that anti-activist pills face no major legal challenges

⁵For more details on the tax reasons for NOL pills, see Internet Appendix Section IA.A.1.

⁶In fact, this ability to quickly adopt pills, termed “shadow pills” or “pills on the shelf”, likely makes the explicit adoption of a pill an off-equilibrium event, similar to covenant violations, which occur with a similar frequency as pill adoptions (e.g., Griffin et al., 2024; Roberts, 2009; Chava and Roberts, 2008).

from proxy advisory firms and Delaware courts. The ISS and Delaware courts have largely condoned NOL pills that have a 5% trigger without rigorously questioning their tax purpose, as well as pills with 10% triggers and short durations, both of which are designed to deter activists. While board members may face higher dismissal risk if they adopt pills, particularly when there is no apparent threat, this risk is low when pills have short durations ([Johnson et al., 2024](#)). Moreover, the risk of dismissal is greater when the firm is undergoing hedge fund intervention and is subject to a proxy contest in which the hedge fund seeks to appoint its own board representatives (see Internet Appendix Table [IA.1](#)).

To formally explore the extent to which pills are directed against activism, we create a novel proxy for the threat of any hedge fund activist intervention, public or private. Specifically, following [Kirmse \(2024\)](#) and [Chen et al. \(2020\)](#), we exploit the SEC EDGAR log file data ([Gibbons et al., 2021](#)), which tracks all views of SEC public filings on the EDGAR website between 2003 and 2017. The log file data provides partially masked IP addresses for all website visitors, which we hand-match to activist hedge funds using the name lists from [Boyson et al. \(2022\)](#) and [Bebchuk et al. \(2015\)](#) and hedge fund IP addresses obtained from the American Registry of Internet Numbers (ARIN) Bulk WhoIs data file.

These data facilitate our measure of hedge fund interest: the number of SEC filing views by activist hedge funds, referred to as hedge fund “clicks” each quarter. The intuition behind this proxy rests on the idea that hedge funds conduct more thorough research (i.e., more clicks) on firms they plan to target, whether publicly via an open campaign or privately behind the scenes. The advantage of using hedge fund “clicks” is that it not only captures public campaigns, but also threats that are not otherwise observable to researchers.⁷ These threats include private communication between hedge funds and firm management ([Becht et al., 2009](#); [Gantchev, 2013](#); [Levit, 2019](#); [Kirmse, 2024](#)) and secret stock purchases in contemplation of a formal intervention ([Eldar and Wittry, 2021](#)). Even in the absence of direct engagement, as explained below, firms can become aware of a hedge fund threat through stock surveillance services, shareholder identification firms, information leakages ([Barbon](#)

⁷[Kirmse \(2024\)](#) shows that the number of hedge fund clicks is positively associated with public hedge fund interventions at those very firms (we also validate this in Table [8](#)). Moreover, [Kirmse \(2024\)](#) shows that hedge fund clicks are associated with subsequent governance changes, such as board and CEO turnover, even in the absence of a public campaign.

et al., 2019), and trading anomalies (Brav et al., 2021) that indicate unusual accumulation by hedge funds. Thus, by focusing only on pills that follow 13D filings or proxy contests (Boyson and Pichler, 2019), empirical research is likely to understate the prevalence of pills adopted in response to activist threats.

Our main finding is that poison pills are significantly more likely to be adopted following an increase in hedge fund clicks on firms’ filings. Figure 4 shows that the raw number of hedge fund clicks increase substantially in the quarter preceding the pill adoption and decrease quickly after implementation, dropping back to mean levels by the second quarter after adoption. In model specifications with firm and industry-by-quarter fixed effects, the effect is both statistically and economically meaningful, as a one-standard deviation increase in hedge fund clicks is associated with a 18 percent increase in pill likelihood in the following quarter.

We show that these findings are driven by pills that have design features that specifically target hedge funds. The results are especially strong when evaluating anti-activist poison pills, which we define as NOL pills (5% triggers) or pills with a 10% trigger that have either an acting-in-concert or synthetic equity provision (Kahan and Rock, 2019). In particular, a one-standard deviation increase in hedge fund clicks is associated with a 66 percent increase in the likelihood of such a pill, relative to the unconditional sample mean. This result is striking because the justification companies provide for adopting pills is to protect the company from the risk of “creeping control,”⁸ or to protect tax assets from acquisitions that may limit the company’s ability to use NOLs to offset future taxable income.⁹ In contrast, and consistent with our findings, lawyers have argued that firms use NOL pills to curb hedge fund activism (Gottfried and Donahue, 2018).

We take several steps to address the concern that our results are driven by omitted variables and selection bias. First, we conduct several placebo tests. Specifically, we show that hedge fund clicks are not associated with *non*-activist poison pills, such as pills with high ownership threshold triggers. Moreover, these clicks are not associated with routine

⁸See, for example, the press release of Avis when it adopted a poison pill in 2017, available at <https://www.sec.gov/Archives/edgar/data/723612/000119312517015325/d335616dex991.htm>.

⁹See, for example, the press release of JC Penney when it adopted a poison pill in 2014, available at <https://www.sec.gov/Archives/edgar/data/1166126/000116612614000005/jcpnewsrelease.htm>.

renewals of pills, but only with new pills adopted in response to novel threats. Conversely, total clicks, clicks by non-activist hedge funds, and clicks on competitors of the target are not significantly related to pill adoptions.

Second, we exploit plausibly exogenous variations in the likelihood that pill adoption is driven by hedge fund activism rather than latent takeover threats, and find that anti-activist pills—but not other types of pills—are more frequently adopted in periods when hedge fund activism tends to be more salient and takeover threats less likely. Finally, we provide evidence that the results are unlikely to be driven solely by firms responding to potential takeovers. This is an important consideration because a common hedge fund strategy is to push for a sale of the target company (Brav et al., 2008; Boyson et al., 2017; Corum and Levit, 2019). In particular, the results hold when we exclude takeover bids and rumors, and are not driven by hedge funds that typically target firms for sale.

Next, we show that anti-activist pills appear effective in curbing activists’ threats. Specifically, a firm is significantly less likely to be targeted in a 13D filing or a proxy contest by a hedge fund when it adopts a poison pill, relative to firms whose SEC filings were viewed by hedge funds at similar levels. This effect is stronger for pills that have low trigger thresholds, acting-in-concert, or synthetic equity provisions. Such anti-activist pill adoptions are associated with a 57% decrease in the likelihood of public campaign relative to firms with similar activist attention but no pill. No such economic or statistical relationship exists for non-activist pills. Thus, the effectiveness of pills in deterring activists is seemingly driven by contractual innovations in pill characteristics.

As defensive tactics are typically meant to protect incumbent managers (e.g., see DeAngelo and Rice, 1983), we also analyze the role of poison pills in CEO dismissals, which occur more frequently following activist interventions (e.g., see Brav et al., 2008). We find that firms adopting anti-activist pills, particularly NOL pills, after an increase in hedge fund views of their public filings experience a significantly lower rate of CEO turnover compared to other likely targets. In contrast, firms that adopt non-activist pills are actually associated with a greater risk of CEO turnover than other likely targets. Accordingly, our evidence suggests that CEOs are likely able to defend their own position by adopting a pill that targets activists.

Finally, we also examine other financial outcomes typically associated with hedge fund activism. In particular, studies have shown that public interventions are associated with changes to corporate policies, including increased payouts and reduced investments (Fos, 2017; Gantchev and Jotikasthira, 2018; Maffett et al., 2022). In a direct comparison between firms that adopt anti-activist pills (and experience no activist campaign) and firms that undergo a hedge fund intervention (without a poison pill), we find that firms with anti-activist pills have lower payout and higher investment levels relative to hedge fund targets, suggesting that pills have real effects on corporate policies.

Though we show evidence that anti-activist pills are consequential, we do not claim that they entirely prevent activism. A small equity stake may be sufficient for a hedge fund to launch a public campaign, particularly in very large firms. However, hedge funds in public campaigns typically hold substantial stakes—nearly 10% on average—including in the largest tercile of firms in our sample (see Appendix Table IA.B.1).¹⁰ These stakes, which have significant economic impact, particularly in large firms, help justify costly interventions, especially proxy contests (Kahan and Rock, 2019).¹¹ Accordingly, pills with low triggers and acting-in-concert provisions—now common even in 10% and 5% trigger pills (see Figure 1D)—are likely to constrain hedge fund ownership. Consistent with this, our results are driven by large firms rather than smaller ones (see Internet Appendix Table IA.2). Thus, anti-activist pills may be necessary for boards seeking to forestall hostile interventions.

Taken all together, the evidence suggests that poison pills have become a powerful tool for curbing activism. By demonstrating that pills are primarily designed to deter activists’ stock acquisitions, we introduce a new dimension to understanding how corporations respond to shareholders’ efforts to monitor managers and intervene in managerial decision-making. Our analysis enhances the understanding of the interaction and negotiation dynamics between management and hedge funds. This understanding is essential for evaluating whether the balance of power between managers and hedge funds is optimal and assessing whether managers should have the power to limit activists’ ability to influence corporate decisions.

¹⁰According to Bebchuk et al. (2013), the 75th percentile ownership stake held by hedge funds when they file a 13D is 22 percent. For example Carl Icahn acquired a 14.3% stake in Hertz in 2015 (Gensler, 2015).

¹¹Activists with higher ownership stakes are also more likely to reach a settlement with the target board (Bebchuk et al., 2020).

Our findings contribute to ongoing debates about policies regulating boards’ ability to adopt pills against activists (Goshen and Steel, 2022; Gordon, 2022). In particular, courts and policymakers assessing the validity of poison pills, as well as proxy advisory firms making recommendations on shareholder votes, should recognize their true primary function: restricting activists’ ability to influence corporate policy. Corporations that adopt anti-activist poison pills justify them as measures to protect against a change in control or to safeguard the firm’s NOL tax assets. While adopting pills explicitly to block activists from exercising their voting rights in proxy contests is not permissible, corporations have significant leeway within the current legal framework to limit activist influence through anti-activist pills.¹²

2 Literature Review

Our paper contributes to three main strands of the literature. First, we add to the governance literature on the balance of power between managers and shareholders in corporate decision-making (Gompers et al., 2003; Bhagat et al., 2008). This literature primarily focuses on the market for corporate control. In response to challenges from corporate raiders, managers have developed various defensive tactics (Karpoff and Wittry, 2024), including dual-class structures (Aggarwal et al., 2022; Field and Lowry, 2022), staggered boards (Field and Lowry, 2022; Guernsey et al., 2024), and poison pills, which have historically served to forestall hostile takeovers.

However, in recent decades, hedge fund activists—who do not seek outright control but rather aim to influence corporate policy through their ability to launch proxy contests—have emerged as the primary disciplining mechanism for management. Our study documents how managers have responded to hedge fund activism by customizing poison pills with design features specifically targeting hedge funds. Our paper is closely related to Boyson and Pichler (2019), who examine how firms respond to public activist campaigns, and how different managerial responses (e.g., hostile or moderate) affect outcomes for both activists and firms. In contrast to hostile takeovers, where managers have ample time to adopt a pill, implementing a pill only after a hedge fund has already acquired a sizable stake and filed a

¹²For the legal treatment of pills, see Section IA.A.1 of the Internet Appendix

13D leaves management vulnerable to activists’ pressures and at high risk of losing a proxy fight. Our study examines a broader phenomenon in which firms adopt poison pills merely due to the *threat* of activist campaigns. We provide empirical evidence suggesting that these poison pills are effective in deterring activism. Thus, our research offers new insights into the evolving dynamics between managers and shareholders in corporate decision-making.

Second, our study is related to a large literature that assesses the impact of shareholder activism, primarily hedge funds, following the pioneering work by [Brav et al. \(2008\)](#). The vast majority of papers find a robust positive association between public interventions and a variety of outcomes at the firm level, including stock returns, operating performance, innovation, investment, payouts, and governance, including CEO and board turnover ([Brav et al., 2008](#); [Clifford, 2008](#); [Becht et al., 2009](#); [Greenwood and Schor, 2009](#); [Boyson and Mooradian, 2011](#); [Collin-Dufresne and Fos, 2015](#); [Bebchuk et al., 2015](#); [Brav et al., 2015](#); [Krishnan et al., 2016](#); [Fos, 2017](#); [Brav et al., 2018](#); [Gantchev et al., 2019](#); [Artiga González and Calluzzo, 2019](#); [DeHaan et al., 2019](#); [Gantchev et al., 2020](#); [Mihov, 2020](#); [von Lilienfeld-Toal and Schnitzler, 2020](#); [Francis et al., 2021](#); [Brav et al., 2021](#); [Boyson et al., 2022](#); [Albuquerque et al., 2022](#); [Maffett et al., 2022](#); [Gow et al., 2024](#)).¹³ Our study contributes to this literature by examining a channel through which managers can resist policies targeted by hedge funds by adopting defensive tactics that appear to reduce the likelihood of a successful activist intervention.

Finally, our article is tangentially related to the literature on the valuation effects of poison pills. On the one hand, many prior studies have reported negative relationships between pill adoptions and both short-term stock price reactions ([Malatesta and Walkling, 1988](#); [Ryngaert, 1988](#); [Comment and Schwert, 1995](#)) and Tobin’s q ([Gompers et al., 2003](#); [Bebchuk et al., 2009](#); [Cremers et al., 2016](#)). On the other hand, studies find positive associations between pill adoptions and operating performance ([Danielson and Karpoff, 2006](#)), the number of takeover bids ([Heron and Lie, 2015](#)), and takeover premiums ([Heron and Lie,](#)

¹³For a review of the empirical literature, see [Denes et al. \(2017\)](#). We note that [Coffee and Palia \(2015\)](#); [Greenwood and Schor \(2009\)](#); [Corum and Levit \(2019\)](#); [Boyson et al. \(2017\)](#); [Cremers et al. \(2020\)](#); [Baker \(2021\)](#) argue that much of the positive correlation between hedge fund activism and value improvements is driven by selection.

2006).¹⁴ This literature has largely focused on pills as an anti-takeover device rather than as an anti-activist measure. More recently, Eldar and Wittry (2021) have found that pills adopted to curb stock acquisitions by activists in the 2020 market crash were followed by a positive stock market reaction. Our paper focuses on the broader issue of the evolution of pills as a legal device that shapes the dynamics of bargaining power between incumbent management and hedge funds, and the potential impact of pills on corporate policies.

3 The Evolution of Pill Characteristics over Time

A major contribution of our paper is to build a comprehensive and novel dataset on poison pill adoptions over the period of 2003–2017 that includes detailed information about the different pill characteristics.¹⁵ Unlike most existing studies to date, we do not treat all pills the same, but rather identify pill features that target the threat of activist intervention as opposed to the threat of takeover. The preliminary data on pill adoptions are initially sourced from Thomson Reuters SDC Platinum Issuance Database. However, we manually review all the pill documents on SEC EDGAR, first to fill in missing information when pills are modified or renewed, and most importantly to code detailed information on the design features of poison pills, particularly terms that may relate to hedge fund activism, such as the acting-in-concert provision.¹⁶

These data facilitate an exploration of the evolution of poison pill characteristics, particularly anti-activist provisions, over time. We start with arguably the most important feature: the *trigger threshold*, which is the percentage of ownership that, when crossed by the acquiring person, entitles all other shareholders to buy additional shares of the company

¹⁴Evidence on the effect of statutes that protect poison pills from judicial review (Cremers et al., 2024; Karpoff and Malatesta, 1989; Karpoff and Wittry, 2018; Cain et al., 2017; Eldar and Magnolfi, 2020) is mixed.

¹⁵The full data goes through 2020 and includes firms that do not remain in the sample due to the procedures we describe in Section IA.B.1, including merging of financial data in CRSP/Compustat Merged, dropping financial firms and utilities, and conditioning on all the control variables used in the regressions. The patterns in the full sample, as shown in Figure IA.1 in the Internet Appendix, are qualitatively the same as those described in this section.

¹⁶In many instances, when a poison pill is renewed or modified, the adoption dates are updated to the date of the modification or renewals such that the actual adoption date of the pill is missing. In addition, in many cases (204 instances, or roughly 10%) SDC does not distinguish between pill adoptions and cases in which the board removes an existing poison pill (pill terminations).

at a discount. This provision is critically important because a high threshold (e.g., 20%) is unlikely to dissuade hedge funds, which often engage in activism with a much lower ownership percentage (e.g., see [Brav et al., 2008](#)). Importantly, we emphasize that pills with the lowest trigger thresholds are virtually always *NOL pills*—pills which are expressly designed to protect the net operating loss carryforward of the company. Such pills are largely condoned by ISS and Delaware courts, yet paradoxically, they are arguably the most restrictive with respect to hedge fund stock accumulations.

Figure 1A splits pills into four categories based on the trigger thresholds: (1) pills with a 5 percent threshold (essentially, NOL pills), (2) a 10 percent threshold, (3) a 15 to 20 percent threshold, and (4) a 20 percent threshold or above. Between 2003 and 2007, the vast majority of pills had a trigger of 15 percent or higher. Relative to this early period, the rates of NOL and 10 percent pills increased dramatically in later periods, such that more than 60 percent of pills had a 10 percent trigger or lower. The gradual decrease in trigger thresholds from an average of about 15 percent to 10 percent and the increase in the rate of NOL pills (e.g., see Figure 1B) demonstrate that pills have likely become much more restrictive for hedge funds that may seek to actively influence firm policy with relatively large ownership stakes.

There has also been an increase in the rates of both *acting-in-concert* provisions and *synthetic equity* provisions (see Figure 1B). Acting-in-concert provisions aggregate the ownership stakes of all acquirers that coordinate their purchases or are influenced by each other’s purchases when evaluating whether the pill is triggered. These provisions make it harder for hedge funds to form “wolf packs” with each firm holding a small number of shares ([Brav et al., 2022](#)). Synthetic equity provisions treat a synthetic interest—e.g., derivative positions in the company—as if it were equity ownership in the company’s stocks. To the extent that target firms have information on derivative transactions, these provisions prevent funds from increasing their economic stakes in the company without actually owning shares in it.

A more granular analysis suggests that the increases in the rates of acting-in-concert and synthetic equity provisions are present even in pills with lower trigger thresholds (e.g., see Figure 1C and In Figure 1D). In particular, the likelihood that pills with a 5 or a 10 percent trigger threshold include an acting-in-concert or synthetic equity provision in later

periods more than doubles compared to earlier periods.¹⁷ Strikingly, the rate of synthetic equity provisions in pills with a 10 percent trigger increased to a staggering 90 percent in the 2013–2017 period.

Finally, though not part of our empirical analysis, we document trends in other poison pill characteristics.¹⁸ Notably, poison pill durations have declined over time, averaging 6.5 years in 2003–2007 and 2.7 years in 2013–2017, likely due to proxy advisory firm pressure against long durations. This trend largely explains the overall decline in active poison pills. Despite shorter durations, anti-activist pills remain effective, as activist campaigns typically unfold quickly.

In summary, although this section only analyzes time-series trends, it provides compelling evidence that poison pills have gradually evolved to incorporate features that constrain hedge fund activism. These findings are consistent with the growing prominence of activist investors in monitoring corporate managers, which has likely influenced the evolution of pill characteristics over time.

4 Data and Descriptive Statistics

4.1 Activist Hedge Fund Click Data

Our dataset combines the poison pill data (described in Section 3) with activist hedge fund views of public disclosure documents on the SEC EDGAR website (“hedge fund clicks”), non-activist hedge fund views of public disclosure documents (“non-activist hedge fund clicks”) and year-quarter financial and industry data on public corporations. These activist hedge

¹⁷We emphasize that the pills in the main sample that have a 5 percent trigger are virtually always NOL pills, which are supposed to protect beneficial tax treatment from acquisitions that might frustrate it. The acting-in-concert and synthetic equity provisions capture transactions that do not affect the tax treatment of net operating losses. For an example of a NOL pill that includes such provisions, see www.sec.gov/Archives/edgar/data/0001177845/000118518516004927/0001185185-16-004927-index.htm

¹⁸Internet Appendix Figure IA.1 presents trends in the following characteristics: (a) the duration for which the plan remains active, (b) provisions requiring shareholder vote for approving or maintaining a pill, (c) chewable pills that are not triggered by qualified or permitted offers to acquire the company, and (d) provisions that discriminate against activist investors by applying higher trigger thresholds for institutional shareholders, grandfather provisions, and adverse person clauses.

funds consist of all 13D filers from 1994 to 2018 identified as hedge funds.¹⁹ Following [Kirmse \(2024\)](#), we classify non-activist hedge fund clicks by randomly sampling 600 funds labeled as “hedge funds” in Preqin and excluding 13D filers.

We obtain hedge fund click data from the SEC EDGAR log file website, which tracks all views of SEC public filings between 2003 and 2017.²⁰ The log files provide (partially masked) IP addresses for all website visitors, which we hand-match to activist hedge funds using the name lists from [Boyson et al. \(2022\)](#) and [Bebchuk et al. \(2015\)](#) and hedge fund IP addresses from the American Registry of Internet Numbers (ARIN) Bulk WhoIs data file. Our method for unmasking IP addresses follows [Chen et al. \(2020\)](#).

The combination of these data allows us to calculate the number of SEC filing views by 431 unique activist hedge funds, referred to as hedge fund “clicks,” each quarter between 2003 and 2017.²¹ A detailed description of the clicks data construction process is available in [Kirmse \(2024\)](#) and in Section [IA.B.1](#) of the Internet Appendix.

We use activist hedge fund clicks as a novel proxy for the mere threat of an intervention, which is typically unobservable unless a Schedule 13D is subsequently filed. It is important to note that these data were not available to the target firms in real time. However, there are several channels through which firms become aware of hedge fund threats. First, hedge fund threats could involve private communication between hedge funds and firm management ([Becht et al., 2009](#); [Gantchev, 2013](#); [Levit, 2019](#)). CFOs report that direct communication with hedge funds is the most common form of engagement their firms encounter ([Ruggeri, 2015](#)), and [Kirmse \(2024\)](#) estimates that they account for 26%-44% of all activist interventions. Second, threats may also include secret purchases of shares by multiple hedge funds to gain a sizable stake in contemplation of a formal intervention ([Eldar and Wittry, 2021](#)). Specialized firms offer stock surveillance and shareholder identification services (e.g., see Activist Insight and Innisfree M&A, Inc.), which may provide early alerts about hedge

¹⁹We thank Nicole Boyson for providing the data from her 2017 paper and to Wei Jiang and Alon Brav for providing the data used in their previous activism projects updated through 2018.

²⁰There is a lapse in the EDGAR log file data in late 2005 and early 2006. We drop 2005Q4 and 2006Q1 in our empirical results. Further, in unreported regressions, we ensure our results are robust to starting our sample in 2006Q2. For more information on the lapse in EDGAR log file coverage, see [Ryans \(2017\)](#), [Bauguess et al. \(2018\)](#), and [Gibbons et al. \(2021\)](#).

²¹Similarly, our measure for non-activist hedge fund clicks, used for placebo tests, is based on the views of 80 non-activist funds that we can match to IP address data from the ARIN Bulk WhoIs file.

fund stock accumulations. Likewise, anecdotal evidence suggests that connected individuals sometimes tip off the media or even the target itself (Chung, 2014).

More broadly, firms may be aware of general hedge fund interest even without actual knowledge of a specific threat. Abnormal spikes in trading volume (Brav et al., 2021) or information leakages from brokers employed by hedge funds (Barbon et al., 2019) may alert management to an impending intervention. Moreover, there is evidence that activism-related content in sell-side analyst reports (Chen and Shohfi, 2022) and decreases in option-implied volatility (Collin-Dufresne et al., 2021) are correlated with subsequent public activism events. Additionally, Chabakauri et al. (2022) find that corporate insiders can detect activism-motivated trades. Finally, institutional shareholders often have similar concerns and goals as activists, and may provide guidance to the firm simply by expressing their dissatisfaction (e.g., see Kedia et al., 2020). In line with this, Gantchev and Jotikasthira (2018) find that large institutional sales often precede hedge fund activism. Thus, firms are often aware of a general threat of activism, even when there is no direct communication with a specific fund.

In our context, this proxy offers an advantage over studies focusing on public events such as 13D filings, letters to the board, and proxy contests, which likely understate the prevalence of poison pills adopted in response to potential or private interventions (e.g., see Boyson and Pichler, 2019). Importantly, using activist hedge fund clicks to proxy for activism threats improves upon prior measures that were based on industry threats. While industry-level metrics (e.g., see Gantchev et al., 2019; Feng et al., 2021) reveal potential spillover effects of hedge fund activism, they may leave room for alternative interpretations, such as the adoption of pills driven by industry merger waves (Harford, 2005).²² Because our proxy varies across firms within an industry, our empirical design effectively rules out such concerns by incorporating industry-by-quarter fixed effects.

Ultimately, we merge SEC click data, as well as data on poison pill adoptions, to year-quarter financial data from the CRSP/Compustat Merged database. We exclude firms located or incorporated outside of the U.S., as well as firms in regulated utilities (SICs 4900-4949), closed-end funds (SIC 6726), REITs (SIC 6798), and firms with missing or zero total

²²Gantchev et al. (2019) also introduce within-industry variation by constructing a board-linked network of *threat* perception.

assets at the quarterly level. We drop firms that have no clicks in the SEC Edgar log files for the entire sample period. Lastly, we use merger and acquisition announcements from Thomson Reuters SDC Platinum, and hand-collected data on news of merger rumors surrounding the adoption of poison pills in our sample. In sum, our baseline results include 6,519 unique firms and 176,293 firm-year-quarter observations. Our sample period spans from 2003 through the third quarter of 2017, which corresponds to the full sample of the SEC EDGAR log files. All continuous variables are winsorized at the 1% and 99% levels, and all variables are defined in Table [A.1](#).

4.2 Descriptive Statistics

Table [1](#) reports summary statistics for a variety of financial and governance variables in our sample. The average number of clicks on firms’ SEC filings from any IP address in a given quarter is 1906, with a median of 972, while the average number of hedge fund clicks is 11 with a median of 2. The total number of poison pills in our sample is 1,013, with nearly 10% of firms adopting one during the sample period. Finally, Figure [3](#) presents the unconditional size distributions of firms in our sample, categorized by whether they adopted a poison pill. Panel A suggests that firms adopting poison pills are, on average, slightly smaller than the typical CRSP/Compustat firm. However, Panels B and C indicate that this trend is driven by non-activist pills (e.g., those with high triggers), while firms that adopt anti-activist poison pills are actually larger than the typical firm. This finding is inconsistent with the argument that only small firms adopt poison pills in response to hedge fund threats.

Table [2](#) examines whether the characteristics and provisions of pill adoptions are unconditionally correlated with hedge fund clicks in our sample. Because the distribution of hedge fund clicks is heavily skewed, we split firms that adopted pills into three groups based on the number of hedge fund clicks in the quarter preceding the pill: (1) firms with no hedge fund clicks, (2) firms that experienced some clicks below the 99th percentile of the number of hedge fund clicks per quarter, and (3) firms that experienced a large number of clicks, at the 99th or 100th percentile of clicks per firm-quarter.

The poison pills of the firms in each group display remarkably different characteristics. Pills adopted following a large number of clicks have a much lower trigger threshold on

average, about 10 percent as compared to about 14 percent for the other groups. Strikingly, over one-third of the pills associated with a large number of clicks are NOL pills, compared to about 20 percent and 8 percent in the groups of firms with some clicks and no clicks respectively. Moreover, the percentage of acting-in-concert provisions is nearly 39 percent, over 3 times the percentage in the other two groups. Thus, there appears to be a strong positive correlation between anti-activist provisions and hedge fund clicks.

As a final step in understanding the unconditional patterns in the data, Table 3 splits firm-year-quarter observations into two comparisons: (1) quarters where firms adopt anti-activist pills and those that do not (Panel A), and (2) quarters where firms are targeted by a hedge fund and those that are not (Panel B). Notably, consistent with our argument that poison pills serve as a strategic response to activism threats, the differences in both comparisons are similar. For example, firms in both Panel A and Panel B—those adopting poison pills and those targeted by hedge funds—tend to have higher leverage, larger net operating losses, lower operating performance and book-to-market ratios, smaller dividends, and larger boards than firms that experience neither.

5 Main Results

The time trends and summary statistics in previous sections suggest a strong relationship between the adoption of poison pills, especially those with anti-activist provisions, and the threat of a hedge fund intervention. We formally test this relationship through rigorous empirical analysis. As a first step, Figure 4 displays an event study of hedge fund clicks surrounding pill adoptions in our sample. In particular, we plot the average number of clicks in 90-day buckets before and after pill adoptions, such that period $t = 0$ represents clicks in the 90-day period following the adoption date. Hedge fund clicks spike in the 90-day period prior to adoption and remain stable through the period ending 90 days following it. In subsequent periods, the number of hedge fund clicks gradually reverts to baseline levels. This pattern holds even if a Schedule 13D is not filed, and is consistent with the hypothesis that poison pills are used as a strategic response to the mere threat of activism.

We test this hypothesis by employing the following empirical specification:

$$Pill\ Adoption_{i,t} = \beta HF\ Clicks_{i,t-1} + \gamma Total\ Clicks_{i,t-1} + \delta X_{i,t-1} + \eta_i + \mu_t + \varepsilon_{i,t}, \quad (1)$$

where $Pill\ Adoption_{i,t}$ is an indicator variable that equals one if a firm adopts a pill in year-quarter t , and the variable of interest $HF\ Clicks_{i,t-1}$ is the number of hedge fund clicks in (100s) on public disclosure documents of firm i in quarter $t - 1$. We also control for $Total\ Clicks_{i,t-1}$, which represents total number of clicks, excluding activist hedge fund clicks, in the previous quarter, to address the concern that hedge fund clicks simply reflect broader investor interest in the company. $X_{i,t-1}$ are various controls for standard financial and governance variables. We cluster standard errors at the firm level.

To further limit the possibility of omitted variables, we also include firm fixed effects (η_i) and industry-by-year-quarter fixed effects (μ_t). Firm fixed effects are important for ruling out time-invariant firm characteristics that may drive both hedge fund interest and pill adoptions (e.g., firms with high agency costs). Moreover, including industry-by-year-quarter fixed effects strengthens the identification against standard endogeneity arguments. For example, these fixed effects mitigate the concern that we are simply documenting industry-wide activism trends (e.g., [Gantchev et al., 2019](#)), which may be coincidentally related to industry-level M&A activity driving poison pills (e.g., [Harford, 2005](#)).

The results are displayed in Table 4. As shown in Column (1), hedge fund clicks are strongly related to pill adoptions in the subsequent quarter. The coefficient is statistically significant at the 1% level, and indicates that an additional 100 hedge fund clicks are associated with a 0.3 percentage point increase in the likelihood that a firm adopts a pill. Given that the unconditional probability of a poison pill adoption is 0.54% in our sample, the results are also economically significant. Put differently, a one-standard-deviation increase in hedge fund clicks (approximately 30 clicks) corresponds to an 18% increase in pill likelihood relative to the sample mean. In contrast to hedge fund clicks, the coefficient on total clicks, which proxies for general interest in the firm and captures firm-specific news, is not statistically significant.

Column (2) adds a variety of control variables meant to account for remaining time-

variant heterogeneity in pill adoptions. For example, we include the natural log of book assets to proxy for firm size. The control variables generally exhibit the expected sign or are statistically insignificant. For example, larger and poorly performing firms are significantly more likely to adopt poison pills in the following quarter. In Column (3), we add additional controls for the firm’s governance choices (e.g., board independence, CEO-chair duality). Importantly, the coefficient of interest on hedge fund clicks remains stable and statistically significant at the 1% level in both Columns (2) and (3).

Column (4) of Table 4 considers an alternative specification of our independent variable of interest. In particular, we use an indicator variable that equals one when the number of hedge fund clicks exceeds the 99th percentile of the distribution. Consistent with the idea that a very high number of clicks represents more intense research and likely targeting by activists, our results are particularly strong in Column (4). Specifically, firms with hedge fund clicks that exceed the 99th percentile are 30% more likely to adopt a pill in the following quarter, relative to the unconditional sample mean.

Next, we test of our conjecture that contractual innovations (e.g., lower triggers) in poison pills have been driven by the emergence of hedge fund activism as a key disciplining device in the market for corporate control. In particular, in Table 5, we focus on pills with provisions that are likely intended to target hedge funds: (1) pills with triggers of 10% or lower, (2) NOL pills (trigger of 5%), (3) acting-in-concert provisions, and (4) synthetic equity provisions. Column (5) examines all anti-activist pills, which we define as either (i) NOL pills or (ii) pills with a 10% trigger combined with an acting-in-concert or synthetic equity provision. We use the same set of control variables from Column (2) of Table 4 in all models.

Each column of Table 5 shows a positive and statistically significant relationship between activist hedge fund clicks and the adoption of poison pills with various anti-activist provisions. Moreover, the economic significance is substantial. For example, while significant at only the 10% level, the coefficient in Column (3) suggests that a one-standard-deviation increase in hedge fund clicks is associated with a 46% increase in the likelihood of an NOL pill in the following quarter, relative to the unconditional mean. A similar calculation suggests the associated increase in anti-activist pills in Column (5) is 56%.

Overall, we show a robust relationship between hedge fund interest and the adoption of

poison pills with anti-activist provisions, such as low trigger thresholds, acting-in-concert clauses, and synthetic equity provisions. Moreover, these results remain significant across various model specifications, reinforcing the idea that poison pills are a strategic response to the threat of hedge fund activism.

6 Omitted Variables and Selection Bias

A potential concern with our analysis in Section 5 is that the association between pill adoptions and hedge fund clicks is driven by omitted variables and selection. In this section, we undertake several placebo tests to address this concern, and introduce plausibly exogenous variation in the salience of hedge fund threats relative to hostile takeover threats.

Table 6 Panel A analyzes four distinct placebo tests. First, because underperforming firms are targets for both potential acquirers and activist hedge funds, these same firms may be more likely to adopt poison pills to ward off potential hostile takeover offers, rather than due to potential activist interventions. Such a confounding factor would suggest a similar relationship across pills with and without anti-activist provisions (e.g., low vs. high trigger thresholds), as both types make it impossible for a bidder to acquire a company without the board’s acquiescence (Coates, 2000). In Column (1), we evaluate the relationship between hedge fund clicks and the adoption of pills without activist provisions. The coefficient on hedge fund clicks for non-activist pills is small and statistically insignificant, suggesting that only anti-activist pills are directed against hedge funds.

Second, we exploit the timing of pill expiration dates, which range from one to ten years and are set in advance when the pill is adopted. Pills are often renewed upon expiration. If underperforming firms are more likely to adopt or maintain poison pills, and poor performance attracts hedge fund interest, we would expect routine renewals at expiration to be correlated with hedge fund clicks, just as we find in Table 4. Column (2) shows that the coefficient on hedge fund clicks for renewals is close to zero and not statistically significant.²³ These first two models suggest that pill adoptions are not merely a function of poor perfor-

²³We normalize the coefficients in Panel A of Table 6 by dividing each variable by its standard deviation to facilitate comparisons across independent variables.

mance correlated with hedge fund clicks, but rather arise directly in response to hedge fund interest.

Third, hedge funds closely monitor their portfolio holdings and often obtain private information about a firm. Such information may include takeover rumors, dissatisfaction among institutional investors, or other firm-specific developments, which could drive both hedge fund attention and pill adoptions. To test this, Column (3) adds clicks by non-activist hedge funds, which also track firm-specific news closely but do not actively engage with management and therefore do not pose a threat that would necessitate a poison pill to curb their influence. The coefficient on non-activist hedge fund clicks is close to zero and statistically insignificant.

Finally, there is a concern that industry-wide effects drive both pill adoptions and hedge fund interest, creating a spurious correlation between the two. For instance, firms may take preemptive actions when industry peers are targeted by hedge funds ([Gantchev et al., 2019](#)). More broadly, industry-wide agglomeration effects ([Harford, 2005](#)), particularly among close competitors, could also influence both hedge fund attention and the adoption of poison pills. To address this, Columns (4) through (6) incorporate activist hedge fund clicks on a firm’s closest one, three, or five TNIC competitors ([Hoberg and Phillips, 2016](#)). The coefficients on clicks by activist hedge funds on a firm’s competitors are close to zero and statistically insignificant.

Across all models, the coefficients on activist hedge fund clicks are stable and statistically significant at the 1% level. While no series of placebo tests can rule out all alternative explanations, Panel A provides assurance that the most salient selection and omitted variables concerns do not drive our main results.

Next, we introduce plausibly exogenous variation in the salience of hedge funds threats relative latent takeover threats. In particular, we exploit the procyclicality of the M&A market (e.g., see [Golbe and White, 1988](#); [Shleifer and Vishny, 1992](#)). Figure 5 plots the annual number of public acquisitions, the Federal Funds effective rate, and NBER recession periods from 1985 through 2020. The correlation between the Federal Funds rate and public acquisitions is 79%. However, while acquisitions typically decline during recessionary periods, there is little evidence that activist hedge funds behave in a similarly procyclical manner.

On the contrary, anecdotal evidence suggests that many hedge funds increase activity during market downturns aiming to acquire large stakes at discounted prices (e.g., see [Eldar and Wittry, 2021](#)).²⁴ Thus, it is reasonable to expect that managers react more defensively (e.g., by adopting anti-activist poison pills) to potential hedge fund interventions during recessions and periods of declining interest rates.

Panel B of Table 6 presents empirical tests of this conjecture. In particular, Columns (1) through (3) interact activist hedge fund clicks with an indicator that equals 1 during NBER recessions, and 0 otherwise, while Columns (4) through (6) interact hedge fund clicks with the fed funds effective rate. Additionally, Panel B separates the dependent variable (all pill adoptions) into those containing anti-activist provisions (Columns (2) and (4)) and those without activist provisions (Columns (3) and (6)). We argue that the interaction terms capture managements' strategic response to hedge fund threats when the salience of activism is high relative to the potential of hostile bids.

Consistent with our conjecture, poison pills are more likely to be adopted following high hedge fund interest during recessions, and when the Federal Funds effective rate is low. In line with earlier results, this holds only for poison pills that include anti-activist provisions. Furthermore, the interaction terms for non-activist poison pills have the opposite sign. Although the point estimates are insignificant, the differences between the interaction terms in the anti-activist and non-activist models are significant at least at the 10% level. In sum, Table 6 provides compelling evidence that high hedge fund interest in a firm is *driving* the defensive response in the form of anti-activist poison pills.

Lastly, we examine the possibility that the positive association we document between hedge fund threats and pill adoptions stems solely from the merger-driven activism phenomenon (e.g., see [Boyson et al., 2017](#); [Corum and Levit, 2019](#); [Burkart et al., 2024](#)). In other words, hedge funds commonly target firms that are attractive acquisition candidates and subsequently pursue a quick sale (e.g., see [Brav et al., 2015](#)). Thus, it is possible that targeted firms adopt poison pills not because of an impending hedge fund intervention, but rather because their takeover vulnerability initially led them to be targeted.

²⁴Additionally, the correlation between the Federal Funds rate and the number of public activism campaigns over the 1985–2020 period is -31% .

Table 7 presents results examining this explanation. As in earlier tables, the dependent variable is an indicator for a poison pill adoption in quarter t , and the independent variables of interest are hedge fund clicks by hedge funds that primarily follow a specific objective. We classify hedge funds by strategy based on the most frequent objective they pursue in activist interventions over time. These objectives were classified and shared by [Boyson et al. \(2022\)](#) and [Bebchuk et al. \(2015\)](#), and include pushing for a sale, general valuation improvements, capital structure changes, business strategy changes, and governance changes.

The results in Table 7 show that no single objective is strongly associated with pill adoptions. Column (1) includes only clicks by hedge funds that most often aim for a sale of their targets. Although the coefficient is positive and significant at the 10% level, it loses statistical significance when controlling for clicks by hedge funds that follow other strategies (see Column (2)). Column (3) examines the relationship between hedge fund clicks and pill adoptions across different types of strategies simultaneously. While segmenting hedge fund clicks in this way reduces statistical power, the coefficients on each strategy other than the business strategy objective are positive with p-values ranging from 0.09 to 0.17. Columns (4) and (5) further show that hedge fund clicks are associated with pill-adoption even when considering clicks by hedge funds that never push for a sale. Accordingly, Table 7 provides convincing evidence that the prevalence of activism-driven mergers is not the sole explanation for the relationship between hedge fund threats and poison pill adoptions.

7 The Impact of Poison Pills on Hedge Fund Interventions

This section examines how poison pill adoptions affect hedge funds' ability to launch interventions and influence corporate decision-making. Specifically, do anti-activist poison pill adoptions effectively deter activist interventions and do they limit the activist's ability to implement operational and governance changes? Just as the decision to respond to hedge fund interest with a poison pill is a strategic choice, so too is the activist's decision to escalate or disengage following a pill adoption. As these dynamics shape the observed outcomes, our

results capture the equilibrium outcomes of these interactions and thus provide suggestive evidence of the impact of poison pills on activism and corporate decision-making.

7.1 Public Activism Campaigns

Though we argue in Section 3 that the contractual terms of poison pills have evolved to specifically target activists, it remains unclear if pills, on average, impose hurdles significant enough to deter the typical hedge fund. For example, it is possible that despite the pill, hedge funds may still be able to pressure managers to accept their positions. In particular, the majority of pills have a trigger of 10 percent or higher, and hedge funds may be able to exert sufficient pressure even with a smaller ownership stake. On the other hand, the high costs of monitoring and contesting corporate boards may deter hedge funds if they cannot purchase a sizable stake that allows them to share meaningfully in the benefits of their efforts (Kahan and Rock, 2019).

Ultimately, the extent to which pills are an effective defensive tool remains an empirical question. To test this, we examine the impact of pills on the success of hedge fund interventions using updated data on hedge fund activists' interventions from Brav et al. (2018) and Boyson et al. (2022), and employ the following empirical model:

$$\begin{aligned} \text{Activism Target}_{i,t} = & \beta \text{HF Clicks}_{i,t-1,t-2} + \gamma \text{Pill Adoption}_{i,t-1} + \\ & \delta \text{HF Clicks}_{i,t-1,t-2} \times \text{Pill Adoption}_{i,t-1} + \lambda \text{Total Clicks}_{i,t-1} + \\ & \zeta X_{i,t-1} + \eta_i + \mu_t + \varepsilon_{i,t}, \end{aligned} \tag{2}$$

where $\text{Activism Target}_{i,t}$ is an indicator variable that equals one when a hedge fund files a Schedule 13D or announces a proxy fight in firm i in quarter t . A Schedule 13D filing indicates that a hedge fund has acquired more than 5% of the stock of the company, and announces its intention to influence its management. We control for hedge fund clicks in the two quarters prior to and poison pill adoptions in the quarter prior to the Schedule 13D filing or proxy fight announcement. We are interested in the interaction between these two variables, and interpret the coefficient as capturing the potential effect of poison pills adopted

in response to hedge fund interest in prior periods, relative to other firms under hedge fund scrutiny. As in previous Tables, we continue to use firm and industry-by-year-quarter fixed effects and the same set of controls from Column (2) in Table 4.

Table 8 reports the results. Consistent with Kirmse (2024), hedge fund clicks in quarters $t - 1$ and $t - 2$ are strongly related to a firm being targeted by a hedge fund (e.g., see Column (1)). On the other hand, pill adoption alone appears to correlate positively with the likelihood of an activist intervention, possibly because activists may target firms with governance structures they consider undesirable. In contrast, the interaction between poison pills and hedge fund clicks in Column (2) is negative and statistically significant at the 5% level. We interpret Column (2) as suggestive evidence that firms facing the threat of hedge fund intervention are less likely to experience a future Schedule 13D filing or proxy contest when they adopt a poison pill, relative to other firms facing a similar threat.

To deepen our analysis, Columns (3) through (6) separately analyze pills with provisions designed to deter activist interventions. In particular, poison pills with trigger thresholds of 10% or lower, NOL pills, pills with acting-in-concert provisions, and pills with synthetic equity provisions are all negatively correlated with a subsequent public intervention for firms with high numbers of clicks in previous quarters.

Importantly, in Column (7) of Table 8, we show that anti-activist poison pills appear particularly effective in reducing future activism events. Specifically, the interaction term between hedge fund clicks and anti-activist poison pills is -0.01 and is significant at the 1% level. This suggests that firms that experience 100 hedge fund clicks in the two quarters prior and adopt an anti-activist poison pill in the quarter prior are one percentage point less likely to experience a public activism intervention in quarter t . Such a decrease in intervention probability represents a relative decline of 57% as compared to other firms with 100 hedge fund clicks but no poison pill. In other words, firms under high hedge fund scrutiny that adopt anti-activist poison pills are less likely to face activism intervention than even the typical firm facing no hedge fund threat.

Column (8) analyzes the impact of non-activist poison pills. In particular, we interact hedge fund clicks with all poison pills that do not meet the definition of anti-activist poison pill (e.g., pills with triggers above 10%). Consistent with earlier results for non-activist

poison pills, the interaction term is small (-0.001) and statistically insignificant.

In total, the evidence in Table 8 suggests that poison pills can be effective in deterring hedge funds from pursuing a public intervention entirely. This is particularly true for NOL pills, which protect a firm’s tax assets, as well as pills with acting-in-concert or synthetic equity provisions. However, these poison pills are not guaranteed to prevent all activism in every instance. In some cases, hedge funds respond to such pills by continuing to acquire shares up to the trigger threshold, and, at times, escalating to more hostile interventions (Boyson and Pichler, 2019).

We therefore next examine whether poison pills impact activism outcomes, conditional on a Schedule 13D filing. In particular, we test whether (i) poison pills are associated with lower ownership holdings by the activist, and (ii) hedge funds are less likely to achieve their stated objectives. We use updated data from Brav et al. (2018) graciously shared by Alon Brav and Wei Jiang that contains information from Item 4 of Schedule 13D filings on whether activists stated specific demands and whether those demands were ultimately met.

We employ pure cross-sectional models restricted to firm-year-quarter observations in which the firm was targeted by a Schedule 13D filing. We examine two key outcomes as dependent variables in these models: (i) an indicator variable for whether hedge fund holdings remained below 10%, and (ii) an indicator variable for an unsuccessful outcome, meaning the firm did not adopt the hedge fund’s request. Each model includes industry and year fixed effects, as well as the same set of control variables used in previous tables. Standard errors are clustered at the industry level. The dependent variables of interest are indicators that equal 1 if a poison pill or an anti-activist poison pill, respectively, was adopted in the four quarters prior to a Schedule 13D filing.

Table 9 reports the results and provides suggestive evidence that poison pills both constrain hedge fund holdings and reduce the likelihood that firms comply with hedge fund requests. This is particularly true when the adopted poison pill has anti-activist features (even-numbered columns). For example, the probability that hedge funds’ final holdings remain below 10% is 15 percentage points higher when an anti-activist pill was adopted in the year before the Schedule 13D filing. Relative to the unconditional sample mean, firms adopting anti-activist poison pills are 19% less likely to have an activist reach 10% ownership

after filing a Schedule 13D.

Moreover, Column (4) suggests that an activist is 34 percentage points less likely to have its demands met if the firm has an anti-activist poison pill in place. While the point estimate is significant at only the 10% level, the magnitude is substantial. In particular, hedge funds are nearly 230% more likely to fail in reaching their goals if a firm adopted an anti-activist poison pill in the prior year. The results in Table 9 provide evidence that anti-activist poison pills shift bargaining power in negotiations between hedge funds and management, even if they do not fully preclude activist interventions.

If hedge funds discipline corporate managers, investors may view such a shift in bargaining power as harmful to the value of the firm. This perception may be reflected in abnormal returns around Schedule 13D filings. Brav et al. (2008) find that cumulative abnormal returns (CARs) increase by about 7% following news of an impending Schedule 13D and its filing. We replicate this finding in Figure 6. Panels A and B depict CARs for 13Ds filed without a prior poison pill (blue lines). Consistent with past research, we observe a large increase in abnormal returns starting five days before the Schedule 13D filing.

In contrast, CARs for firms with prior poison pills (red lines) differ by pill type. In Panel A, CARs following a Schedule 13D filing remain positive (5% after ten days) and statistically significant, mirroring filings without a pill. At no point after day -5 do CARs for firms with and without pills significantly differ. Panel B, however, shows a distinct pattern for firms with anti-activist poison pills. Though based on a small sample (25 pills), CARs remain negative and insignificantly different from zero from five days before to ten days after the Schedule 13D filing. The gap between the two CAR series becomes significant on the filing day.

While event-study limitations apply (Bhagat and Romano, 2002; Eldar, 2022; Ben-David et al., 2020), these results support Table 9 and suggest that investors view anti-activist poison pills as weakening hedge funds' ability to create value through public intervention.

7.2 CEO Turnover

One of the main effects of hedge fund intervention, which underscores its role in disciplining managers as documented in the literature, is a higher rate of CEO turnover (Brav et al.,

2008; Fos and Tsoutsoura, 2014; Fos, 2017; Choi and Gong, 2020). Accordingly, to the extent that pills are effective in reducing the likelihood of intervention, they may also reduce the likelihood of CEO turnover. Moreover, while existing studies have focused primarily on CEO turnover following a Schedule 13D filing or a proxy contest, hedge funds may also exert pressure through private negotiations (Gantchev, 2013; Levit, 2019; Kirmse, 2024). Kirmse (2024) finds evidence suggesting that, following hedge fund engagement, the risk of CEO turnover increases even in the absence of a 13D or proxy contest. Thus, anti-activist pills may also affect the likelihood of CEO turnover induced by private engagement.

To test these hypotheses, we use the following empirical specification:

$$\begin{aligned} CEO\ Turnover_{i,t} = & \beta HFClicks_{i,t-1,t-2} + \gamma Pill\ Adoption_{i,t-1} + \\ & \delta HFClicks_{i,t-1,t-2} \times Pill\ Adoption_{i,t-1} + \lambda Total\ Clicks_{i,t-1} + \\ & \zeta X_{i,t-1} + \eta_i + \mu_t + \varepsilon_{i,t}, \end{aligned} \quad (3)$$

where $CEO\ Turnover_{i,t}$ is an indicator variable that equals 1 if a CEO leaves their firm in quarter t , and zero otherwise. As in previous tables, we use firm and industry-by-year-quarter fixed effects and the same set of controls as in Column (2) in Table 4.

As in Table 7, the variable of interest is the interaction between hedge fund clicks and the adoption of a poison pill. Once again, we interpret this interacted coefficient as the potential effect of poison pills adopted in response to hedge funds' interest in previous periods, relative to other firms under hedge fund threat.

Table 10 reports the results. Consistent with Brav et al. (2008) and others, hedge fund interest is positively related to the likelihood of a CEO turnover event in the subsequent quarter (e.g., see Column (1)). The adoption of any poison pill, on the other hand, appears to have little effect on this likelihood, whether on its own or when following heavy hedge fund interest.

Once again, however, a different pattern emerges when considering pills with anti-activist features. In particular, both NOL pills (Column (4)) and the group of all anti-activist pills (Column (7)) appear particularly effective in lowering the probability of CEO dismissal following hedge fund attention. For example, the interaction term between hedge fund clicks and NOL pills is -0.011 and is significant at the 1% level. This suggests that firms

that experience 100 hedge fund clicks and adopt an NOL pill are 60% less likely to replace current management relative to other firms with 100 hedge fund clicks but no poison pill.

Finally, Column (8) analyzes the impact of non-activist poison pills. In sharp contrast to anti-activist poison pills, the likelihood of CEO turnover increases more than twofold following the adoption of non-activist pills relative to other firms under hedge fund threat. Overall, Table 10 provides evidence that anti-activist poison pills are an effective defensive tactic against the possibility of CEO turnover.

Moreover, these results provide an additional response to the question of why corporate boards are willing to adopt poison pills despite possible negative career consequences (Johnson et al., 2024). As we show in Internet Appendix Table IA.1, directors face a similarly high dismissal risk when confronted with a hedge fund intervention, and an even greater risk when they face a proxy contest. This evidence suggests that, *ex ante*, a director may perceive the optimal response to hedge fund activism (in terms of keeping their role on the board) to be siding with the CEO and adopting a pill. Given the importance of CEO networks to directors' future positions (e.g., see Kim et al., 2023), helping to save the role of a current CEO may lead to better labor market outcomes for directors, even if these directors face an increased dismissal likelihood in the immediate aftermath of the pill adoption.

7.3 Corporate Outcomes

This section examines the adjustments firms make in corporate policies following anti-activist poison pills relative to firms that experience an activist intervention. Prior studies on hedge fund activists have found that targeted firms experience an increase in Tobin's q (Brav et al., 2008, 2021), an increase in leverage (Gantchev et al., 2019), a decrease in cash (Fos, 2017; Gantchev et al., 2019), a decrease in investment in capital expenditures, and an increase in payouts to equity holders (Fos, 2017; Gantchev et al., 2019; Maffett et al., 2022).

To the extent that anti-activist poison pills discourage activist intervention, we conjecture that firms adopting such pills are less likely to adjust these corporate policies relative to firms that do not and subsequently experience an intervention. Table 11 presents the results of a difference-in-differences (DiD) comparison between anti-activist poison pills and hedge fund activism targets. Specifically, we compare the 12 quarters before and after for firms that

either adopt pills or become activist targets, but not both, with a group of control firms that experience neither.

Our empirical specification uses a stacked methodology (Gormley and Matsa, 2011) to address issues created by including already “treated” firms in the control group (e.g., see De Chaisemartin and d’Haultfoeuille, 2020; Callaway and Sant’Anna, 2021; Goodman-Bacon, 2021; Sun and Abraham, 2021; Baker et al., 2022). We include firm-cohort fixed effects and industry-quarter-cohort fixed effects and cluster our standard errors at the firm-cohort level.

The outcome variables of interest in Table 11 include Tobin’s q , investment (capital expenditures), share repurchases, cash, and leverage. Consistent with prior studies (Brav et al., 2008; Fos, 2017; Gantchev et al., 2019; Maffett et al., 2022), firms that experience a public activism intervention in our sample decrease investment, increase share buybacks, and ultimately, experience an increase in Tobin’s q , relative to the control group. In contrast, firms that adopt anti-activist poison pills experience no such increases in payouts or Tobin’s q , and actually *increase* investments in capital expenditures (CapEx). Moreover, with the exception of Tobin’s q , in Column (1), the coefficients for *Anti-Activist Poison Pill* $\times$ *Post* and *HF Target* $\times$ *Post* are significantly different from each other at least at the 10% level.

In sum, the results in Table 11 suggest that firms adopting anti-activist poison pills do not make the same adjustments to corporate policies as hedge fund-targeted firms, thereby providing further evidence that poison pills alter the bargaining dynamics between hedge funds and incumbent management. That is, to the extent that such pill-adopting firms would have been targeted in the absence of the pill, we infer that adoptions diminish the likelihood that a private or public intervention successfully attains an activist’s typical demands.

8 Robustness

Finally, to mitigate concerns regarding alternative mechanisms and to confirm that our results reflect firm responses to the threat of hedge fund interest, we conduct several additional sets of robustness and subsample tests.

First, we address the view that pills are inconsequential because they are only used by very small firms, as hedge funds rarely accumulate significant stakes in larger firms. Table IA.B.1

provides summary statistics on average hedge fund holdings across different terciles of firm size. Holdings range from 7.97% to 11.80%, in line with [Brav et al. \(2021\)](#). As expected, initial hedge fund stakes are largest in smaller firms (the smallest tercile). However, the difference in holdings between the smallest and the largest tercile of firms has decreased in the most recent time period. While the difference in the 2003–2007 time period was 2.15 percentage points, it has decreased to a statistically insignificant 0.85 percentage points in 2013–2017, the period when anti-activist pills proliferated (see Figures 1 and 2). This effect is not caused by firms becoming smaller over time. Table [IA.B.2](#) shows that both the average and median market capitalization of the largest tercile of firms have increased since 2003. Moreover, Table [IA.2](#) shows subsample splits of our main regression. In stark contrast to the view that poison pills are only implemented by small firms, columns (2) and (8) show that the results are economically large and statistically significant when limiting the sample to large firms only.

To further address the concern that our results are driven by takeovers rather than hedge fund threats, we re-estimate the main specifications in Table 4 and Table 8, dropping observations in which a firm experiences a takeover bid or is rumored to be a target. This ensures that hedge fund clicks and poison pill adoptions are not both triggered by the same underlying takeover event. Specifically, we exclude all quarters in which a firm is subject to a takeover bid or rumored to be a target, as well as the preceding and subsequent quarters. For takeover bid data, we rely on SDC Thomson Reuters, while takeover rumors are manually coded following [Ahern and Sosyura \(2014\)](#)’s methodology. Tables [IA.3](#) and [IA.4](#) show that the results are qualitatively similar to the main results, reinforcing that pills adopted to curb hedge fund activism are not primarily intended to prevent a firm’s sale.

We also control for alternative defensive tactics, such as a classified board and advance notice bylaw. On the one hand, a classified board makes it harder for challengers to replace a majority of the board, as they typically require at least two election cycles to accomplish that. However, hedge funds rarely seek to replace a majority of the board, and usually only aim to appoint board representatives. Moreover, advance notice bylaws require shareholders to give additional notice of an impending proposal, but likely do not alter a hedge fund’s strategy. Thus, neither are likely to materially deter an activist intervention (see Section

IA.A.1 of the Internet Appendix).

Tables IA.5 and IA.6 provide support for this view. While a classified board is correlated with the probability of being targeted by an activist, it is not associated with a lower probability of a public campaign when hedge fund threat is high, nor does it appear to offer protection from activism beyond that of a poison pill, as shown in the triple interaction term in column (2). Similarly, firms with advance notice bylaws are neither targeted more often, nor do these firms gain additional protection above and beyond the pill. These tests support our conjecture that poison pills have reshaped the interactions between activists and firms and that other defensive tactics are effective as pills.

Tables IA.7 and IA.8 provide evidence that the main results of Table 4 and 8 are robust, respectively, to using the number of unique hedge funds clicking, rather than the total number of hedge fund clicks. This ensures that our results are not driven solely by individual hedge funds clicking repeatedly on firms' disclosures but also capture potential targeting by multiple hedge funds, often referred to as wolf packs (Brav et al., 2022).

9 Conclusion

Since their inception in the 1980s, poison pills have been viewed as the preeminent anti-takeover device. In the last decade, however, they have been increasingly used to discourage activist investors. We compile the most comprehensive database of poison pills to date and provide new evidence of dramatic shifts in their design features. Further, using SEC log file data to proxy for hedge fund threats, we show that the threat of intervention significantly increases the probability that a firm will adopt a poison pill in the following quarter. Furthermore, these pills appear to be effective in curbing activist interventions. In particular, following pill adoptions, firms are less likely to be subject to a public hedge fund campaign or experience CEO turnover, suggesting that managers use pills to fortify their position against shareholder influence and maintain greater control over corporate decision-making. Moreover, firms that adopt anti-activist poison pills are less likely to follow corporate policies that are typically associated with activism, such as reducing investment and increasing payouts, relative to activist-targeted firms. Overall, our paper is the first to systematically document

the use and effectiveness of poison pills as an anti-activist measure.

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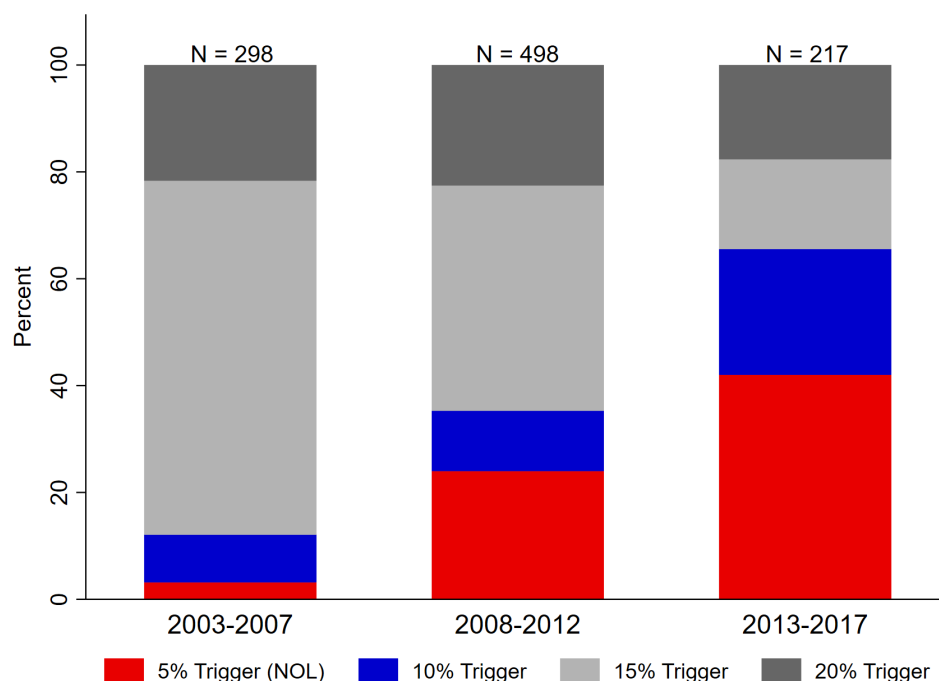
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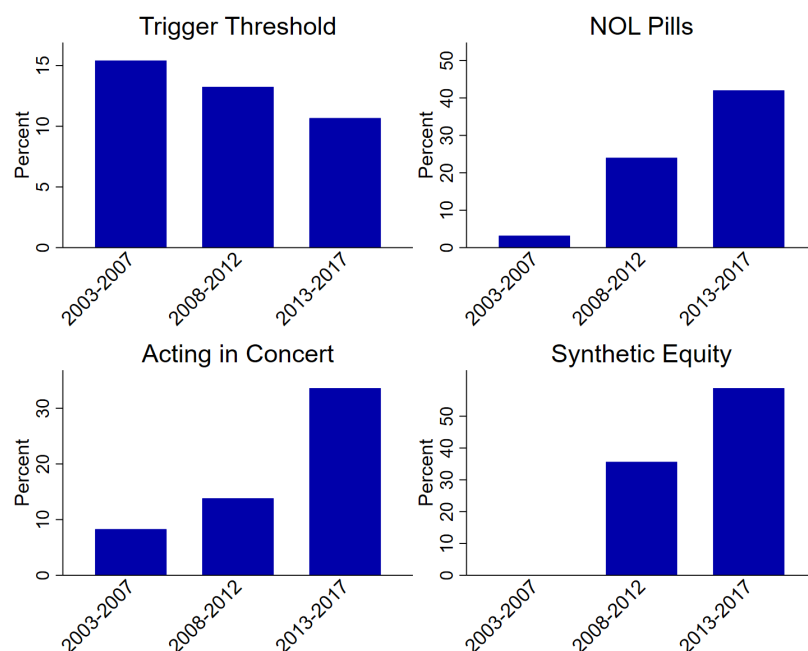
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Figure 1: The Evolution of Poison Pills. This figure depicts the evolution in the characteristics and provisions of poison pills through time. Panel A depicts the distribution of trigger thresholds, Panel B depicts the prevalence of provisions that appear to target activist hedge funds, Panel C depicts the prevalence of acting-in-concert and synthetic equity provisions in pills that have a low trigger threshold. Data on poison pill characteristics and provisions is hand-collected from firm SEC filings following the process described in Section 3. All variables are defined in Appendix Table A.1.

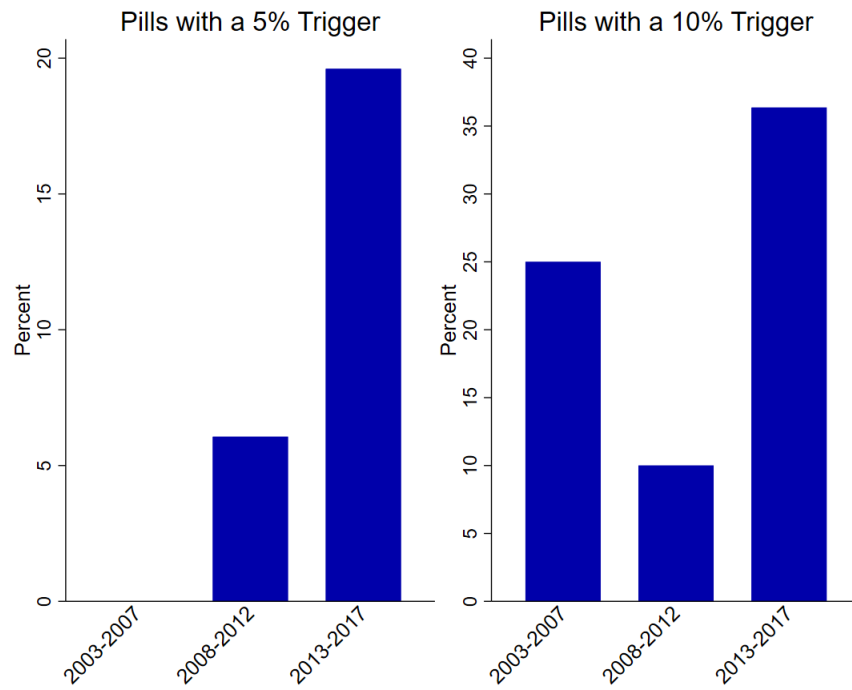
(A) Trigger Thresholds through Time.



(B) Anti-Activist Provisions through Time.



(C) Acting-in-Concert Provisions in Pills with Low Trigger Thresholds.



(D) Synthetic Provisions in Pills with Low Trigger Thresholds.

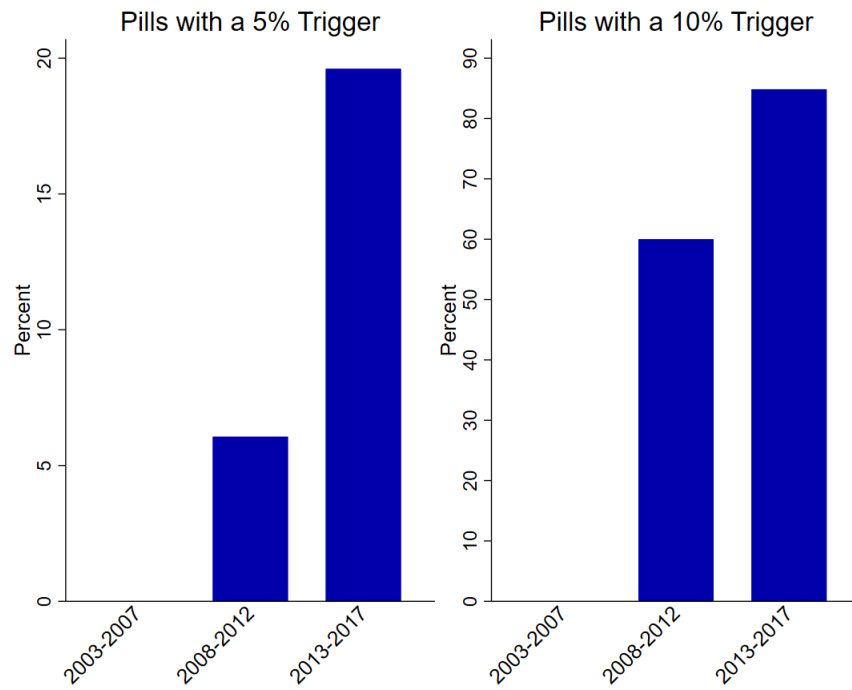


Figure 2: Poison Pill Adoptions Through Time. This figure depicts the number of poison pills adopted through time and the number of hostile activist interventions. In particular, the grey bars represent all adoptions, whereas the red bars represent pills with a trigger threshold less than or equal to 10%, and the dashed black line represents the number of hostile activist interventions. Data on poison pills is hand-collected from firm SEC filings following the process described in Section 3 and data on hostile activist interventions is from [Bebchuk et al. \(2015\)](#) and was graciously shared by Alon Brav and Wei Jiang. All variables are defined in Appendix Table A.1.

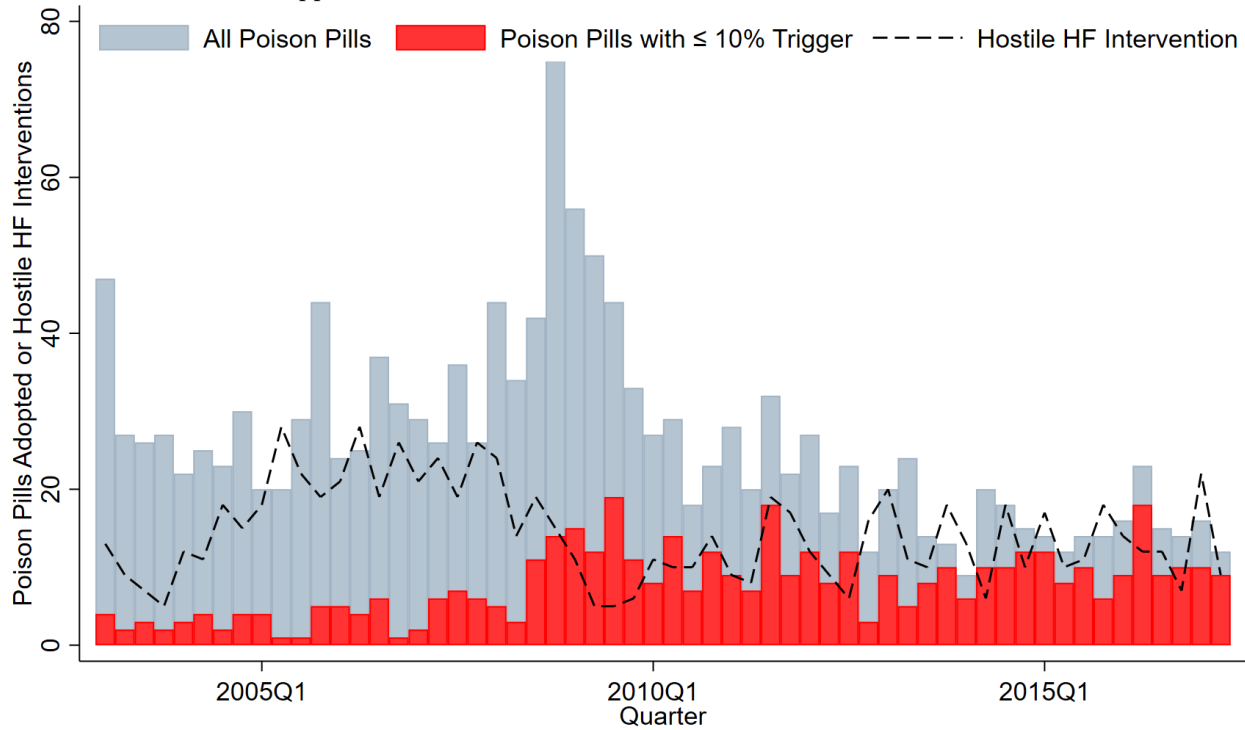


Figure 3: Size Distribution of Pill Adopting Firms. These figures depict the distribution of firm size (log of total book assets) for firms that adopt a poison pill over the course of our sample (red bars) against firms that do not adopt a poison pill over the course of our sample (blue bars). Panel A depicts the distributions for all pill adoptions, while Panel B depicts the distributions for anti-activist pill adoptions, and Panel C depicts the distribution for non-activist pill adoptions. Data on poison pills is hand-collected from firm SEC filings following the process described in Section 3 and data on firm size is from Compustat. All variables are defined in Appendix Table A.1.

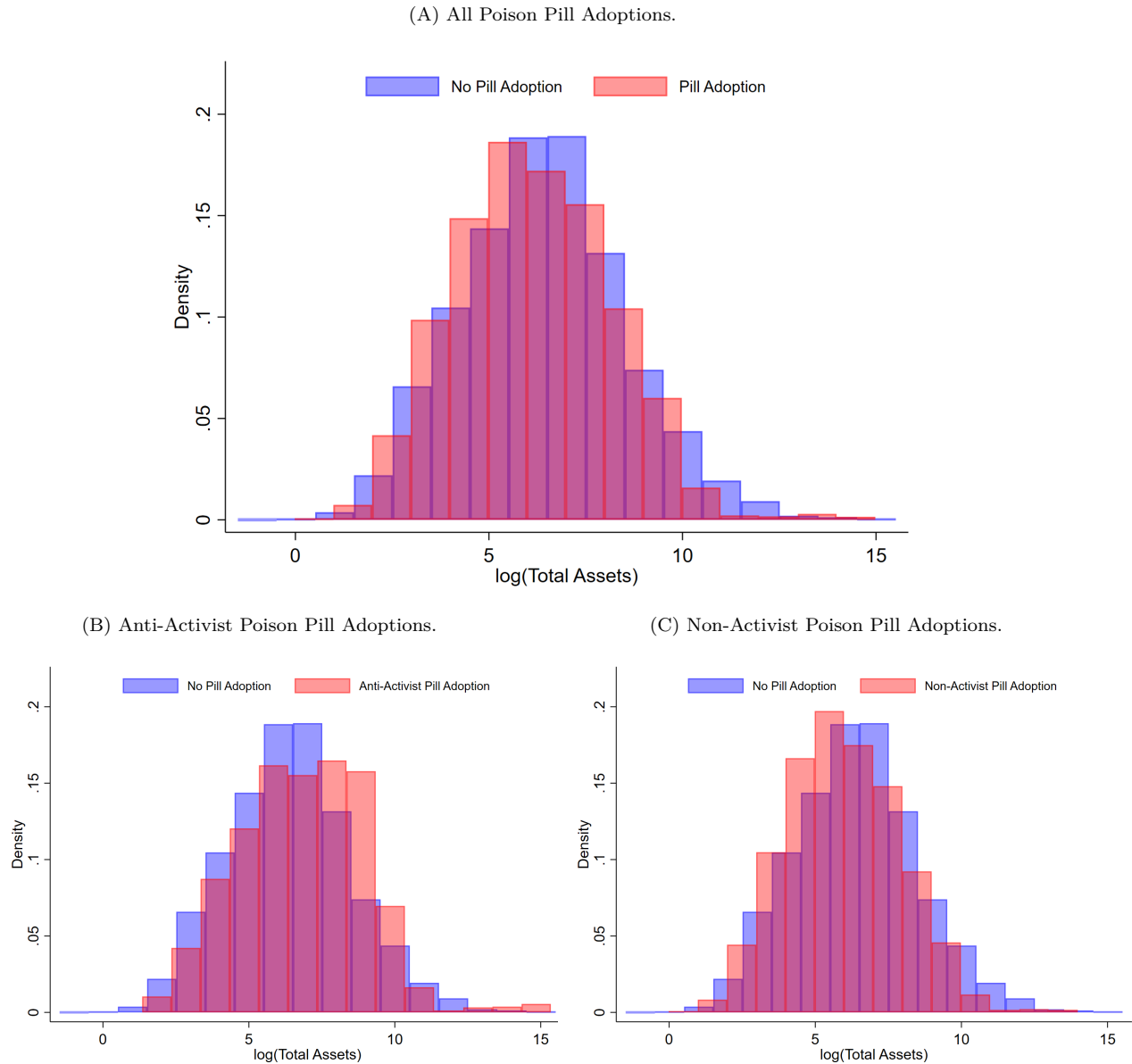


Figure 4: Clicks Surrounding New Pill Adoptions. This figure depicts the average number of hedge fund clicks for firms that adopt new poison pills. The x-axis represents event time, where $t=0$ represents the quarter the firm adopts the pill. The quarters are based on buckets of 90 days such that $t=0$ includes days 0 through 90, where the pill is adopted on day 0. In this way, all hedge fund clicks at quarter $t=0$ represent views on or after the day of adoption, but not before it. The red dots depict activist HF clicks, whereas the blue squares depict nonactivist HF clicks. Data on poison pills is hand-collected from firm SEC filings following the process described in Section 3, and data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1. All variables are defined in Appendix Table A.1.

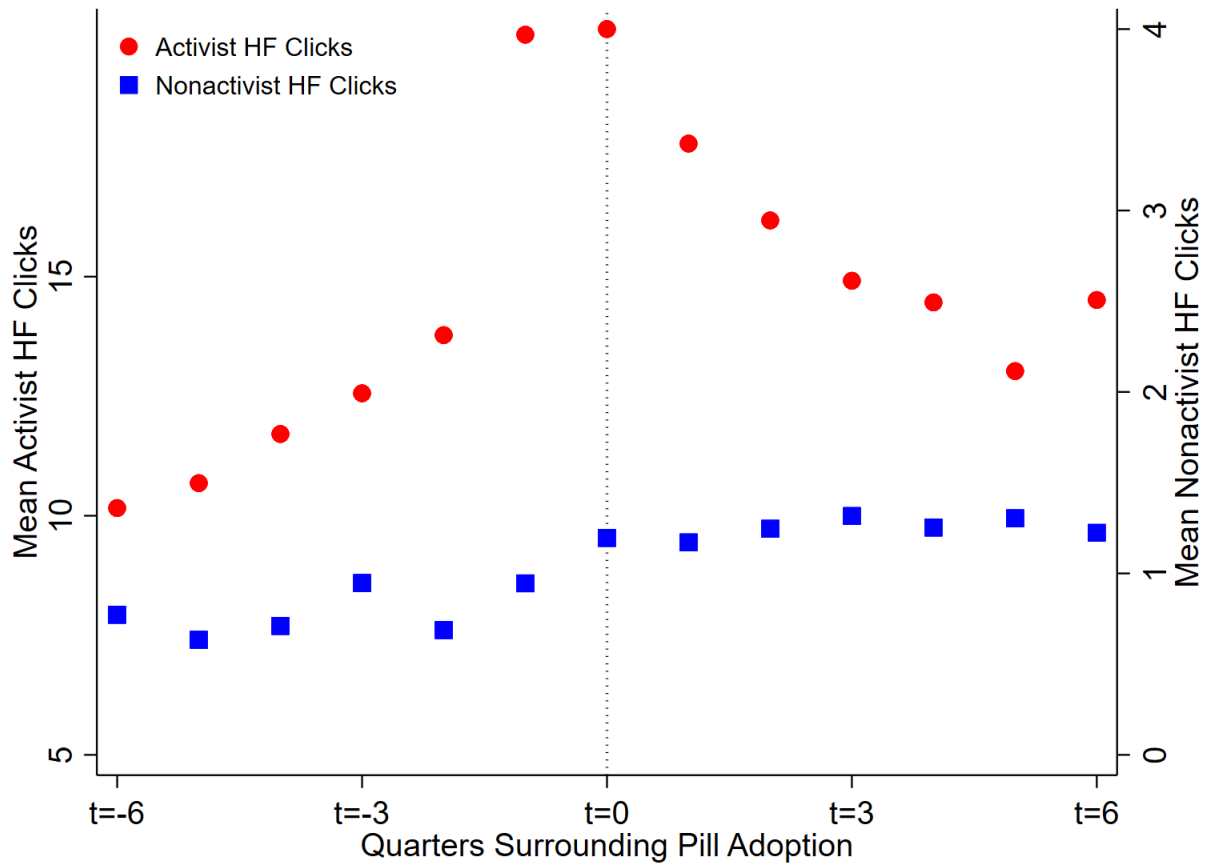


Figure 5: Public Acquisitions and the Federal Funds Rate. This figure depicts the trends in the number of acquisitions of public firms and the Federal Funds rate through time. The gray bars depict NBER recessions. Data on public acquisitions is from Thomson Reuters and data on the federal funds rate and NBER recessions is from the St. Louis Federal Reserve Bank.

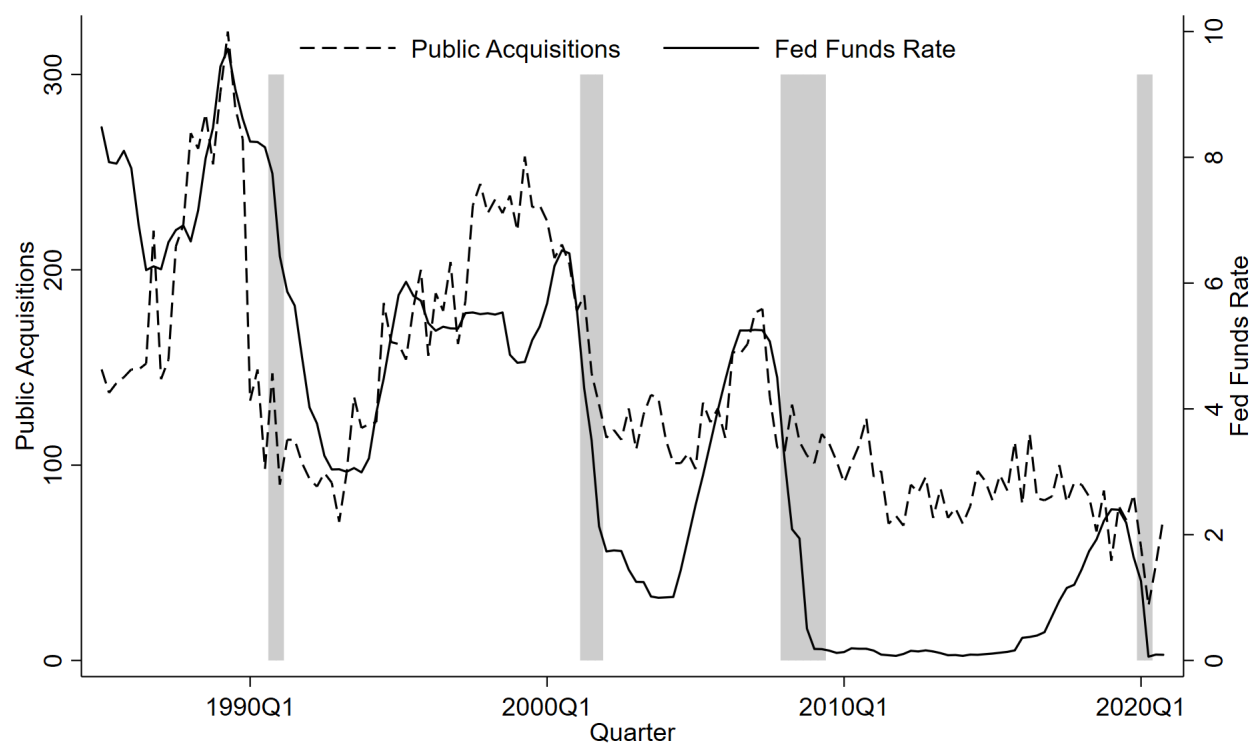
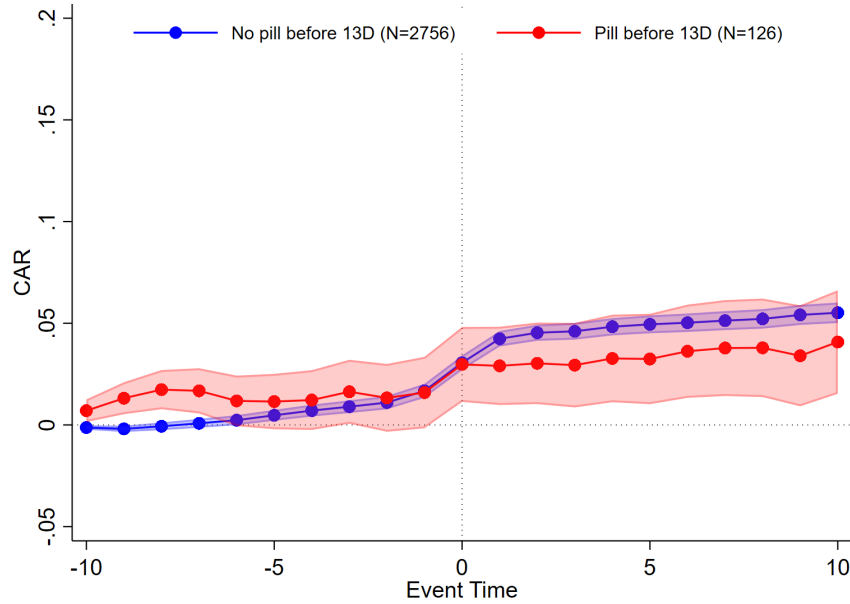


Figure 6: Cumulative Abnormal Return for Public Activism Campaigns. This figure depicts cumulative abnormal returns surrounding the public announcement of an activism campaign (either the filing of a 13D or the announcement of a proxy fight). The figures also split between public activism campaigns that follow a poison pill and those that do not. Panel A depicts public activism campaigns that follow any poison pill adoption in the prior calendar year, while Panel B depicts those that follow an anti-activist poison pill adoption in the prior calendar year. CARs are constructed using a market model with an estimation window of day -250 through day -64. Data on poison pill adoptions is hand-collected from firm SEC filings following the process described in Section 3, data on activist hedge fund public campaigns is from [Boyson et al. \(2022\)](#) and [Bebchuk et al. \(2015\)](#) and was graciously shared by Nicole Boyson, Alon Brav, and Wei Jiang, and data on stock returns is from CRSP. All variables are defined in Appendix Table A.1.

(A) All Poison Pills.



(B) Anti-Activist Poison Pills.

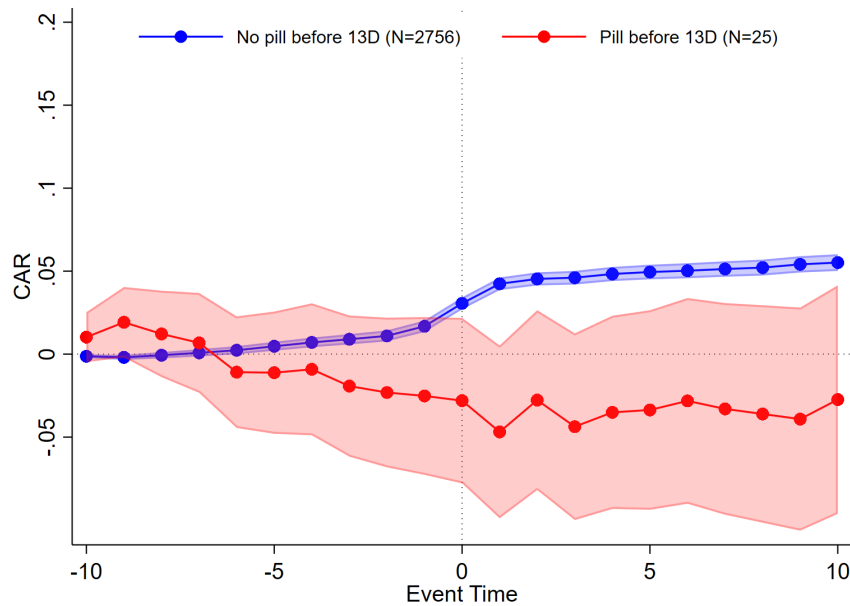


Table 1: Summary Statistics. This table reports the summary statistics for the main variables included in our analysis. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings following the process described in Section 3, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, data on firm financials is from CRSP/Compustat Merged Quarterly, data on board and director characteristics is from BoardEx, data on classified boards is from Guernsey et al. (2024), and data on advance notice bylaws is from Factset. The number of observations for the board characteristics is lower (155,187) because of slightly worse coverage from BoardEx.

	Mean	P25	P50	P75	SD
Poison Pill Adoption (%)	0.006	0	0	0	0.076
Hedge Fund Clicks	11.1	0	2	9	30.8
Total Clicks	1905.9	427	972	2088	4,592.7
Total Assets (\$Ms)	8065.5	129.6	556.0	2183.1	71368.2
Market Leverage	0.228	0.009	0.151	0.372	0.243
Cash Holdings (% of assets)	0.206	0.036	0.106	0.293	0.234
Capital Expenditures (% of assets)	0.024	0.003	0.011	0.028	0.036
R&D Expense (% of assets)	0.014	0.000	0.000	0.014	0.031
Net Operating Loss (NOL) (% of assets)	0.496	0.000	0.001	0.167	1.529
Return on Assets(%)	0.001	-0.002	0.011	0.028	0.061
Quarterly Stock Return (%)	0.003	-0.011	0.001	0.014	0.031
Tobin's q	1.6	0.7	1.1	1.9	1.6
Dividend Yield	0.002	0.000	0.000	0.003	0.005
Years since IPO	18.1	7	14	24	16.2
I(Classified board)	0.498	0	0	1	0.500
Institutional ownership	0.554	0.263	0.610	0.844	0.322
I(CEO-Chair)	0.085	0	0	0	0.279
Board size	8.30	6	8	10	2.7
Pct. Independent Director	0.694	0.600	0.714	0.818	0.165
I(Advance Notice Bylaw)	0.331	0	0	1	0.471
Observations	176,293				

Table 2: Poison Pill Provisions Summary Statistics. This table reports the percentages of poison pills that include the different characteristics and provisions discussed Section 3. Further, this table displays differences in these percentages based on the number of hedge fund clicks for the firm in the quarter preceding the pill adoption. Data on poison pill adoptions is hand-collected from firm SEC filings and data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1. All variables are defined in Appendix Table A.1.

		Hedge Fund Clicks _{t-1}			Differences					
	All	0 clicks (1)	(0,99th) (2)	[99th,100th] (3)	Diff. (2) – (1)	T-stat	Diff. (3) – (2)	T-stat	Diff. (3) – (1)	T-Stat
<i>Anti-Activist Provisions</i>										
NOL pill	16.9	8.0	20.2	33.3	12.2	5.2***	14.9	2.2**	27.1	5.3***
Acting-in-Concert provision	13.2	11.6	12.6	38.9	1.0	0.5	27.9	4.9***	29.0	4.9***
Synthetic Equity	22.9	15.5	24.6	61.1	9.2	3.5***	34.8	4.8***	44.0	6.8***
<i>Discriminatory Provisions</i>										
Higher Trigger for Institutions	7.2	4.7	8.0	16.7	3.3	2.1**	8.2	1.7*	11.5	2.88***
Grandfather provision	45.9	39.5	48.7	50.0	9.2	2.9***	2.7	0.3	11.8	1.4
<i>Other Characteristics and Provisions</i>										
Trigger (%)	14.0	15.2	13.6	10.1	-1.6	-4.8***	-3.6	-4.1***	-5.2	-6.5***
Duration (years)	5.1	6.4	4.6	2.3	-1.8	-6.7***	-2.4	-3.6***	-4.2	-6.0***
Shareholder Vote required	16.8	10.2	21.1	15.0	10.9	3.4***	-6.1	-0.7	4.8	0.7
Chewable pill	23.8	26.2	22.9	16.7	-3.3	-1.2	-6.7	-1.0	-10.0	-1.3

Table 3: Simple Tests of Differences. This table compares means and medians for anti-activist pill-adopting firms (Panel A) and hedge fund targets (Panel B) in the quarter prior to the respective corporate event (e.g., anti-activist pill adoptions or the announcement of a public activism campaign) relative to all other quarters. Column (5) reports the T-Statistic from a two-sample test of difference in means and Column (6) reports the Mann-Whitney U-Statistic from a rank sum test of difference in medians. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, data on the objectives of activist hedge fund public campaigns is from Boyson et al. (2022) and Bebchuk et al. (2015) and was graciously shared by Nicole Boyson and Wei Jiang, and data on firm financials is taken from CRSP/Compustat Merged Quarterly.

<i>Panel A: Quarters with Anti-Activist Poison Pill Adoptions</i>						
	Anti-Activist Pill		No Anti-Activist Pill		Tests of Differences	
	Mean (a)	Median (b)	Mean (c)	Median (d)	T-Stat (a-c)	U-Stat (b-d)
Hedge Fund Clicks	40.8	14	11.1	2	14.8***	11.8***
Total Clicks	3946.4	2512	1903.3	970	6.8***	14.0***
Total Assets (\$Ms)	14761.7	1048	8056.6	555	1.4	3.7***
Market Leverage	0.378	0.347	0.228	0.151	9.4***	7.8***
Cash Holdings (% of assets)	0.221	0.146	0.206	0.106	1.0	2.4**
Capital Expenditures (% of assets)	0.025	0.009	0.024	0.011	0.3	-2.4**
R&D Expense (% of assets)	0.011	0.000	0.014	0.000	-1.5	-2.1**
Net Operating Loss (NOL) (% of assets)	1.378	0.197	0.494	0.001	8.9***	9.3***
Return on Assets(%)	-0.013	0.002	0.001	0.011	-3.4***	-7.3***
Quarterly Stock Return (%)	0.006	-0.000	0.003	0.001	1.1	-0.0
Tobin's q	1.1	0.9	1.6	1.1	-4.9***	-6.0***
Dividend Yield	0.001	0.000	0.002	0.000	-2.9***	-5.2***
Years since IPO	22.3	17	18.1	14	4.0***	4.3***
I(Classified board)	0.373	0	0.498	0	-3.8***	-3.8***
Institutional ownership	0.551	0.638	0.554	0.610	-0.1	-0.2
I(CEO-Chair)	0.081	0	0.085	0	-0.2	-0.2
Board size	9.2	9	8.2	8	5.3***	4.6***
Pct. Independent Director	0.707	0.714	0.694	0.714	1.1	1.4
I(Advance Notice Bylaw)	0.352	0	0.331	0	0.7	0.7
<i>Panel B: Quarters with Activist Hedge Fund Targets</i>						
	HF Target		No HF Target		Tests of Differences	
	Mean (a)	Median (b)	Mean (c)	Median (d)	T-Stat (a-c)	U-Stat (b-d)
Hedge Fund Clicks	21.3	4	11.0	2	16.1***	15.4***
Total Clicks	2689.7	1275	1895.4	969	8.3***	11.3***
Total Assets (\$Ms)	5312.9	395	8102.8	559	-1.9*	-6.4***
Market Leverage	0.253	0.171	0.228	0.151	4.9***	2.5**
Cash Holdings (% of assets)	0.210	0.116	0.205	0.106	1.0	2.5**
Capital Expenditures (% of assets)	0.025	0.012	0.024	0.011	1.7*	3.4***
R&D Expense (% of assets)	0.013	0.000	0.014	0.000	-1.2	0.5
Net Operating Loss (NOL) (% of assets)	0.582	0.021	0.494	0.001	2.8***	7.8***
Return on Assets(%)	-0.004	0.005	0.001	0.011	-4.1***	-11.8***
Quarterly Stock Return (%)	0.001	0.000	0.003	0.001	-3.3***	-3.2***
Tobin's q	1.3	1.0	1.6	1.1	-10.1***	-9.1***
Dividend Yield	0.002	0.000	0.002	0.000	-7.5***	-10.4***
Years since IPO	17.9	14	18.1	14	-0.8	-1.0
I(Classified board)	0.473	0	0.498	0	-2.4**	-2.4**
Institutional ownership	0.590	0.639	0.554	0.610	5.4***	5.2***
I(CEO-Chair)	0.073	0	0.085	0	-1.9*	-1.9*
Board size	8.6	8	8.2	8	6.0***	6.3***
Pct. Independent Director	0.693	0.710	0.694	0.714	-0.3	-0.4
I(Advance Notice Bylaw)	0.248	0	0.332	0	-8.6***	-8.6***

Table 4: Hedge Fund Interest and Poison Pill Adoptions. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm adopts a poison pill in quarter t , and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$. The table further reports results using indicator variable for when the number of hedge fund clicks crosses the 99th percentile threshold. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Pill Adoption $_t$ (Indicator)			
	(1)	(2)	(3)	(4)
Hedge Fund Clicks $_{t-1}$ (100s)	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	
I(Hedge Fund Clicks $_{t-1} \geq P99$)				0.007** (0.003)
Total Clicks $_{t-1}$ (100,000s)	0.004 (0.007)	0.009 (0.007)	0.008 (0.007)	0.012 (0.008)
log(Book assets $_{t-1}$)		-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)
Market leverage $_{t-1}$		0.006** (0.003)	0.007** (0.003)	0.007*** (0.003)
Cash/book assets $_{t-1}$		0.006** (0.003)	0.005* (0.003)	0.006** (0.003)
CapEx/book assets $_{t-1}$		0.026** (0.012)	0.028** (0.013)	0.026** (0.012)
R&D expense/book assets $_{t-1}$		-0.028 (0.020)	-0.039* (0.022)	-0.029 (0.020)
NOL/book assets $_{t-1}$		0.061 (0.040)	0.078* (0.043)	0.060 (0.040)
ROA $_{t-1}$		-0.214*** (0.075)	-0.183** (0.087)	-0.215*** (0.075)
Quarterly return $_{t-1}$		-0.003 (0.003)	-0.002 (0.003)	-0.003 (0.003)
Tobin's q_{t-1}		-0.010*** (0.003)	-0.008*** (0.003)	-0.009*** (0.003)
Dividend yield $_{t-1}$		-0.095 (0.062)	-0.089 (0.064)	-0.094 (0.062)
Firm age $_{t-1}$		0.035** (0.015)	0.037 (0.024)	0.034** (0.015)
I(Classified board $_{t-1}$)		0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Institutional ownership $_{t-1}$		0.001 (0.002)	0.002 (0.002)	0.001 (0.002)
I(CEO-Chair $_{t-1}$)			-0.001 (0.002)	
log(Board size $_{t-1}$)			0.005*** (0.002)	
Pct. Ind. Dir. $_{t-1}$			-0.002 (0.003)	
I(Advance Notice Bylaw $_{t-1}$)			-0.003 (0.002)	
Firm FE	Yes	Yes	Yes	Yes
Industry $\times$ Quarter FE	Yes	Yes	Yes	Yes
$\bar{y}$	0.0057	0.0057	0.0058	0.0057
Observations	176,293	176,293	154,638	176,293
R^2	0.10	0.10	0.11	0.10

Table 5: Hedge Fund Interest and Anti-Activist Pill Adoptions. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm adopts a poison pill with various characteristics (e.g., plans with trigger thresholds under 10%, NOL pills, etc.) in quarter t , and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$. The characteristics and provisions considered in this table are described in Section 3. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Poison Pill Type =	Anti-Activist Provisions				
	I(Trigger $\leq 10\%$)	NOL	AIC	Synthetic equity	Anti- Activist
	(1)	(2)	(3)	(4)	(5)
Hedge Fund Clicks $_{t-1}$ (100s)	0.003*** (0.001)	0.001* (0.001)	0.002** (0.001)	0.002*** (0.001)	0.003*** (0.001)
Total Clicks $_{t-1}$ (1,000,000s)	0.005 (0.006)	0.007 (0.006)	0.000 (0.002)	-0.002 (0.002)	0.006 (0.006)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Industry $\times$ Quarter FE	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0017	0.0010	0.0008	0.0014	0.0014
Observations	176,293	176,293	176,293	176,293	176,293
R^2	0.11	0.12	0.12	0.10	0.11

Table 6: Omitted Variables and Selection Bias. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm adopts a poison pill with various characteristics (e.g., renewals, anti-activist, or non-activist) in quarter t , and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. Panel A explores a number of placebo tests. The main independent variables in columns (1) and (2) are activist HF clicks, and *non*-activist HF clicks in column (3). The main independent variables in columns (4) through (6) are HF clicks on close competitors of the firm. Each subgroup of hedge fund clicks is scaled by its respective standard deviation in order to readily compare the coefficients. Panel B explores the introduction of plausibly exogenous variation by interacting the main independent variable of interest (*Hedge Fund Clicks*) with the federal funds rate (*Fed Funds*), and an indicator variable equal to one during the financial crisis (*I(FC)*). All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, data on the federal funds rate and NBER recession indicators for the financial crisis are from the St. Louis FRED, and data on firm financials is from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

<i>Panel A: Placebo Tests</i>						
Poison Pill Type =	Pill Adoption _{<i>t</i>} (Indicator)					
	Non-Activist	Renewal	All			
	(1)	(2)	(3)	(4)	(5)	(6)
Hedge Fund Clicks _{<i>t-1</i>} (Norm.)	0.0001 (0.0001)	0.0000 (0.0001)	0.0005*** (0.0002)	0.0005*** (0.0002)	0.0005*** (0.0002)	0.0005*** (0.0002)
Nonactivist HF Clicks _{<i>t-1</i>} (Norm.)			0.0001 (0.0001)			
Closest Competitor HF Clicks _{<i>t-1</i>} (Norm.)				-0.0000 (0.0001)		
3 Closest Competitors HF Clicks _{<i>t-1</i>} (Norm.)					-0.0001 (0.0001)	
5 Closest Competitors HF Clicks _{<i>t-1</i>} (Norm.)						-0.0001 (0.0002)
Total Clicks _{<i>t-1</i>} (100,000s)	0.0022 (0.0027)	-0.0004 (0.0010)	0.0082 (0.0067)	0.0086 (0.0067)	0.0088 (0.0068)	0.0088 (0.0067)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0043	0.0007	0.0057	0.0057	0.0057	0.0057
Observations	176,293	176,293	176,293	176,293	176,293	176,293
R^2	0.10	0.09	0.10	0.10	0.10	0.10
<i>Panel B: Plausibly Exogenous Variation</i>						
	All	Anti-Activist	Non-Activist	All	Anti-Activist	Non-Activist
	(1)	(2)	(3)	(4)	(5)	(6)
Hedge Fund Clicks _{<i>t-1</i>} (100s)	0.003*** (0.001)	0.002** (0.001)	0.001 (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.000 (0.001)
Hedge Fund Clicks _{<i>t-1</i>} × I(FC _{<i>t</i>})	0.007 (0.007)	0.012* (0.007)	-0.004 (0.003)			
Hedge Fund Clicks _{<i>t-1</i>} × Fed Funds _{<i>t</i>}				0.000 (0.001)	-0.001** (0.000)	0.001 (0.001)
Total Clicks _{<i>t-1</i>} (100,000s)	0.010 (0.007)	0.008 (0.006)	0.002 (0.003)	0.009 (0.007)	0.006 (0.006)	0.003 (0.003)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0057	0.0014	0.0043	0.0057	0.0014	0.0043
Observations	176,293	176,293	176,293	176,293	176,293	176,293
R^2	0.10	0.12	0.10	0.10	0.11	0.10

Table 7: Hedge Fund Interest and Poison Pill Adoptions by Activist Objective. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm adopts a poison pill in quarter t , and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$. The table further splits the number of hedge fund clicks by the stated objective of activist hedge funds from Item 4 of their 13D filings. Each subgroup of hedge fund clicks is scaled by its respective standard deviation in order to readily compare the coefficients. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, data on the objectives of activist hedge fund public campaigns is from Boyson et al. (2022) and Bebchuk et al. (2015) and was graciously shared by Nicole Boyson and Wei Jiang, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Pill Adoption $_t$ (Indicator)				
	(1)	(2)	(3)	(4)	(5)
Hedge Fund Clicks $_{t-1}$ (Mode = Sale Objective)	0.0004* (0.0003)	0.0004 (0.0003)	0.0004 (0.0003)		
Hedge Fund Clicks $_{t-1}$ (Mode = All Other)		0.0004** (0.0002)			
Hedge Fund Clicks $_{t-1}$ (Mode = General Objective)			0.0002 (0.0001)		
Hedge Fund Clicks $_{t-1}$ (Mode = Capital Structure Objective)			0.0002 (0.0001)		
Hedge Fund Clicks $_{t-1}$ (Mode = Business Strategy Objective)			0.0000 (0.0001)		
Hedge Fund Clicks $_{t-1}$ (Mode = Governance Objective)			0.0003* (0.0002)		
Hedge Fund Clicks $_{t-1}$ (Never Sale Objective)				0.0004** (0.0002)	0.0003* (0.0002)
Hedge Fund Clicks $_{t-1}$ (At least 1 Sale Objective)					0.0003** (0.0001)
Total Clicks $_{t-1}$ (100,000s)	0.0153** (0.0075)	0.0087 (0.0066)	0.0084 (0.0066)	0.0115 (0.0072)	0.0087 (0.0067)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Industry $\times$ Quarter FE	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0057	0.0057	0.0057	0.0057	0.0057
Observations	176,293	176,293	176,293	176,293	176,293
R^2	0.10	0.10	0.10	0.10	0.10

Table 8: Hedge Fund Interest, Poison Pill Adoption, and Public Activism Campaigns. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm is targeted by an activist hedge fund in a public campaign in quarter t , and 0 otherwise. We define targeted in a public campaign to be the filing of a 13D or the announcement of a proxy fight by an activist hedge fund. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$ and $t - 2$ interacted with the adoption of a poison pill in quarter $t - 1$. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, data on activist hedge fund public campaigns is from Boyson et al. (2022) and Bebchuk et al. (2015) and was graciously shared by Nicole Boyson, Alon Brav, and Wei Jiang, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Poison Pill Type =	Activism Target $_t$ (Indicator)							
	All		I(Trigger $\leq 10\%$)	NOL	AIC	Synthetic equity	Anti- Activist	Non- Activist
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hedge Fund Clicks $_{t-1,t-2}$ (100s)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)
Poison Pill Adoption $_{t-1}$	0.011* (0.006)	0.014** (0.006)	0.009 (0.013)	0.028 (0.018)	0.006 (0.016)	0.005 (0.011)	0.014 (0.014)	0.013* (0.007)
Hedge Fund Clicks $_{t-1,t-2} \times$ Poison Pill Adoption $_{t-1}$		-0.008** (0.003)	-0.009*** (0.003)	-0.010** (0.004)	-0.010** (0.005)	-0.014*** (0.004)	-0.010*** (0.004)	-0.001 (0.013)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry $\times$ Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135
Observations	167,495	167,495	167,495	167,495	167,495	167,495	167,495	167,495
R^2	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Table 9: Poison Pill Adoption, Hedge Fund Holdings, and Hedge Fund Success. This table reports the results of linear regression models in which the dependent variable is either an indicator that takes the value of 1 if final hedge fund holdings are less than 10%, and 0 otherwise, or an indicator that takes the value of 1 if the hedge fund is unsuccessful at getting its demands met, and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variables of interest are *Poison Pill Adoption*, which is equal to 1 if the firm adopts a poison pill in the year preceding an activist hedge fund intervention, and 0 otherwise, and *Anti-Activist Poison Pill Adoption*, which is equal to 1 if the firm adopts an anti-activist poison pill in the year preceding an activist hedge fund intervention, and 0 otherwise. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund holdings is scraped from form 13D following the procedure outlined in Internet Appendix Section IA.B.2, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the industry level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	I(HF holdings < 10)		I(Failure)	
	(1)	(2)	(3)	(4)
Poison Pill Adoption _{<i>t,t-4</i>}	0.121** (0.048)		0.014 (0.068)	
Anti-Activist Poison Pill Adoption _{<i>t,t-4</i>}		0.154*** (0.048)		0.343* (0.177)
Controls	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Quarter FE	Yes	Yes	Yes	Yes
$\bar{y}$	0.8107	0.8107	0.1498	0.1498
Observations	1,620	1,620	1,124	1,124
R^2	0.20	0.20	0.16	0.17

Table 10: Hedge Fund Interest, Poison Pill Adoption, and CEO Turnover. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the CEO of a firm leaves his/her position in quarter t , and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$ and $t - 2$ interacted with the adoption of a poison pill in quarter $t - 1$. All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Internet Appendix Section IA.B.1, data on CEO turnover is from BoardEx, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

[illegible]

Table 11: Poison Pill Adoption, Hedge Fund Interventions, and Corporate Outcomes. This table reports the results of stacked linear regression models (Gormley and Matsa, 2011) in which the dependent variables are various corporate outcomes and policies. The main independent variables are the interaction of a post dummy with an indicator for the adoption of an anti-activist poison pill (a) or an indicator for the firm becoming an activist target (b). Our empirical specification uses a stacked methodology (Gormley and Matsa, 2011) to address issues created by including already “treated” firms in the control group (e.g., see De Chaisemartin and d’Haultfoeuille, 2020; Callaway and Sant’Anna, 2021; Goodman-Bacon, 2021; Sun and Abraham, 2021; Baker et al., 2022). All variables are defined in Table A.1. Data on poison pill adoptions is hand-collected from firm SEC filings, data on activist hedge fund public campaigns is from Boyson et al. (2022) and Bebchuk et al. (2015) and was graciously shared by Nicole Boyson, Alon Brav, and Wei Jiang, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm by cohort level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	<u>Tobin’s q</u>	<u>Investment</u>	<u>Share Repurchases (\$Ms)</u>	<u>Cash</u>	<u>Leverage</u>
	(1)	(2)	(3)	(4)	(5)
Anti-Activist Poison Pill $\times$ Post (a)	-0.002 (0.066)	0.004* (0.002)	-10.021 (12.842)	0.045*** (0.015)	-0.045* (0.023)
HF Target $\times$ Post (b)	0.060*** (0.021)	-0.001*** (0.000)	14.536** (6.707)	0.004 (0.003)	-0.001 (0.003)
F-stat (a—b) (p-Value)	0.79 (0.374)	4.74** (0.029)	2.89* (0.089)	6.89*** (0.009)	3.40* (0.065)
Controls	No	No	No	No	No
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes	Yes
Industry $\times$ Quarter $\times$ Cohort FE	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	1.6134	0.0228	71.8417	0.1966	0.2344
Observations	2,947,517	2,888,492	2,957,150	2,952,391	2,947,575
R^2	0.80	0.79	0.61	0.90	0.88

Appendix

Table A1: Variable Definitions

Variable	Definition
Poison Pill	Shareholder rights plan that offers existing shareholders, but not new shareholders crossing the trigger threshold, the right to buy additional shares in the company at deep discounts.
Trigger Threshold	The ownership threshold in poison pills for new shareholders, above which shareholder rights plans are triggered.
NOL (Net Operating Loss) Pill	A poison pill with a trigger threshold of 5% designed to protect a firm's tax assets.
Acting-in-Concert Provision	A poison pill provision under which shareholdings of multiple parties are aggregated for the purpose of determining whether shareholdings have exceeded the trigger threshold.
Synthetic Equity Provision	A poison pill provision under which derivative securities are counted for the purpose of determining whether shareholdings have exceeded the trigger threshold.
Anti-Activist Pill	A poison pill with a trigger threshold of 5%, or a poison pill with a trigger threshold of $\leq 10\%$ <i>and</i> one of the following: a synthetic equity provision, an acting-in-concert provision, or both (See Kahan and Rock, 2019).
Higher Trigger for Institutions	A poison pill with exemptions, such as a higher trigger threshold for certain institutional investors.
Grandfather Provision	A poison pill provision that exempts current shareholders from trigger thresholds.
Duration	The number of years a poison pill remains in place.
Shareholder Vote Required	A poison pill provision that requires a shareholder vote.
Chewable Pill	A poison pill that is not triggered by certain qualified or permitted offers.
Hostile Activist Intervention	A public activism declaration with hostile intentions, as defined by Bebchuk et al. (2015) .
Activist Hedge Funds	Hedge funds that have filed at least one 13D or initiated a proxy fight per Bebchuk et al. (2015) and Boyson et al. (2022) and have an IP address identified on ARIN.
Total Clicks	The total number of views (clicks) on SEC filings. The construction of the clicks data is detailed in Section IA.B.1 .

HF Clicks	The number of views (clicks) by activist hedge funds on SEC filings. The construction of the clicks data is detailed in Section IA.B.1 .
Nonactivist HF Clicks	The number of views (clicks) by non-activist hedge funds on SEC filings. The construction of the non-activist hedge fund list is detailed in section 4. The construction of the clicks data is detailed in section IA.B.1 .
Closest Competitor	The one, three, or five firms closest to the firm of interest in the TNIC classification (Hoberg and Phillips, 2016).
Closest Competitor Clicks	The number of hedge fund clicks on the firm(s) classified as the top, top three, or top five closest competitors. The construction of the clicks data is detailed in Section IA.B.1 .
Public Acquisitions	Total number of acquisitions in quarter t , collected from Thomson Reuters SDC Platinum Database.
Fed Funds Rate	The Federal Funds effective rate during quarter t . Source: https://fred.stlouisfed.org/series/FEDFUNDS .
Total Assets (Book value of Assets)	Natural logarithm of book value of assets at the end of quarter t from Compustat. $\log(atq)$
Market Leverage	The total market leverage of the firm, as defined by Frank and Goyal (2009) , at the end of quarter t , collected from Compustat. $(dlcq + dlttq)/((prccq * cshoq) + dlcq + dlttq + pstkq - txditcq)$
Cash Holdings	Cash and cash equivalents at the end of quarter t , collected from Compustat, scaled by book assets. $cheq/atq$
Capital Expenditures	Capital expenditures at the end of quarter t , collected from Compustat, scaled by book assets. $capxy/atq$
R&D expense	R&D expenditures at the end of quarter t , collected from Compustat, scaled by book assets. $xrdq/atq$
NOL (Net Operating Loss)	Tax loss carry forwards at end the year, collected from Compustat, scaled by book assets. $tlcf/at$
Return on Assets	Operating income at the end of quarter t , collected from Compustat, scaled by book assets. $oiadpq/(teqq + txditcq - pstkq)$
Quarterly Stock Return	Quarterly stock return from CRSP.
Tobin's q	Adjusted book to market ratio at the end of quarter t , collected from Compustat. $((prccq * cshoq) + dlcq + dlttq + pstkq - txditcq)/atq$
Dividend Yield	The dividend yield at the end of quarter t , collected from Compustat. $dvpspq/prccq$

Years Since IPO	Number of years since a firm's IPO, collected from CRSP.
I(Classified Board)	Indicator variable that equals 1 if the firm has a classified board in quarter t , and 0 otherwise. Data collected from Guernsey et al. (2024). https://sites.google.com/utk.edu/matthew-serfling/data?authuser=0
Institutional Ownership	The percentage of shares held by institutional owners during quarter q , collected from Thomson Reuters.
I(CEO-Chair)	Indicator variable equal to 1 if a CEO serves as the chairman of the board, and 0 otherwise, collected from BoardEx.
Board Size	The number of directors on the board, collected from BoardEx.
Pct. Independent Directors	The ratio of independent directors to total number of directors, collected from BoardEx.
I(Advance Notice Bylaw)	Indicator Variable that equals 1 if the firm has an advance notice bylaw in place during quarter t , and 0 otherwise. Collected from FactSet.

Internet Appendix

for

“The Rise of Anti-Activist Poison Pills”

OFER ELDAR¹, TANJA KIRMSE² and MICHAEL D. WITTRY³

This Internet Appendix reports results that are mentioned but not tabulated in the main paper. In Section [IA.A](#), we discuss the institutional and legal background of anti-activist defensive tactics. Section [IA.B](#) explains the details of the data construction for activist hedge fund clicks and holdings. Finally, in Section [IA.C](#) we report 2 figures and 8 tables, as outlined below:

1. Figure [IA.1](#): The evolution of poison pills’ discriminatory provisions and other characteristics
2. Table [IA.1](#): Hedge fund interest, anti-activist poison pills, and director turnover
3. Table [IA.2](#): Hedge fund interest, poison pill adoption, and subsample splits
4. Table [IA.3](#): Hedge fund interest and poison pill adoptions excluding takeover bids and rumors
5. Table [IA.4](#): Hedge fund interest, poison pill adoption, and public activism campaigns excluding takeover bids and rumors
6. Table [IA.5](#): Hedge fund interest, poison pill adoption, classified boards, and public activism campaigns
7. Table [IA.6](#): Hedge fund interest, poison pill adoption, advance notice bylaw provisions, and public activism campaigns
8. Table [IA.7](#): The number of hedge funds, poison pill adoption, and public activism campaigns
9. Table [IA.8](#): The number of hedge funds, poison pill adoption, and public activism campaigns

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IA.A Institutional and Legal Background

IA.A.1 Institutional Analysis of Anti-Activist Devices

Poison pills, or shareholder rights plans, are widely regarded as the most effective defensive tactic firms can employ against unsolicited takeover bids (Coates, 2000). Introduced in the 1980s during a wave of hostile takeovers, poison pills allow existing shareholders to purchase additional shares of the firm at a deep discount if any person acquires a pre-specified percentage of the firm's shares, typically 15–20%. This mechanism dilutes the acquirer's ownership stake, making the takeover prohibitively expensive. Pills are particularly effective as an anti-takeover device because corporate boards can adopt them swiftly off-the-shelf without shareholder approval and have ample time to do so when there is an offer to acquire the company, owing to the early warning system under the Williams Act. As a result, the only practical way for bidders to defeat a pill is by pursuing a proxy fight to appoint a board that would redeem the pill.

What this means in practice is that whether or not a company has an active poison pill on a “clear day”—when the company is not under a takeover threat—is largely immaterial from a practical perspective because a board can easily adopt a pill at any time if there is an offer to buy the company. As pointed out by Coates (2000), the critical question is whether the board adopts a pill in response to a potential change in control. In fact, because all takeovers operate under the shadow of a possible pill adoption, a bidder would typically negotiate with the board regardless, thereby making pill adoptions in response to takeovers mostly redundant, unless the bidder is capable of running and winning a proxy contest.

The basic justification for poison pills is that they enable management to protect shareholders from offers without a sufficiently high control premium. The major concern however is that they serve as an entrenchment device for under-performing managers (Gompers et al., 2003). In the 2000s, shareholder groups and proxy advisory firms pressured public corporations to eliminate anti-takeover devices, including poison pills. As a result, there has been

a sharp decline in active pills. However, as (Catan, 2019) argues, the elimination of these pills has had little effect on valuations because on a “clear-day,” pills are inconsequential, and boards have the power to adopt them at any time.

During the same period, however, companies began using poison pills to forestall the influence of hedge fund activism. Hedge fund activists do not seek to gain control of target corporations, but rather acquire a sizable ownership stake, and use their voting rights to pressure management to change its policies. Importantly, there is no regulatory warning system for hedge fund interventions. Hedge funds must file a Schedule 13D filing within 10 days after they reach a 5% ownership stake. By the time they report their ownership, which not infrequently exceeds 10%, they have already acquired a stake that places them in a strong position to threaten management and win a possible proxy fight. Accordingly, a carefully crafted pill may be crucial for limiting the ability of hedge funds to launch a public campaign.

As described by Kahan and Rock (2019), pill terms have changed to target activists’ stock accumulations. These terms primarily include: (a) lower trigger-thresholds of 10 percent ownership or less (as compared to the historical typical 15-20% threshold), (b) acting-in-concert provisions that count the stakes of all shareholders coordinating with or influencing each other for the purpose of computing the trigger thresholds, and (c) synthetic equity provisions that treat economic interests under derivative contracts referencing the stock of the target company as equity ownership.

Moreover, corporations have started using pills that are ostensibly designed to protect a company’s net operating loss (“NOL”) assets, but may, in fact, place substantial limits on hedge fund activism (Edelman and Thomas, 2012). NOLs may be used to offset future profits for tax purposes. However, the company’s ability to utilize this tax benefit is significantly limited if a person holding more than 5% ownership interest acquires control of the company. The rationale for NOL pills is to protect the NOL from a potential acquisition that might undermine the company’s ability to use its NOL-related tax asset. Although only a change

in control can impair the NOL tax asset, NOL pills have a 5% trigger threshold, which aligns with the thresholds referenced in the tax code. Because of their low threshold, NOL pills effectively deter stock acquisitions by activist shareholders seeking to buy sizable stakes that, while short of control, would make activism sufficiently profitable.

Finally, it is important to emphasize that other entrenchment devices are unlikely to have a material impact on the ability of hedge funds to launch public campaigns. Two key alternative tactics are classified boards and advance notice bylaws.

A classified board is a structure where directors are divided into classes, typically serving staggered three-year terms. Staggered boards make it harder to replace a majority of the board in one election. When combined with a poison pill, they provide strong anti-takeover protection by making it more difficult for a bidder to appoint a board majority that would redeem the pill. However, this defense is likely futile against activist hedge funds, whose goal is to appoint one or a few directors to influence corporate strategy rather than gain outright control. Accordingly, [Gow et al. \(2024\)](#) finds that classified boards do not influence hedge funds' ability to gain a board seat in target firms.⁴

Advance notice bylaws are corporate governance provisions that require shareholders to provide notice within a specified timeframe (typically 30-120 days) before an annual meeting if they intend to nominate directors. These bylaws give management time to prepare responses and inform other shareholders about potential proxy contests. However, they are unlikely to significantly hinder activists. These bylaws primarily affect the timing of activist campaigns rather than preventing them altogether, and it is relatively straightforward for activists to comply with the notice periods. Additionally, courts have struck down bylaws that impose onerous requirements on shareholder or interfere with their voting rights.

⁴An example is the recent campaign of Engine No. 1 which succeeded in appointing three members to the board of Exxon in the staggered elections of four members in 2021.

IA.A.2 The Legal Treatment of Poison Anti-Activist Pills

Poison pills, like all anti-takeover devices, may be challenged in court under the *Unocal* test, which requires that (1) there is a threat to corporate policy, and (2) the response is reasonable in relation to the threat posed. Based on this standard, courts rarely question boards' decisions to adopt poison pills to protect shareholders against a change in control without an adequate control premium, so long as it is possible for bidders to run a proxy contest to replace the board⁵.

Although the primary legal justification for poison pills is to prevent a change in control, courts have largely upheld pills directed against activist hedge funds—typically on the basis that there is some risk of “creeping control,” rather than merely a risk that activist will use their voting power in a proxy contest or pressure management to change the business strategy. On this basis, courts have held valid pills with a 10% trigger threshold, even though there was arguably no realistic chance of a takeover.⁶ Thus, courts have legitimized pills with low trigger thresholds directed against activists as a device to protect shareholders from the risk of creeping control.

It is important to emphasize that Delaware courts held in *In re Williams Companies Stockholder Litigation*,⁷ that adopting a pill to address a general threat of influence by activist hedge funds on corporate management was impermissible. This is because voting and campaigning are viewed as fundamental shareholder rights, and the risk that shareholders might mistakenly vote the wrong way (as opposed to tendering their shares for too low a premium) does not constitute a valid concern. The pill in this case was also deemed unreasonable because its trigger threshold of 5% combined with an expansive acting-in-concert provision that covered parallel conduct by multiple acquirers was unreasonable.

⁵See *Unitrin, Inc. v. American General Corp.*, 651 A.2d 1361 (Del. 1995); *Air Products and Chemicals, Inc. v. Airgas, Inc.*, 16 A.3d 48 (Del. Ch. 2011)

⁶See *Third Point LLC v. Ruprecht* (Del. Ch. 2014), where Sotheby's adopted a poison pill with a 10% trigger following 13D filings by two hedge funds, Marcato and Third Point. See also *Yucaipa American Alliance Fund II, L.P. v. Riggio* (Del. Ch. 2010), where the court upheld a pill with a 20% trigger adopted by Barnes & Noble in response to the acquisition of 17.8% of the company's stock by an activist.

⁷Del. Ch. 2021.

While the *Williams* decision limits the ability of boards to adopt pills *explicitly* targeted against activists, it does not appear to significantly affect their ability to adopt 10% pills. In fact, firms virtually never explicitly state that a pill is adopted to ward off an activist, even when the pill includes features that target activists. Instead, they state that the purpose is to reduce the likelihood that any person will gain control of the corporation without paying a control premium.⁸

Importantly, even after the *Williams* decision, corporations with net operating losses can adopt NOL pills that have a 5% trigger. These pills were generally held to be valid on the basis that preserving NOL is a legitimate corporate purpose and the 5% trigger is reasonable.⁹ Thus, as some law firms have indicated, corporations with net operating losses can simply adopt an NOL pill to curb activist hedge funds under the pretense of protecting tax assets (Gottfried and Donahue, 2018).¹⁰

Finally, while Institutional Shareholder Services (ISS) and other proxy advisory firms have pressured corporations to terminate poison pills, their guidelines are generally lenient towards pills that have a short duration of one year or less and those that are subject to shareholder ratification. Moreover, their guidelines largely condone NOL pills with a duration of three years or less, leaving them mostly free of any scrutiny. Given that hedge fund threats tend to be relatively short-lived, and pills can always be re-adopted, ISS places relatively few limitations on anti-activist pills.

⁸This is true even when, ex post, the pill is viewed as an anti-activist device. See for example, the press release issued by the Williams Companies when it adopted a pill: www.sec.gov/Archives/edgar/data/107263/000119312520080810/d878306dex991.htm

⁹*Versata Enterprises, Inc. v. Selectica, Inc.* (Del. 2010).

¹⁰Heitzman and Lester (2021) find that most firms have nonzero NOL carryforwards, including 90% of “large firms” from 2010-2015.

IA.B Construction of Data

IA.B.1 Hedge Fund Activist Clicks

Data on hedge fund clicks are compiled from several sources following the methodology outlined in Kirmse (2024). First, to obtain click data on SEC documents, we download the full history of log files from the SEC EDGAR log file website.¹¹ These log files cover the period from January 2003 through June 2017, with some inconsistencies in coverage during the first three years. We then clean the log files, following the procedure recommended by Ryans (2017). First, we keep only observations in which website views were successfully delivered (code = 200), the IP address was not automatically identified as a crawler (crawler = 0), and the opened link did not lead to an index page (idx=0). From this dataset, we drop “robots,” which we identify as those IP addresses that have any of the following characteristics: 500 or more views per day, 25 or more views per minute, or 4 or more views of *different* firms’ filings per minute.

To implement this, we first drop IP addresses with either 500 or more views per calendar day or with 25 or more views per minute. The latter is calculated on a rolling basis (by second), but only within a calendar day. For example, an IP address with 20 clicks between 11:59:30pm and 11:59:59pm on 1/1/2015 and 5 clicks between 12:00:01am and 12:00:15pm on 1/2/2015 would not be flagged. After dropping these IP addresses, we also drop those IP addresses which accessed four or more unique CIKs within one minute. As before, this is calculated on a rolling 60-second basis within a calendar day. For all three criteria, we exclude only the IP’s activity for the days when it is classified as a robot (Gibbons et al., 2021). Finally, we unmask the last three digits of the IP address using the cipher table from Chen et al. (2020).¹²

To merge IP addresses from the EDGAR log file downloads with hedge funds, we start

¹¹E.g., see <https://www.sec.gov/dera/data/edgar-log-file-data-set.html>.

¹²There are other similar methods for unmasking the IP addresses. For example, see Gibbons et al. (2021).

by downloading Bulk WhoIs data from the American Registry of Internet Numbers (ARIN). These data include information on all registered IP addresses, and contain details of the registrant such as the registered name and address at the time of the download. Next, we compile a comprehensive list of 980 unique activist hedge funds by combining hedge funds identified in two seminal works in the activism literature: [Brav et al. \(2008\)](#) (and their updated work in [Bebchuk et al., 2015](#)) and [Boyson et al. \(2022\)](#). These hedge funds consist of all 13D filers from 1994 to 2018 identified as hedge funds in Item 2 of their Schedule 13D, or on their Form ADV filings. When the classification is uncertain, publicly available information was used ([Boyson et al., 2022](#)).

Finally, we search all ARIN registrants for approximate name matches with the hedge funds in our initial sample and manually compare the IP registration information with the names and addresses that hedge funds list on their SEC filings. As described in [Kirmse \(2024\)](#), we download ARIN WhoIs data and keep all registrants whose name matches the hedge fund name exactly—excluding additions such as "Capital", "Investment", or "Management." For numbers and abbreviations such as 3V and D.E. Shaw, we also search for alternative spellings ("Three V", "DE Shaw"). Then, we use a three-step procedure to retain the most likely matches.

First, we keep all perfect matches, where both name and SEC address match. Second, we retain cases where either the name or the SEC address matches a previously identified perfect match. For example, if we find 3V Investment with the correct address, we would also keep "3V Capital", as long as it has the same address. Third, when both the name and address do not match perfectly, but are closely related, we use Google searches to verify the entities. For example, if we find both "Alpine Investments" and "Alpine Management", we search for both firms online and compare their websites and addresses. If they are determined to be separate entities, we do not associate the potential IP address with the hedge fund.

Despite taking significant precautions, it is possible that some IP addresses are misattributed to hedge funds when they actually belong to other firms. However, we do not

expect this noise to bias our results, as information acquisition by non-hedge funds should not systematically influence poison pill adoptions, or be related to 13D filings beyond the non-hedge fund clicks already captured in our control variable. This procedure ultimately yields 431 individual hedge funds for which we can identify at least one IP address block.

Using this novel hedge fund CIK to hedge fund IP address mapping, we are able to compute the number of SEC EDGAR filing views by hedge funds at the firm-quarter level during our sample period.

IA.B.2 Hedge Fund Activist Holdings

We start by appending activism data shared by Alon Brav, Wei Jiang, and Nicole Boyson. In cases where a campaign begins before a Schedule 13D filing, we keep the date of the initial 13D filing.¹³ We next merge this data with our sample, as well as Compustat to obtain CIKs. Using these CIKs, we merge the dataset with a list of all SEC EDGAR 13D filings by matching the date and CIK of the filing. This process yields 2,906 observations.

Using this list of 13D filing URLs, we scrape hedge fund holdings. Although the required information in each filing is standardized, the HTML tags used are not consistent across all filings. Therefore, we begin by scraping all information from Line 13 ("PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)"). Hedge funds commonly disclose holdings for multiple associated funds. For example, in its August 23rd 2010 filing for Hot Topic,¹⁴ Becker Drapkin lists seven ownership percentages, ranging from 0.2% to 5.1%. Usually, this occurs when one fund serves as a general partner of another fund or has voting authority over another fund's shares. Therefore, we take the maximum of all disclosed percentages.

Item 5 of schedule 13D additionally details "Interest in Securities of the Issuer." We scrape

¹³We take a conservative approach to assessing hedge fund holdings in 13D filings, by collecting data on holdings from the initial 13Ds, rather than subsequent 13D filings that reflect changes in hedge funds' stakes over time. The reason is that funds usually increase their stakes over time. As a result, our measure of hedge fund holdings at the time of the initial 13D filing is likely to be downwardly biased.

¹⁴E.g., see <https://www.sec.gov/Archives/edgar/data/1017712/000135982410000037/schedule13d.htm>.

this item by extracting all text between "Interest in Securities of the Issuer" and "Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer" (Item 6), then retaining only numbers containing percentage signs from the extracted text. Again, filers may list holdings of multiple funds or discuss group arrangements. For example, in its August 23rd 2010 filing for Hot Topic, Becker Drapkin lists the reporting persons as the beneficial owner of 5.083%, with individual funds owning 1.574%, 0.195%, and 1.688%, respectively. Importantly, the filer also discloses the total amount of 9.042% held by "the group", which we use as the percentage holdings value for this 13D, since it captures all ownership. Thus, as above, we retain the maximum percentage amount disclosed in item 5.

Finally, we supplement the scraping with manual hand-collection of ownership data in two circumstances. First, when ownership for any filing fails to be scraped successfully. Second, in some cases, Item 5 discloses cross-holdings among funds, debt instruments, or other idiosyncratic provisions. For example, in its August 25th 2011, Schedule 13D filing for Twin Disk,¹⁵ Gamco Investors states in Item 5: "Gabelli Funds has sole dispositive and voting power with respect to the shares of the Issuer held by the Funds so long as the aggregate voting interest of all joint filers does not exceed 25% of their total voting interest in the Issuer." Here, 25% is the percentage found in Item 5, but it is not the correct holding figure. To avoid using the wrong ownership percentage due to such cases, we merge data from Line 13 with item 5 and keep observations where the maximum percentage in Line 13 matches the maximum percentage disclosed in Item 5, provided that this percentage is greater than 5% and less than 50%. All observations with a mismatch, or suspiciously high or low ownership values are then hand-checked.

In the manual hand-collection process, we first examine Item 5 and use the largest percentage associated with phrases such as "we collectively own," "ownership in aggregate," or "the group collectively owns." We include in the holdings calculation any shares subject to the exercise of options. We then decide whether to retain the largest value from Item 5 or

¹⁵E.g., see <https://www.sec.gov//Archives//edgar/data/100378/0000807249-11-000280.txt>.

Line 13 based on the following logic. When no "aggregate" ownership is mentioned, we use the largest percentage disclosed across Line 13 and Item 5. However, Line 13 must be lower than 50%, and within 0.1 percentage points of the sum of percentages disclosed in Item 5.¹⁶ We allow for minor discrepancies due to rounding. Some 13D filings report ownership percentages in Item 2, instead of Item 5, or in a letter to the board, which is often included as an appendix to the filing. These ownership percentages are used when the maximum percentage reported in Item 5 and maximum percentage reported in Line 13 are inconsistent, and the maximum of (Item 5, Line 13) is either less than 5% or exceeds 50%.

When the same percentage appears with inconsistent decimals within the same filing (e.g. 7.88% in Item 5, but 7.9% in Line 13),¹⁷ we retain the more precise value.

¹⁶For example, we use 7.5% for https://www.sec.gov/Archives/edgar/data/1037976/000089534517000195/wd13d-lasalle_generation.htm

¹⁷E.g., see <https://www.sec.gov/Archives/edgar/data/854460/0000950149-04-001359.txt>.

Table IA.B.1: Hedge Funds' Holdings by firm size. This table reports hedge funds' initial stakes in targets conditional on a 13D filing, split by target size. Column 1 ("T1") shows average holdings for the smallest tercile of firms. Columns 2 and 3 ("T2" and "T3") show average percentage holdings for the middle and largest tercile of firms, respectively. Dec10 is the largest decile (the top 10%) of firms. Firms sizes are measured by market cap (top row) and total assets (bottom row) as of the end of the year. Columns 5 through 8 compare the means in a t-test across groups. The smallest tercile of firms has an average market cap of \$39.23 million, and median of \$37.48 million. The middle tercile of firms has an average market cap of \$201 million, and median of \$182 million. The largest tercile of firms has an average market cap of \$3.1 billion and median of \$1.3 billion. The largest decile of firms has an average market cap of \$8.04 billion, and a median market cap of \$4.81 billion. The smallest firm in the top decile of firms has a market capitalization of \$2.40 billion. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	T1	T2	T3	Dec10	T1-T2	T1-T3	T2-T3	T1-Dec10
Holdings by Market Cap.	10.896	9.421	9.082	8.742	1.475***	1.814***	0.339	2.154***
<i>N</i>	927	927	927	278	1854	1854	1854	1205
Holdings by Book Assets	10.998	9.595	8.784	8.545	1.403***	2.214***	0.811*	2.453***
<i>N</i>	967	967	966	290	1934	1933	1933	1257
Holdings by Market Cap. 2003-2007	10.485	9.020	8.335	7.972	1.465*	2.150***	0.685	2.512*
<i>N</i>	382	374	378	113	756	760	752	495
Holdings by Book Assets 2003-2007	10.851	8.929	8.061	8.044	1.923**	2.790***	0.867*	2.807**
<i>N</i>	394	393	393	118	787	787	786	512
Holdings by Market Cap. 2008-2012	11.797	10.022	9.127	8.488	1.775*	2.670***	0.895	3.309**
<i>N</i>	292	292	292	87	584	584	584	379
Holdings by Book Assets 2008-2012	11.814	9.650	9.534	8.488	2.164**	2.280**	0.116	3.326**
<i>N</i>	305	305	304	91	610	609	609	396
Holdings by Market Cap. 2013-2017	10.598	9.567	9.745	8.122	1.031	0.853	-0.178	2.477**
<i>N</i>	257	258	256	77	515	513	514	334
Holdings by Book Assets 2013-2017	10.673	10.220	8.883	8.394	0.453	1.790*	1.337	2.279*
<i>N</i>	269	269	268	80	538	537	537	349

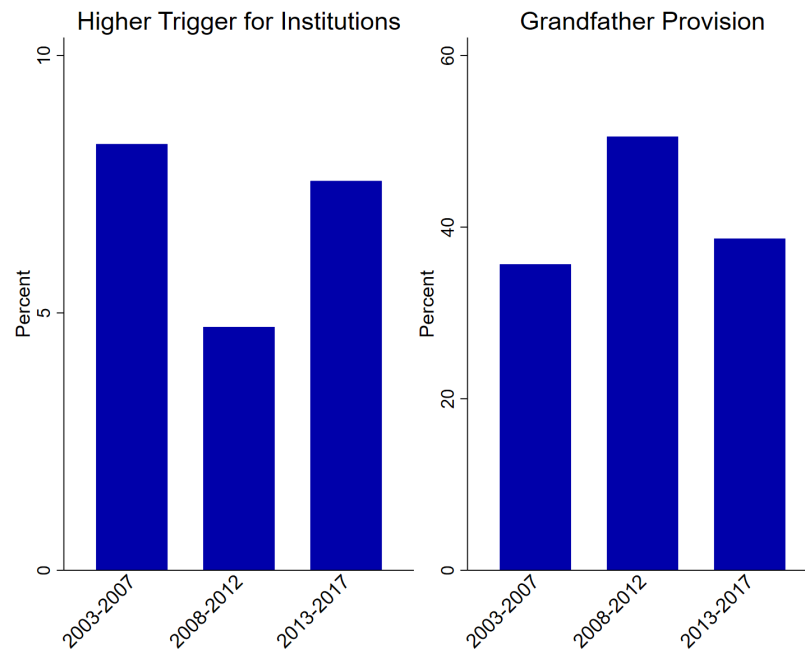
Table IA.B.2: Size Cutoffs for holdings This table reports firm sizes of each tercile and the largest decile, used to calculate holdings by firm size above.

	(Tercile 1)		(Tercile 2)		(Tercile 3)		(Decile 10)		
	Mean	P50	Mean	P50	Mean	P50	Mean	P50	Min
Market Cap. 2003-2007	41.46	39.90	190.54	168.74	2377.98	834.17	6248.60	2974.13	1620.00
<i>N</i>	382		374		378		113		
Book Assets 2003 - 2007	51.63	44.89	286.84	275.93	3660.89	1459.90	9439.04	3831.84	2374.00
<i>N</i>	394		393		393		118		
Market Cap. 2008-2012	27.23	25.53	143.14	134.22	2407.14	1003.37	6250.75	4560.86	2062.79
<i>N</i>	292		292		292		87		
Book Assets 2008-2012	55.59	50.87	352.43	315.53	7969.22	2219.10	22419.35	8730.06	4111.10
<i>N</i>	305		305		304		91		
Market Cap. 2013-2017	62.98	56.69	322.38	278.29	4907.51	2205.66	12147.46	7956.57	4025.71
<i>N</i>	257		258		256		77		
Book Assets 2013-2017	76.07	67.71	545.83	431.80	25772.15	2928.53	80351.37	10726.95	6069.44
<i>N</i>	269		269		268		80		

IA.C Additional Figures and Tables

Figure IA.1: The Evolution of Poison Pills. This figure depicts the evolution in the characteristics and provisions of newly adopted pills through time. Panel A depicts the prevalence of discriminatory provisions, and Panel B depicts the prevalence of other common features of poison pills such as the duration, whether the pill requires shareholder approval, and whether it is chewable. Data on poison pill characteristics and provisions is hand-collected from firm SEC filings following the process described in Section 3. The number of new pill adoptions in the periods of 2003–2007, 2008–2012, and 2013–2017, are 195, 252, and 124, respectively. All variables are defined in Appendix Table A.1 in the main paper.

(A) Discriminatory Provisions through Time.



(B) Other Characteristics through Time.

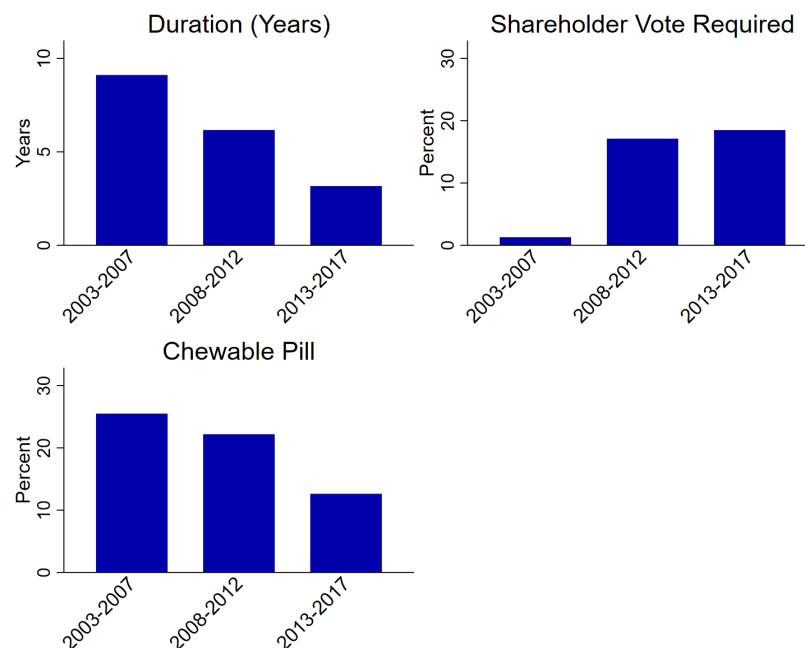


Table IA.1: Hedge Fund Activist, Anti-Activist Poison Pills, and Director Turnover. This table reports the results of linear regression models in which the dependent variable is an indicator variable equal to 1 if the firm experiences the departure of a director. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main variables of interest are indicators equal to 1 if a firm adopts a poison pills, experiences an activist filing a Schedule 13D, or experiences an activist announcing a proxy contest. All variables are defined in Table A.1 of the main paper. Data on director turnover is from BoardEX. Data on poison pill adoptions is hand-collected from firm SEC filings following the procedure in Section 3, data on hedge fund clicks is collected via the methodology described in Section IA.B.1, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Director Turnover (Indicator)			
	(1)	(2)	(3)	(4)
Anti-Activism Poison Pill $_{t-1,t-3}$	0.0454** (0.017)		0.0489*** (0.010)	
Target $_{t-1,t-3}$	0.0472*** (0.000)			
Proxy $_{t-1,t-3}$			0.1315*** (0.000)	
Anti Activism Pill $_{t-1,t-4}$		0.0413** (0.014)		0.0447*** (0.008)
Target $_{t-1,t-4}$		0.0449*** (0.000)		
Proxy $_{t-1,t-4}$				0.1219*** (0.000)
Firm FE	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes
Observations	176,293	176,293	176,293	176,293
R^2	0.0845	0.0846	0.0845	0.0846

Table IA.2: Hedge Fund Interest, Poison Pill Adoption, Subsample Splits. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm adopts any type of poison pill or an anti-activist poison pill. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. We split the sample into subsamples at the median of size (log assets), and the median of stock returns. All variables are defined in Table A.1 of the main paper. Data on poison pill adoptions is hand-collected from firm SEC filings following the procedure outlined in Section 3, data on hedge fund clicks is collected via the methodology described in Section IA.B.1, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	All Pill Adoptions				Anti-Activist Pill Adoptions			
	Small Firms	Large Firms	Low Returns	High Returns	Small Firms	Large Firms	Low Returns	High Returns
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hedge Fund Clicks _{t-1} (100s)	-0.005 (0.003)	0.004*** (0.001)	0.003* (0.002)	0.003* (0.002)	-0.001 (0.002)	0.003*** (0.001)	0.002* (0.001)	0.002 (0.001)
Total Clicks _{t-1} (100,000s)	0.122* (0.062)	0.011 (0.008)	-0.001 (0.006)	0.015 (0.012)	0.073** (0.033)	0.007 (0.007)	-0.004 (0.004)	0.012 (0.011)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0057	0.0057	0.0057	0.0057	0.0014	0.0014	0.0014	0.0014
Observations	86,002	86,783	86,891	85,170	86,002	86,783	86,891	85,170
R^2	0.14	0.15	0.17	0.18	0.17	0.15	0.18	0.19

Table IA.3: Hedge Fund Interest and Poison Pill Adoptions - Excluding Takeover Bids and Rumors. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm adopts a poison pill in quarter t , and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$. The table excludes time periods around an actual takeover bid (Columns (1) and (4)), or a rumored bid (Column (2) and (5)), or both (Column (3) and (6)). All variables are defined in Table A.1 of the main paper. Data on poison pill adoptions is hand-collected from firm SEC filings following the procedure outlined in Section 3, data on hedge fund clicks is collected via the methodology described in Section IA.B.1, data on takeover bids is from SDC Platinum while data on rumored bids is hand-collected from news reports, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Pill Adoption $_t$ (Indicator)			Anti-Activist Pill Adoption $_t$ (Indicator)		
	(1)	(2)	(3)	(4)	(5)	(6)
Hedge Fund Clicks $_{t-1}$ (100s)	0.0031** (0.0012)	0.0022** (0.0011)	0.0023** (0.0012)	0.0022** (0.0009)	0.0014* (0.0008)	0.0015* (0.0009)
Total Clicks $_{t-1}$ (100,000s)	0.0088 (0.0068)	0.0090 (0.0065)	0.0092 (0.0066)	0.0064 (0.0062)	0.0072 (0.0060)	0.0076 (0.0062)
Excludes =	Bids	Rumors	Both	Bids	Rumors	Both
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry $\times$ Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0055	0.0052	0.0051	0.0013	0.0012	0.0012
Observations	172,792	175,995	172,591	172,792	175,995	172,591
R^2	0.10	0.10	0.10	0.12	0.12	0.12

Table IA.5: Hedge Fund Interest, Poison Pill Adoption, Classified Boards and Public Activism Campaigns. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm is targeted by an activist hedge fund in a public campaign in quarter t , and 0 otherwise. We define targeted in a public campaign to be the filing of a 13D or the announcement of a proxy fight by an activist hedge fund. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$ and $t - 2$ interacted with the adoption of a poison pill in quarter $t - 1$. The table includes results that include a triple interaction between hedge funds clicks, poison pills, and classified boards. All variables are defined in Table A.1 of the main paper. Data on poison pill adoptions is hand-collected from firm SEC filings as outlined in Section 3, data on hedge fund clicks is collected via the methodology described in Section IA.B.1, data on activist hedge fund public campaigns is from Boyson et al. (2022) and Bebchuk et al. (2015) and was graciously shared by Nicole Boyson, Alon Brav, and Wei Jiang, data on takeover bids is from SDC Platinum while data on rumored bids is hand-collected from news reports, data on poison pills is from Guernsey et al. (2024), and data on firm financials is taken from CRSP/Compustat Merged Quarterly. For brevity, the coefficients for the other double interaction terms are omitted from the table. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

[illegible]

Table IA.6: Hedge Fund Interest, Poison Pill Adoption, Advanced Notice Bylaw and Public Activism Campaigns. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm is targeted by an activist hedge fund in a public campaign in quarter t , and 0 otherwise. We define targeted in a public campaign to be the filing of a 13D or the announcement of a proxy fight by an activist hedge fund. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Hedge Fund Clicks*, which is equal to the number of views of SEC public filings (clicks) by activist hedge funds in quarter $t - 1$ and $t - 2$ interacted with the adoption of a poison pill in quarter $t - 1$. The table includes results that include a triple interaction between hedge funds clicks, poison pills, and advanced notice bylaw provisions. All variables are defined in Table A.1 of the main paper. Data on poison pill adoptions is hand-collected from firm SEC filings as outlined in Section 3, data on hedge fund clicks is collected via the methodology described in Section IA.B.1, data on activist hedge fund public campaigns is from Boyson et al. (2022) and Bebchuk et al. (2015) and was graciously shared by Nicole Boyson, Alon Brav, and Wei Jiang, data on takeover bids is from SDC Platinum while data on rumored bids is hand-collected from news reports, data on poison pills is from Guernsey et al. (2024), and data on firm financials is taken from CRSP/Compustat Merged Quarterly. For brevity, the coefficients for the other double interaction terms are omitted from the table. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

[illegible]

Table IA.7: The Number of Hedge Funds and Anti-Activist Pill Adoptions. This table reports the results of linear regression models in which the dependent variable is an indicator that takes the value of 1 if the firm adopts a poison pill with various characteristics (e.g., plans with trigger thresholds under 10%, NOL pills, etc.) in quarter t , and 0 otherwise. The sample includes firm-quarter observations over the period of 2003Q2 through 2017Q3, which corresponds to the time period in which the EDGAR log file data is available. The main independent variable of interest is *Number of Hedge Funds*, which is equal to the number hedge funds with positive views of SEC public filings in quarter $t - 1$. The characteristics and provisions considered in this table are described in Section 3. All variables are defined in Table A.1 of the main paper. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Section IA.B.1, and data on firm financials is taken from CRSP/Compustat Merged Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Poison Pill Type =	All	Anti-Activist Provisions				
		I(Trigger $\leq 10\%$)	NOL	AIC	Synthetic equity	Anti- Activist
	(1)	(2)	(3)	(4)	(5)	(6)
# of Hedge Fund $_{t-1}$ (10s)	0.004*** (0.001)	0.004*** (0.001)	0.002*** (0.001)	0.002*** (0.001)	0.003*** (0.001)	0.004*** (0.001)
Total Clicks $_{t-1}$ (100,000s)	0.002 (0.007)	-0.002 (0.006)	0.003 (0.006)	-0.004* (0.002)	-0.006** (0.003)	0.000 (0.006)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry $\times$ Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
$\bar{y}$	0.0057	0.0017	0.0010	0.0008	0.0014	0.0014
Observations	176,293	176,293	176,293	176,293	176,293	176,293
R^2	0.10	0.11	0.12	0.12	0.10	0.12

[illegible]

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