The Rise of Anti-Activist Poison Pills[*]

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Abstract

We provide the first systematic evidence of contractual innovation in the terms of poison pill plans. In response to the increase in hedge fund activism, pills have changed to include anti-activist provisions, such as low trigger thresholds and acting-in-concert provisions. Using unique data on hedge fund views of SEC filings as a proxy for the threat of activists' interventions, we show that hedge fund interest predicts pill adoptions. Moreover, the likelihood of a 13D filing declines after firms adopt "anti-activist" pills, suggesting that pills are effective in deterring activists. The results are particularly strong for "NOL" pills that, due to tax laws, have a five percent trigger. Our analysis has implications for understanding the modern dynamics of market discipline of managers in public corporations and evaluating policies that regulate defensive tactics.

JEL classification: G30, G34, K22

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1 Introduction

Shareholder rights plans, or poison pills, are widely known as one of the most effective defensive tactics firms can employ when facing unsolicited takeover bids (Coates, 2000). A typical plan allows existing shareholders to purchase additional shares of the firm at a deep discount when any person crosses some prespecified threshold of ownership. Pills are particularly effective as an anti-takeover device because corporate boards can adopt them swiftly without requiring shareholder approval. As a result, academic debates have centered on whether pills allow managers to entrench themselves at shareholders' expense by muting the market for corporate control as a disciplinary mechanism.

In recent years, however, there has been mounting anecdotal evidence that poison pills could also be designed to guard against large stock acquisitions by activist hedge funds (Kahan and Rock, 2019). In fact, in the midst of the 2020 stock market crash, as activist shareholders bought stocks at discounted values, a substantial number of firms adopted poison pills in an attempt to curb activists' influence (Eldar and Wittry, 2021).[1] Unlike corporate raiders, hedge fund activists do not seek full control of corporations. Rather, they buy a relatively small percentage of a company's stock, and use their stake to push for changes in the firm's business strategies and corporate governance practices, including running proxy contests to appoint their preferred board representatives and replacing current management (Brav et al., 2008).

In this paper, we systematically document the extent to which poison pills have evolved to curb hedge fund activism, rather than corporate raiders. Though the distinction between raiders and activists may be subtle, it is critically important. While both provide an external mechanism for monitoring managers, they are treated dichotomously by courts when reviewing the validity of poison pills. Courts will rarely overturn boards' decisions to adopt poison pills to guard against unsolicited takeover attempts. In contrast, as Delaware courts stated

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

in *In re Williams Companies Stockholder Litigation*,[2] adopting a pill to address a general threat that activist hedge funds may influence corporate management was not permissible. This is because voting and campaigning are viewed as fundamental shareholder rights, and the risk that shareholders will mistakenly vote the wrong way (as opposed to tendering their shares for too low a premium) is not a valid concern. In fact, firms virtually never explicitly say that a pill is adopted to ward off an activist. Rather, they state that the purpose is to reduce the likelihood that any person will gain control of the corporation without paying a control premium.[3]

We start our investigation by creating a novel database of hand-coded provisions of all poison pill adoptions over the 2003-2017 period.[4] Unlike most studies of poison pills that treat all plans as homogeneous, we collect many of the unique design features of the pills from the firms' public disclosure documents. These features include not only the ownership thresholds for triggering the pill and the term limits of pills, but also other features that directly affect activists, such as acting-in-concert provisions and provisions that treat synthetic positions as equity ownership. To the best of our knowledge, this is the most comprehensive and detailed historical database of poison pills currently assembled.[5]

We find that the design features of poison pills have changed significantly over time. Moreover, they have evolved in ways that would make them particularly effective against hedge fund activists. As shown in Figure 1A, poison pills in the last decade have substantially lower ownership triggers. In fact, over 40 percent of pills have trigger thresholds of only 5 percent. Although the justification for this threshold is usually based on tax considerations, such a threshold has the potential to substantially limit activists' engagement. Furthermore,

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[2]Del. Ch. 2021.

[3]This 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

[4]We focus on 2003-2017 because our measure of hedge fund activism is based on SEC log file data that is available only for this period. More importantly, this is the period when hedge fund activism proliferated. In the Online Appendix, we also show data on poison pills from 2018-2020.

[5]For example, Thomson Reuter's SDC Platinum and Factset's Shark Repellent Databases include some of these provisions. However, as we discuss below, these databases lack coverage of certain provisions and often contain coding errors.

there has been a steady proliferation of other provisions that target activists (see Figure 1B). Acting-in-concert provisions that aggregate the holdings of hedge funds that act together as wolf packs (Brav et al., 2021) tripled to 30 percent of pills in 2013-2017 from about 10 percent in prior periods. Likewise, more than 50 percent of pills in 2013-2017 treat synthetic or derivative positions as equity ownership, up from virtually zero in 2003-2007, thereby limiting the ability of hedge funds to enter into swap transactions based on the value of the target.[6]

Overall, the trend in the design of rights plans suggests that the primary role of pills has shifted from anti-takeover to anti-activist. These findings are consistent with the increasing prominence of hedge fund activism in challenging corporate management. As shown by Bebchuk et al. (2015)., the number of hedge fund activist interventions has been steadily growing since the late 1990s. Taken together, the customization of poison pills and the central role of hedge funds in corporate governance calls for a re-evaluation of the function of the poison pill and its broader impact on corporate practices.

To formally explore the extent to which pills are directed at activists, there is a need for a proxy that captures the *threat* of activists' interventions. While empirical research on hedge fund activism typically focuses on public campaigns that follow 13D filings (Brav et al., 2008), activism may also take other less observable forms of engagement. For example, because it is costly to accumulate a large stake or conduct a proxy contest, hedge funds may prefer to communicate privately with firm management (Becht et al., 2009; Gantchev, 2013; Levit, 2019). Kirmse (2022) estimates that between 37 and 56 percent of all activist interventions are waged behind the scenes, at least in the early stages. Thus, by focusing only on pills that follow 13D filings, letters to the board, or proxy contests (Boyson and Pichler, 2019), empirical research is likely to understate the prevalence of pills adopted in response to potential, or private, interventions. Moreover, such studies cannot speak to whether poison pills affect the likelihood that an activist will wage a public campaign in the first place.

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[6]As shown in Figure A.1 in the Online Appendix, these trends continue through 2020.

We overcome this challenge by employing a novel proxy for the threat of *any* hedge fund activist intervention, public or private. Specifically, following Kirmse (2022), 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. (2017) and Bebchuk et al. (2015) and hedge fund IP addresses obtained from the American Registry of Internet Numbers (ARIN) Bulk WhoIs data file.[7]

The combination of these data allow us to calculate the number of SEC filing views by activist hedge funds, what we call hedge fund "clicks," each quarter. The intuition behind this proxy rests on the idea that hedge funds conduct more thorough research (more clicks) on firms they plan to target, whether publicly via an open campaign, or privately behind the scenes.[8] We validate this intuition by showing that the number of hedge fund clicks is positively associated with public hedge fund interventions at those very firms (e.g., see Table 10). Moreover, Kirmse (2022) shows that hedge fund clicks predict governance changes, such as board and CEO turnover, even in the absence of a public campaign.

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 2 shows that the raw numbers of hedge fund clicks increase substantially in the quarter that precedes 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 year-quarter fixed effects and a host of control variables, the effect remains both statistically and economically meaningful, as a one-standard deviation increase in hedge fund clicks is associated with a 22 percent increase in pill likelihood in the following quarter.

We show that these findings are driven by pills that have design features that seem

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[7]Our method to unmask the IP addresses, which we describe further in Section A of the Online Appendix, is based on Chen et al. (2020).

[8]We do not attempt to distinguish between public campaigns and private negotiations. Section 4 discusses the potential ways a firm would become aware of an activist's plans to wage a public intervention.

to specifically target hedge funds, such as lower trigger thresholds and acting-in-concert provisions. The results are especially striking when evaluating poison pills adopted to protect net operating losses, or "NOL" pills, which have trigger thresholds of 5 percent. In particular, a one-standard deviation increase in hedge fund clicks is associated with a 60 percent increase in the likelihood of such a pill, relative to the unconditional sample mean. Thus, it is possible that firms use NOL pills primarily to curb hedge fund activism as well as to protect tax assets.[9]

Despite the prevalence of activist-induced poison pills, it is not immediately obvious that such adoptions would be effective in restraining activists. Bebchuk et al. (2013) show that the median ownership stake held by hedge funds when they file a 13D is 9 percent, while the average threshold for triggering pills in our sample is 13.3 percent. Thus, even in the presence of a pill, a significant number of hedge funds may be able to profitably engage in public activism campaigns at ownership thresholds under pill triggers.

On the other hand, as stated above, pills often have acting-in-concert provisions. The effect of such provisions is that when there are multiple acquirers, the individual ownership of each acquirer that would trigger such pills is lower than the trigger ownership threshold. Importantly, even pills with a 10 or 5 percent trigger increasingly have acting-in-concert provisions (see Figure 1D). Such pills are likely to constrain stock accumulations by multiple hedge funds. Moreover, individual hedge funds may actually seek to purchase sizeable stakes that exceed the trigger threshold of most pills, say 10 percent. In fact, ownership levels of many activism interventions exceed even 20 percent of the target firms' shares when they file a 13D.[10] Without large stakes, these hedge funds may have lower financial incentives to expend the costs associated with a full-blown public intervention (Kahan and Rock, 2019). There is also evidence that the higher the ownership stake of activists, the more likely they

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[9]In fact, the definition of "beneficial ownership" in NOL pills does not strictly track the definition in the Tax Code and is more closely related to that contained in Rule 13d-3 of the Securities Exchange Act (Gottfried and Donahue, 2018).

[10]According to Bebchuk et al. (2013), the 75th percentile ownership stake held by hedge funds when they file a 13D is 22 percent.

are to achieve a settlement with the target board (Bebchuk et al., 2020). Accordingly, there is anecdotal evidence suggesting that pill adoptions are likely to have bite.

To evaluate whether adoptions restrain activists, we assess whether they are effective in reducing the likelihood of a 13D filing by a hedge fund. We show that a firm is significantly less likely to be targeted in a 13D filing by a hedge fund when it adopts a poison pill following an increase in hedge fund clicks. This effect is stronger for NOL pills with a trigger of 5 percent ownership and for pills with acting-in-concert provisions. The apparent effectiveness of pills in reducing the likelihood of a 13D filing indicates that poison pills with provisions that target activists are effective in deterring hedge fund interventions.

One possible concern with our analysis is that the demarcating line between potential hedge fund activity and the likelihood that a company will be acquired is not clear-cut. In fact, one salient hedge fund strategy which seemingly yields the greatest value for shareholders is to push for a sale of the target company (Brav et al., 2008; Boyson et al., 2017; Corum and Levit, 2019). We show that the main result that hedge fund clicks predict pill adoptions is not driven by hedge funds that tend to focus on the sale strategy. In fact, these results are suggestive that managers respond more aggressively to activists with a track record of making governance changes. Moreover, our results remain unchanged if we discard any pill adoptions related to an actual takeover bid or even the rumor of a potential bid. Thus, it appears that the poison pills in our sample period are not only designed to forestall an eventual acquisition.

Taken together, the evolution of the terms of poison pills to include features that target hedge fund activism, the finding that hedge fund clicks predict poison pill adoptions, and the apparent effectiveness of pills in reducing the likelihood of 13D filings all indicate that the poison pill has become predominantly an anti-activist device. Our analysis has implications for understanding the modern dynamics of market discipline of managers in public corporations, which historically was based on the market for corporate control (Karpoff and Wittry, 2022), and nowadays primarily relies on activists' engagements. Our findings may

thus inform debates regarding different policies for regulating boards' ability to adopt pills against activists (Goshen and Steel, 2022; Gordon, 2022). In particular, courts as well as policy-makers that evaluate the validity of anti-activist poison pills should consider their widespread use and the impact of their novel features.

2 Literature Review and Institutional Background

Poison pills have been debated since they first emerged in the 1980s in response to a well-known wave of hostile takeovers. The main purpose of the pill was to enable the board of directors to veto a tender offer. Typically, a pill takes the form of a dividend or stock purchase rights to buy the shares of the company at a deep discount, which are triggered if someone acquires a pre-specified percentage of the firm's shares. If a board has adopted a pill, the only way for a bidder to acquire control of the company is through a proxy fight to replace the board. The justification for pills was that shareholders might be tempted to tender their shares to a bidder for a lower price than the true value of the firm. However, because takeovers usually involve a premium over the market value of the target company, the poison pill gave rise to the concern that boards may adopt it in order to entrench themselves.

The long-standing literature on poison pills does not, however, fully account for recent developments. There is increasing evidence that corporations have used poison pills not directly as an anti-takeover device, but rather to curb activists' accumulation of shares in corporations. As shown by Eldar and Wittry (2021), in the midst of the 2020 stock market crash, dozens of firms moved to implement poison pills as a response to stock acquisitions by activist hedge funds that exploited the sharp drop in the value of stock prices. While examples of pills used to curb activists' accumulation of stocks are not entirely new, based on Delaware court cases, these pills were justified in circumstances where activists threatened to form a control block rather than merely using their voting power in a proxy contest or

pressuring management to change the business strategy.[11] However, more recent evidence suggests that firms adopt pills even when there is no major risk of a change in control (Goshen and Steel, 2022). Most strikingly, in a recent case, the Williams Companies adopted a pill with a 5 percent trigger threshold specifically to defend against activists with no risk of a change in control, and the Delaware court declared such a pill as invalid.[12]

The literature to date has mostly ignored the different types of terms that pills may have and treated all pills as largely the same. Kahan and Rock (2019) have recently described various design features of pills that may be targeted at stock accumulation by activist investors, and Eldar and Wittry (2021) show that these design features are present in a substantial number of pills adopted in 2020. We define these design features in more detail in Section 3. For present purposes, these include primarily: (a) triggers with a threshold that equals 10 percent ownership or below, (b) acting-in-concert provisions that count the stakes of all shareholders coordinating with each other or influenced by each other for the purpose of computing the trigger thresholds, and (c) synthetic equity provisions that treat economic interests under derivative contracts that reference the stock of the target company as equity ownership. They also include other related provisions, such as various discriminatory provisions that relax the trigger thresholds for passive investors or existing controlling shareholders.

Moreover, the literature has mostly ignored the effect that pills adopted to protect a company's net operating loss ("NOL") may have on hedge fund activism. NOLs may be used to offset future profits for tax purposes, unless the company that suffered the loss undergoes a change in control. The rationale for NOL pills is thus to protect the NOL from a potential acquisition that might terminate this asset. Because of tax regulations, these pills have a low trigger of 5 percent. Thus, these pills are most likely to be effective in deterring stock

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

[12]See *In re Williams Companies Stockholder Litigation* (Del. Ch. 2021).

acquisitions by activist shareholders who typically seek to buy sizable stakes that, though short of control, would make the investment in activism sufficiently profitable (Edelman and Thomas, 2012). Despite the low triggers, these pills were held by Delaware courts to be valid.[13] Furthermore, while the ISS and other proxy advisory firms have condemned the use of low trigger shareholders in poison pills, they have generally condoned the use of NOL pills on the basis that they are not primarily intended to entrench managers. Consequently, virtually all pills that have a 5 percent trigger are NOL pills. Our paper is the first to examine the consequences of NOL pills on hedge fund activism.

More generally, our study is related to two related bodies of research. First, it relates to the literature on the valuation effects of poison pills. The empirical literature on poison pills to date, though inconclusive, has mostly reported a negative stock price reaction to pill adoptions (Malatesta and Walkling, 1988; Comment and Schwert, 1995; Ryngaert, 1988). Likewise, other influential studies have found a negative association between poison pills and Tobin's Q (Gompers et al., 2003; Bebchuk et al., 2009; Cremers et al., 2016). In examining "clear-day pills," that is, pills not adopted in response to deals or 13D filings, Catan (2019) finds that pills are adopted following declines in Tobin's q, and that Tobin's q does not change much after the adoption.[14] Finally, several studies find a positive association between shareholder value and pill adoption. Danielson and Karpoff (2006) find modest improvements in operating performance during the 5-year period after pill adoption. More recently, Eldar and Wittry (2021) find that pills adopted to curb stock acquisitions by activists in the 2020 market crash were followed by a positive stock market reaction.[15]

Second, our study is also related to the literature that assesses the impact of activist shareholders, primarily hedge funds, on firm value and performance. Several studies show that hedge funds target firms with low valuations, and that these firms perform better

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[13] *Versata Enterprises, Inc. v. Selectica, Inc.* (Del. 2010).

[14] Catan also shows similar findings when examining the CARs around pill adoptions.

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

following intervention (Brav et al., 2008; Bebchuk et al., 2015; Becht et al., 2009), including stronger production and innovation efficiency (Brav et al., 2015, 2018). However, the benefits of activist intervention have been questioned in several studies (Coffee and Palia, 2015). Some argue that the benefits emanate mostly from activist campaigns that increase the probability of acquisitions rather than changes to firm strategy (Greenwood and Schor, 2009; Corum and Levit, 2019; Boyson et al., 2017). Others claim that higher performance is mainly due to stock picking, rather than value creation (Cremers et al., 2020b; Baker, 2021), or information leakages following the appointment of hedge fund representatives to the board of directors (Coffee et al., 2018).

Our study builds on studies of poison pills and hedge fund activism, and seeks to connect both phenomena. Thus, it is closely related to Boyson and Pichler (2019), who document how firms respond to public campaigns, and how their responses (e.g., hostile or moderate) impact the outcome for both the activist and the firm. Our study exposes a broader phenomenon that goes beyond hedge fund campaigns, which is that firms adopt poison pills simply because there is a *threat* of a campaign.

By identifying that pills are primarily designed to deter activists' stock acquisitions, we introduce a new dimension to understanding the manner in which corporations react to shareholders' attempts to monitor managers and intervene in managerial decision-making. Our analysis contributes to a better understanding of the dynamics of the interaction and negotiations between managements 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 activist' ability to influence corporate decisions.

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.[16] 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.[17]

Our data allows us to explore the evolution of the characteristics of poison pills over time. We start the analysis with anti-activist pill provisions. Most important is the *trigger threshold*: the percentage of ownership that, when crossed by the acquiring person, entitles all other shareholders to buy additional shares of the company at a discount. This provision is of critical importance because a high threshold of, say, 20 percent may not inhibit hedge funds that often engage in activism with a much lower ownership percentage. Importantly, we emphasize that the 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.[18] As discussed above, paradoxically, these are the pills that are arguably most

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[16]The full data goes through 2020 and includes firms that do not remain in the sample due to the procedures we describe in Section 4, 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 A.1 in the Online Appendix, are qualitatively the same as those described in this section.

[17]In 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 pill terminations, or cases in which the board removes an existing poison pill.

[18]One rare exception is a modification of the pill of New Century Equity Holdings Corp. to reduce the trigger threshold to 5 percent. See www.sec.gov/Archives/edgar/data/1013706/000116923204003600/0001169232-04-003600-index.htm

restrictive of hedge fund stock accumulations.

In Figure 1A, we split pills into four categories based on the trigger thresholds: (1) pills with a 5 percent threshold (essentially, NOL pills), (2) 10 percent threshold, (3) 15 to 20 percent threshold, and (4) 20 percent threshold or above. Between 2003 and 2007, the vast majority of pills had a trigger of 15 percent or higher. In 2008-2012, we observe the emergence of NOL pills with a 5 percent trigger and an increase in the rates of 10 percent pills, such that almost 40 percent of pills had a 10 percent trigger or lower. Finally, in 2013, the rate of pills with a 5 percent trigger increased to over 40 percent and more than 60 percent of pills had a trigger of 10 percent or less. The gradual decrease in the trigger thresholds from an average of about 15 percent to 10 percent and the increase in the rate of NOL pills (as shown in Figure 1B) demonstrates that pills have likely become much more restrictive for hedge funds which may seek to actively influence firm policy with relatively large ownership stakes.

We document other provisions that directly restrict activist hedge funds. We document *acting-in-concert* provisions: provisions that, for the purpose of evaluating if the pill is triggered, aggregate the ownership stakes of all acquirers that coordinate their purchases or are influenced by each other's purchases. These provisions make it harder for hedge funds to form "wolf packs" with each firm holding a small number of shares. We also document *synthetic equity* provisions: provisions that treat a synthetic interest in the share of the company as if it were equity ownership in the company's stocks. A synthetic interest typically includes a derivative contract that provides for the company's shares to be acquired on the exercise of the derivative, or the shares serving as the basis for determining the settlement amount. These provisions prevent funds from increasing their economic stakes in the company without actually owning shares in it.

Our analysis reveals that there has been a gradual increase in both the rate of acting-in-concert provisions and synthetic equity provisions (see Figure 1B). In Table 1, we explore the correlations between different pill characteristics. We observe that there is a positive

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correlation of 0.22 between acting-in-concert and synthetic equity provisions in the pills sample, suggesting that boards tend to adopt both as an anti-activist strategy. On the other hand, these provisions are not significantly correlated with lower trigger thresholds and NOL pills.

A more granular analysis, however, suggests that in recent periods there has been an increase in the rate of anti-activist provisions even in pills with lower trigger thresholds. As shown in Figure 1C, the likelihood that pills with a 5 or a 10 percent trigger threshold include an acting-in-concert provision is about 20 and 36 percent in 2013–2017 respectively, a substantially larger percentage than in earlier periods. This is particularly important because it means that even if the individual shareholding of each fund (say 3-4 percent) may not trigger the pill, their collective shareholding could.[19]

In Figure 1D, we observe similar trends with respect to synthetic equity provisions. In particular, the rate of such provisions in pills with a 10 percent trigger increased to a staggering 90 percent in 2013–2017. These provisions are potentially important because they limit the ability of hedge funds to increase their economic stake in target firms even when their actual shareholding is below the ownership threshold for triggering the pill. The effectiveness of these provisions, however, may be limited to the extent that target firms have no information on derivative transactions.

Although it is not the main focus of the empirical analysis, we also document other related pill characteristics that discriminate against activist investors by applying different trigger thresholds to different types of shareholders: (1) *higher trigger for institutions*: higher trigger threshold for passive institutional shareholders, for example, a 10 percent trigger for all acquirers and a 20 percent trigger for passive institutions; (2) *grandfather provisions*: higher trigger thresholds or complete exemptions for specified shareholders that have a higher per-

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[19]We 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

centage of shares than the trigger threshold (often, controlling shareholders), or a provision that exempts any owners that already had more shares than the trigger threshold prior to the pill adoption (typically subject to the condition that such an owner would not purchase a significant amount of additional shares), and (3) *adverse person provisions*: a lower trigger threshold for persons the board deems to be adverse to the corporation, for example a 15 percent trigger for all acquirers but a 10 percent trigger for an adverse person.[20]

As shown in Figure A.2A in the Online Appendix, we observe patterns in other related pill features that discriminate against activist investors. We observe an increase in the rate of pills with a higher trigger for passive institutions, suggesting that boards are mostly focused on activists. We do not observe a major change in the rate of grandfather provisions, though it remains steady at around 40 percent. Interestingly, there has actually been a decline in the rate of adverse person provisions (which have always been relatively rare), but this is likely because the trigger thresholds declined, such that it became unnecessary to have a lower trigger for activists.

Finally, we document other ancillary aspects of poison pills that have changed over time: (1) *pill duration*: the period in which the pill remains active; (2) *shareholder vote*: a provision that requires shareholder approval for the pill to be valid, either before the pill adoption or after a specified period, typically under a year from adoption; and (3) *chewable pill*: pills that are not triggered by qualified or permitted offers, often defined as all-cash fully financed offers for a premium and open for a set time, and in some cases offers the board deems to be in the interest of the shareholders.

As depicted in Figure A.2B in the Online Appendix, the duration of pills decreased from almost 10 years on average to about 3 years. This development is likely driven by the recommendations of proxy advisory firms that have criticized pills with long-term limits above 3 years. As shown in Table 1, pill duration is generally lower for pills with features that target activists, such as lower triggers and acting-in-concert provisions. However, this

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[20]Note that in these cases, we consider the pill trigger to be the lower trigger that applies to the "adverse person." The reason is that this is the trigger threshold that would apply to activist shareholders.

is unlikely to affect activists because their time frame for engagement is typically shorter. A higher fraction of pills over time is also conditional on a shareholder vote, and shareholder votes are also correlated with lower triggers and acting-in-concert provisions. This suggests that as boards adopt more restrictive pills, they prefer to garner support from shareholders for such pills. Finally, the rate of chewable pills decreased, possibly because such pills are mostly drafted with the purpose of screening takeovers rather than curbing activists.

In summary, it is clear that pills have gradually evolved into instruments with features that restrict hedge fund activism. These findings are consistent with the growing prominence of activist investors in monitoring corporate managers. This trend has likely driven changes in pill characteristics over time.

4   Other Data and Descriptive Statistics

Data on poison pills is described in Section 3. Our full data combines the pill data with data on hedge fund views of public disclosure documents on the SEC EDGAR website ("hedge fund clicks"), and year-quarter financial and industry data on public corporations.

We obtain data on hedge fund clicks from the full history of log files from the SEC EDGAR log file website, 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. (2017) and Bebchuk et al. (2015) and hedge fund IP addresses obtained from the American Registry of Internet Numbers (ARIN) Bulk WhoIs data file.[21] These hedge funds consist of all 13D filers from 1994 to 2018 as identified on their Form ADV, or that self-identify as hedge funds.

The combination of these data allow us to calculate the number of SEC filing views by 431 unique activist hedge funds, what we call hedge fund "clicks," each quarter between 2003 and

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[21]We are deeply grateful to 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 but updated through the year 2018.

2017. A more detailed description of the process of constructing the clicks data is available in
Kirmse (2022) and in Section A of the Online Appendix. Figure A.3 in the Online Appendix
shows data on the total number of clicks by quarter on SEC public disclosure documents,
both for all users and for hedge funds. There is a steady increase in the number of clicks,
including those by hedge funds across time.[22] We utilize the hedge fund clicks as a novel
proxy for the mere threat of an intervention by an activist, whether the hedge fund plans
to negotiate with the firm privately or engage in a full-blown campaign by filing a 13D or
sending a letter to the board. While these two intervention strategies are unique (e.g., see
Kirmse, 2022), we do not attempt to differentiate. Rather, we focus on firms' reactions to
any credible activist threat.

One important caveat is that the SEC log file data was not available in real time, meaning
firms could not track such hedge fund activity. Thus, one may wonder how a firm would
know of an activist's interest and plans to wage a public campaign. There are few chan-
nels by which a firm may become aware of specific interest. First, the most common type
of engagement CFOs say their firm has experienced is via direct communication with the
hedge fund (Ruggeri, 2015). That is, often, the activist will alert the firm prior to filing
a 13D. Second, there are specialized firms that provide stock surveillance and shareholder
identification services (e.g., see Activist Insight and Innisfree M&A, Inc.). Such services may
provide early alerts for large accumulations of the firm's stock by a hedge fund. Moreover,
there is evidence that sell-side analyst reports are correlated with subsequent activism (Chen
and Shohfi, 2015). Third, anecdotal evidence suggests that, at times, connected individuals
will tip off the media or possibly even the target itself (Chung, 2014). More broadly, firms
are likely to be aware of hedge fund interest in a more general sense. For example, institu-
tional shareholders often have similar concerns and goals as activists and may provide broad

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[22]There is a lapse in the EDGAR log file data in late 2005 and early 2006. This period corresponds to
the gray shading in Figure A.3 in the Online Appendix, in which both hedge fund and total user clicks
essentially drop to zero. We drop 2005Q4 and 2006Q1 in our empirical results below. 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); Gibbons et al. (2021).

guidance if the firm is engaged.

Lastly, we merge the data on poison pills (described in the previous section) and SEC clicks to quarter-year 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), and firms with missing or zero total assets at the quarterly level. We also drop firms for which there are no clicks in the SEC Edgar log file 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 the poison pills in our sample. In sum, our baseline results include 7,078 unique firms and 201,363 firm-quarter-year observations. Our sample period spans the year 2003 through the third quarter of 2017, which corresponds to the full sample of the SEC EDGAR log files, which we discuss below.

We provide summary statistics on the firms in our sample in Table 2. The average number of clicks on firms' SEC documents is 109 with a median of 90, whereas the average of hedge fund clicks is 10.7 with a median of only 2 clicks. Figure 3 shows the percentage of pills that are preceded by hedge fund clicks over time. The percentage of pills that follow hedge fund clicks increases dramatically whether we consider pills that follow (1) some hedge fund clicks (from under 40 percent to over 80 percent), (2) more than one standard deviation of hedge fund clicks (from zero to about 40 percent), and (3) more than the 99th percentile of hedge fund clicks (from zero to about 15 percent) in the quarter prior to their adoption.

We next examine whether the characteristics and provisions of pill adoptions are correlated with hedge fund clicks in our sample. In Table 3, we compare three groups of firms based on the number of hedge fund clicks in the quarter that precedes the quarter in which the pill is adopted. Because the distribution of clicks is heavily skewed, we divide firms that adopted pills into three groups: (1) firms with no hedge fund clicks at all, (2) firms that experienced some clicks below or equal to the 99th percentile of the number of hedge fund clicks per quarter, and (3) firms that experienced a large number of clicks, that is at the

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100th percentile of clicks per firm-quarter.

The pills of the firms in each group display remarkably different characteristics. The pills that are 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, about 40 percent of the pills associated with a large number of clicks are NOL pills, compared to about 25 percent and 13 percent in the groups of firms with some clicks and no clicks respectively. Moreover, the percentage of acting-in-concert provisions is about 35 percent and almost 3 times the percentage in the other two groups. Likewise, the percentage of pills with synthetic equity provisions in the group with many clicks is 75 percent as compared to 30 percent and 13 percent in the groups with some and no clicks. Thus, there is a strong positive correlation between anti-activist terms and hedge fund clicks.

With respect to other provisions, we observe that the pills that follow a large number of hedge fund clicks have a higher trigger for passive institutions, confirming that these pills likely target activists. These pills also tend to be of shorter duration with an average term of only one year and half, though this is likely sufficient to limit hedge fund engagement. Moreover, hedge fund clicks also seem to be associated with provisions that require shareholder approval for the pill to be valid. This suggests that when the pills have very restrictive provision on stock accumulations, the board is more likely to seek shareholders' consent before adopting the pill.

5   Does Hedge Fund Activism Predict Pill Adoption?

Our main tests evaluate whether clicks by activist hedge funds predict the adoption of poison pills. As a first step, in Figure 2, we show the trends in hedge fund clicks before and after pill adoptions. We plot the average number of clicks in the 90 day period before and after pill adoptions, such that period $t = 0$ relates to clicks in the 90 day period following the adoption date. As shown in the graphs, 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 decreases and reverts to normal levels. These patterns strongly support the hypothesis that hedge fund activism proxied by clicks predicts pill adoptions.

We then turn to test this hypothesis more formally 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 $Pill_{i,t}$ is an indicator variable that equals one if a firm adopted a pill in a given 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 the $Total\ Clicks_{i,t-1}$ in the previous quarter to address the concern that hedge fund clicks simply reflect a greater interest in the company by all investors. $X_{i,t-1}$ are various controls for standard financial variables and firm age. We also control for firm fixed effects (η_i) and year-quarter fixed effects (μ_t), such that our results are identified from changes in clicks within-firm over time.

The results are displayed in Table 4. As shown in Column (1), hedge fund clicks strongly predict pill adoptions in the following quarter. For example, the coefficient is statistically significant at the 1% level, and suggests that 100 additional hedge fund clicks are associated with a 0.4 percent increase in the likelihood that a firm adopts a pill. Given that the unconditional probability of a poison pill adoption is only 0.54 percent in our sample, the results are also economically significant. Put differently, a standard deviation increase in hedge fund clicks (30 clicks) relates to a 22 percent increase in pill likelihood relative to the sample mean.

Column (2) adds a variety of control variables meant to soak up remaining time-variant heterogeneity in pill adoptions. For example, we include the natural log of book assets to

proxy for firm size. By and large, the control variables exhibit the expected sign. Moreover, they are often statistically significant. For example, large and poorly performing firms (as proxied by stock returns and Tobin's q are much more likely to adopt poison pills in the following quarter.

In contrast to hedge fund clicks, the coefficient on total clicks is almost zero and very noisy. As alternative specifications, we also use indicator variables that equals one if there are any hedge fund clicks, or if the number of hedge fund clicks is very high, specifically above the 99th percentile of hedge fund clicks. As shown in Columns (3) and (4), the results are particularly strong when the number of hedge fund clicks is very high. Specifically, firms with hedge fund clicks that exceed the 99th percentile are associated with a 0.8 percent higher probability of pill adoption, which is a 150% increase relative to the unconditional sample mean.

In Columns (5) through (8), we split the sample of pills into different types: (1) new adoptions, (2) meaningful pill modifications, defined as modifications of the pill to either reduce the trigger threshold or adopt an acting-in-concert or synthetic equity provision, (3) other modifications, and (4) renewals of pills, which include decisions to extend the terms of existing pills. As shown in the table, the results with respect to new pills in Column (5) are largely the same as those in Columns (1) and (2). The result in Column (6) further shows that hedge fund clicks predict meaningful modifications (at the 10 percent significance level). These results are economically meaningful. A one standard deviation in hedge fund clicks increases the likelihood of new adoptions by 48 percent and meaningful adoptions by 100 percent, as compared to the unconditional means. In contrast, hedge fund clicks do not predict other modifications and renewals of existing pills (see Columns (7) and (8)). This makes sense because it is unlikely that modifications that are not targeted at activists and renewals of expired pills constitute a response by the board to hedge fund activism. Rather, they are likely to simply reflect other technical adjustments to the pill terms, for example, replacing the trustee that represents shareholders under the rights plan agreement, or the

routine practice of renewing a pill. In this way, the results in Columns (7) and (8) serve as a placebo test for our main results.

In Table 12, we examine whether hedge fund clicks predict certain types of pills based on the pill characteristics. We first split poison pills by the trigger threshold. As shown in Columns (1) and (2), hedge fund clicks predict pills with a 10 percent trigger or lower. This is consistent with the notion that hedge funds seek to hold a relatively small percentage of the shares of target firms, and do not typically seek control. The results are economically very strong because adoptions of pills with triggers of 10 percent or lower occur in only 0.16 percent of firm-year quarters observations. Thus, a one standard deviation in hedge fund clicks is associated with 75 percent higher likelihood of pills with a low trigger as compared to the unconditional mean.

We next examine NOL pills, which for our purposes involve virtually all pills that have a 5 percent trigger. The results in Column (2) show that 100 hedge fund clicks are associated with a 0.2 percent higher probability of adopting a NOL pill. This is again very economically meaningful because only 0.1 percent of the observations involve adoption of NOL pills. Compared to the unconditional average, a one standard deviation in hedge fund clicks is associated with 75 percent higher likelihood of NOL pill adoption. The results are qualitatively similar when considering only firms that have net operating losses (see Column (3) of Table A.1). This finding is particularly striking because the justification for NOL pills is to protect a tax asset. Thus, it appears that firms are using NOL pills to curb hedge fund stock acquisitions.

We also observe that hedge fund clicks predict pills with acting-in-concert provisions (Column (3)). This confirms the notion that these provisions are designed to prevent hedge funds from engaging in tacit collusion to acquire a sizeable share that will give them greater power to affect board decision-making. Hedge fund clicks also predict pills with synthetic equity provisions (Column (4)). This indicates that pills are motivated by boards' concern that hedge funds with a derivative interest in the firm's stock have a larger economic stake

in attempting to actively influence the firm's business than implied by the funds' equity shareholding. The results are again economically meaningful.

In addition, Table 12 examines other types of pills that do not have terms that appear to target activist shareholders in Columns (5) through (7). Hedge fund clicks do not predict pills with triggers larger than 10 percent. Though they do predict non-NOL pills (essentially, pills with 10 percent trigger or higher), the economic magnitude is significantly smaller than it is for NOL pills. A one standard deviation in hedge fund clicks is associated with only a 13 percent higher probability of non-NOL pill adoptions as compared to the unconditional mean. Hedge fund clicks do not significantly predict chewable pills, which are largely directed at screening takeovers that the board considers to be harmful to shareholders, rather than curbing activism.

Finally, as shown in Table A.2 in the Online Appendix, the results are robust to using an alternative measure of hedge fund interest, *Number of Hedge Funds*, which is equal to the number of hedge funds with positive views of SEC public filings. A one standard deviation increase in the number of clicking hedge funds is associated with a 31 percent higher probability of pill adoptions as compared to the unconditional mean.

6 The Impact of Poison Pills on Hedge Fund Interventions

Section 5 shows that poison pills, particularly those with lower triggers, acting-in-concert provisions and synthetic equity provisions are adopted in response to hedge fund activism, but the question remains as to whether they are effective in actually preventing interventions. It is generally possible that despite the pill, hedge funds may be able to pressure managers to accept their positions. Most pills have a trigger of 10 percent or more, and hedge funds may be able to exert pressure even with a lower percentage of the shares. On the other hand, as argued by Kahan and Rock (2019), the high costs of monitoring and contesting corporate

boards may deter hedge funds if they cannot purchase a sizeable stake in the company's equity that will enable them to share substantially in the benefits of their efforts.

To examine the impact of pills on the success of hedge fund interventions, we use the updated data on hedge fund activists' interventions from Brav et al. (2008) and Boyson et al. (2017). We employ the following empirical model:

$$Activism\,Target_{i,t} = \beta HF\,Clicks_{i,t-1,t-2} + \gamma Pill\,Adoption_{i,t-1} +$$
$$\delta HF\,Clicks_{i,t-1,t-2} Pill\,Adoption_{i,t-1} + \lambda Total\,Clicks_{i,t-1} + \tag{2}$$
$$\zeta X_{i,t-1} + \eta_i + \mu_t + \varepsilon_{i,t},$$

where $Activism\,Target_{i,t}$ is an indicator variable that equals one when a hedge fund files a 13D with respect to firm i in quarter t. A 13D filing means that a hedge fund acquired more than 5 percent of the stock of the company, and announces its intention to influence the management of the company. We control for hedge fund clicks in the first and second quarter prior to the quarter in which the form 13D was filed, and poison pill adoptions in the first quarter prior to the 13D filing. Our variable of interest is the interaction between hedge fund clicks in the two quarters prior to the 13D filing ($t-1$ and $t-2$) and poison pill adoptions in the quarter prior to the 13D filing. We interpret this coefficient as the potential effect of poison pills adopted in response to hedge funds clicks in previous periods.

The results are depicted in Table 10. Consistent with Kirmse (2022), hedge fund clicks in quarters $t-1$ and $t-2$ strongly predict a firm being targeted by a hedge fund (e.g., see Column (1)). On the other hand, a pill adoption on its own does not appear to predict a 13D filing by an activist hedge fund. Moreover, the interaction between all poison pills with hedge fund clicks in Column (2) is negative, but not statistically significant. These results call for further exploration of the impact of pills that are designed to curb activism.

To deepen our analysis, we separately analyze pills with provisions that likely target activists. First, as shown in Column (3), the coefficient on hedge fund clicks interacted with

NOL pill adoption is associated with a substantially lower likelihood of a 13D filing. 100 clicks coupled with a pill adoption are associated with about 1 percent lower likelihood of a 13D filing, 76 percent higher compared to the unconditional mean of 0.0131. The results are qualitatively similar when limiting the sample to include only firms that have net operating losses (see Column (3) of Table A.3). This further reinforces the power of NOL pills that have a trigger of 5 percent, and therefore naturally reduce the ability of hedge funds to cross the 5 percent threshold.

Second, in Column (4), we examine pills with a 10 percent trigger and an acting-in-concert provision. Such pills may arguably be ineffective in preventing a 13D filing because the trigger threshold is too high. However, if the hedge fund seeks to acquire more than 10 percent of the stock, or if hedge funds are collaborating through a "wolf pack," these pills may be effective in discouraging active engagement. The results suggest that such pills are indeed effective. In fact, they seem to substantially reduce the likelihood of a 13D filing, and this effect is even larger when there are hedge fund clicks. 100 hedge fund clicks are associated with another 0.6 percent lower likelihood of a 13D filing.

Third, in Column (5), we look at "anti-activist" pills that we define as either NOL pills or 10 percent pills with an acting-in-concert provision. The results suggest that such pills substantially reduce the likelihood of a 13D filing when there is a threat of hedge fund activism. Compared to the unconditional mean, 100 hedge fund clicks are associated with a 1 percent lower rate of a 13D filing, which again is very high when considering the average rate of 13D filings in the sample.

Fourth, in Column (6), we examine 10 percent pills that have a synthetic equity provision. We find that even these pills are associated with a lower likelihood of a 13D filing. But interestingly, the interaction with hedge fund clicks is not statistically significant. This suggests that such pills may deter 13D filings, but they respond weakly to actual acquisitions (to the extent that clicks proxy for such acquisitions). The reason is perhaps that firms cannot observe derivative transactions, and they perhaps adopt synthetic equity provisions based on

relatively limited information, rather than actual information about activism engagement.[23]

As a placebo test, we examine non-activist pills in Column (7). These are all the pills that are not NOL and do not have a 10 percent trigger and an acting-in-concert provision. As expected, these pills are not significantly correlated with the probability of a 13D filing. Finally, the results are robust to using the number of hedge funds with positive views of SEC public filings as a measure of hedge fund interest instead of hedge fund clicks (see Table A.4 in the Online Appendix). Overall, our findings provide strong evidence that poison pills affect the likelihood that a firm will be directly targeted by hedge funds. This is particularly strong for pills with lower triggers and acting-in-concert provisions.

Next, we further examine if the outcomes (success or failure) of public activism campaigns are impacted by pill adoptions. To do so, we use updated data from Brav et al. (2018) that contains information from Item 4 of the 13D filings on whether activists have specific demands and whether or not those demands were ultimately met. We run pure cross-sectional models that are limited to only firm-year-quarter observations in which the firm was targeted by a 13D filing. We examine two key outcomes as dependent variables in these models, an indicator variable for whether a specific request was made by a hedge fund, and an indicator variable for a successful outcome, which means that the firm adopted the request by the hedge fund.

As shown in Columns (1)-(3) of Table 7, poison pills adopted in response to hedge fund clicks, captured by the interaction variable, are associated with a lower likelihood that hedge funds will make a formal request asking the firm to change its business strategy or adopt a particular business plan. The effect is even larger when examining the likelihood of success in Columns (4) through (6). Firms with hedge fund clicks greater than a standard deviation in quarters $t-1$ or $t-2$ (74 clicks in this sample) that also adopt a pill are associated

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[23]We note that the base coefficients for pill adoptions in Columns (4) and (5) are quite large. These coefficients are identified off situations in which a 10 percent threshold pill with either an acting-in-concert or synthetic equity provision is adopted following zero hedge fund clicks. These situations are extremely rare (only 4 and 6 pills with an AIC or synthetic equity provision, respectively) and in all cases have no 13D filings in the following quarter, leading to large and significant coefficients.

with a 25 percent lower likelihood of a successful intervention from an activist hedge fund. These results are consistent with findings in Boyson and Pichler (2019) and show that even conditional on a 13D filing, poison pills appear to inhibit hedge fund activism.

7 Are Anti-activist Pills Designed to Deter Takeovers?

A concern with our analysis is that the goal of hedge funds is to get the target company to be acquired. As is well-known, this is a common strategy of hedge funds (Brav et al., 2008; Boyson et al., 2017; Corum and Levit, 2019). To identify hedge fund interventions with an ultimate goal of getting the target company sold, we use data from Brav et al. (2008) on hedge fund objectives or strategies as identified in Item 4 of 13D filings to associate each hedge fund with its most commonly used intervention strategy. Brav et al. (2008) broadly classify all objectives into the following categories based on the type of change the hedge fund is pushing the company to adopt: (1) general objective or undervaluation, (2) capital structure, (3) sales (mergers and acquisitions), (4) business strategies, and (5) governance. We also map data from Boyson et al. (2017) into these five broad categories. Using the most common (mode) strategy for each unique hedge fund over the life of the fund, we are able to compute the number of clicks by all funds that fall into each respective category. Finally, to readily compare coefficients within each model, we scale each category of hedge fund clicks by its respective standard deviation.

In Table 8, we examine whether hedge fund clicks predict pill adoptions by the type of strategies different hedge funds tend to pursue. As shown in Column (1), clicks by hedge funds that tend to pursue a sale objective are not significantly related to pill adoptions. On the other hand, Column (2) suggests that clicks by funds that tend to pursue any other strategies strongly and significantly predict pill adoptions. In particular, Column (3) shows that clicks by hedge funds that tend to pursue general and governance strategies are associated with poison pill adoptions. We also split hedge funds into those that have never

pursued a sale objective and those that pursued at least one sale objective over the life of the fund. As shown in Column (4), clicks by the former are 50 percent more likely to predict pill adoptions. These results suggest that the anti-activist pills are not typically adopted to deter activists' pressure to get the company acquired through a takeover.

As a last step, we further probe the robustness of our main results by excluding firms that are either subject to a takeover bid or rumored to be in the 6 months prior to or after a pill adoption. For data on takeover bids, we rely on SDC Thomson Reuters, while takeover rumors are coded manually following a similar process to Ahern and Sosyura (2014).

Table A.5 shows the results of the specification in equation 1 when excluding takeovers, rumors and finally both takeovers and rumors for both all pill adoptions and those adoptions we define as anti-activist. Hedge fund clicks significantly predict pill adoptions. Further, the magnitude is similar to that in our main results in Tables 4 and 12. Based on Column (3), a one-standard-deviation increase in hedge fund clicks is associated with a 19 percent greater likelihood of pill adoption as compared to the unconditional mean.

Likewise, Table A.6 shows the results of the specification in equation 2, but again excludes takeovers and rumored bids. The results are qualitatively similar when considering NOL pills and pills with a 10 percent trigger and an acting-in-concert provision (compare Columns (3)-(5) of Tables A.6 and 10). However, here the coefficients on the interaction between pill adoptions and clicks is statistically as well as economically significant for all pills (Column (1)) and pills with a 10 percent trigger and a synthetic equity provision (Column (6)). As expected, there is no statistically significant relationship between non-activist pill adoptions and the likelihood of a 13D filing by an activist hedge fund.

Thus, these results reinforce the notion that pills adopted to curb the threat of hedge fund activism are not primarily designed to avoid the sale of the firm.

8 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 regarding dramatic shifts in their design features. Further, using SEC log file data to proxy for hedge fund activism in absence of a 13D filing, 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 are effective in repelling activists. In particular, after their implementation, hedge funds are less likely to file a 13D, and if they do, the activists are less likely to successfully attain their demands. Overall, our paper is the first to systematically document the use of poison pills as an anti-activist measure.

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Figure 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 distribution of trigger thresholds, Panel B depicts the prevalence 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. The number of new pill adoptions in the periods of 2003–2007, 2008–2012, and 2013–2017, are 195, 252, and 124, respectively.

(A) Trigger Thresholds through Time.
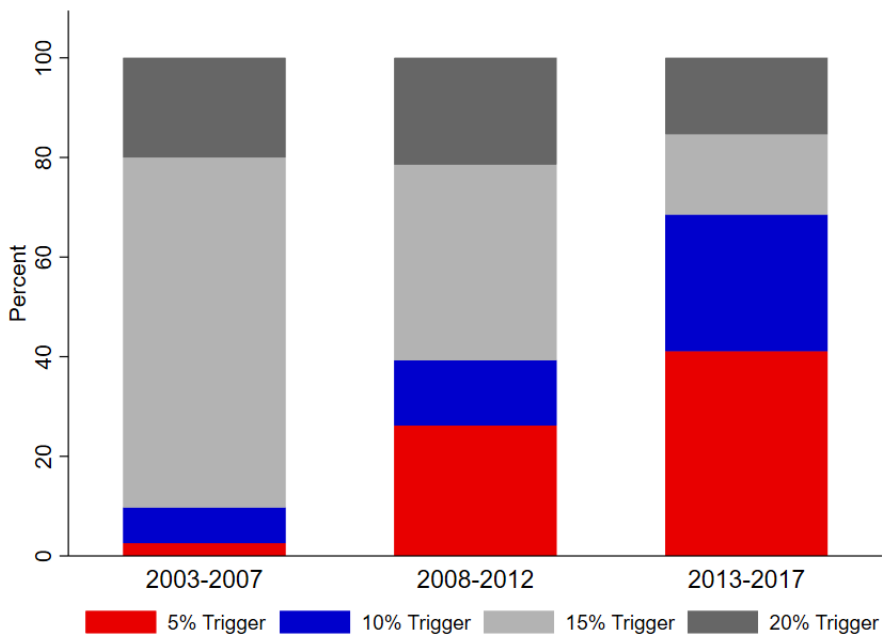
(B) Anti-Activist Provisions through Time.
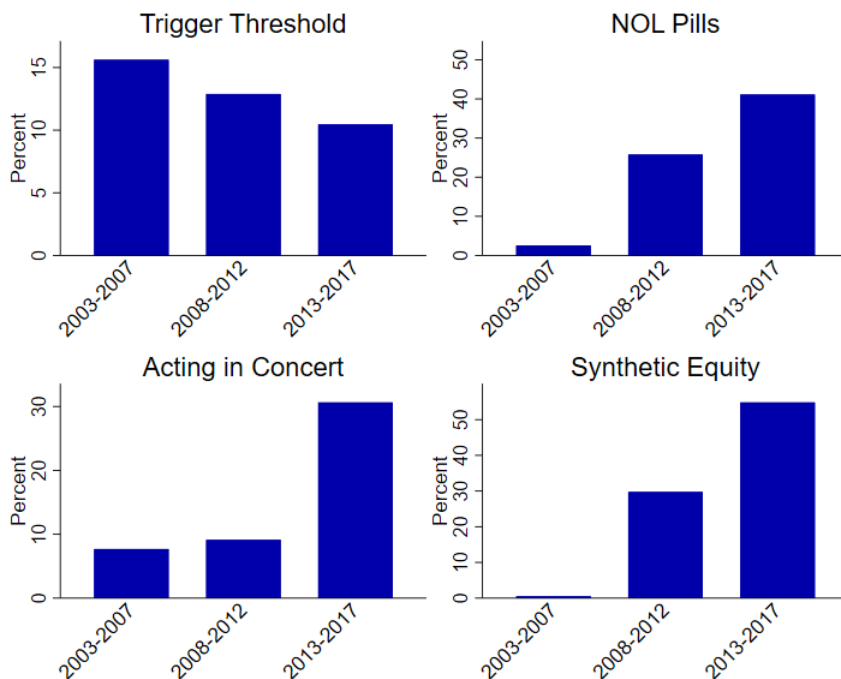
(C) Acting-in-Concert Provisions in Pills with Low Trigger Thresholds.
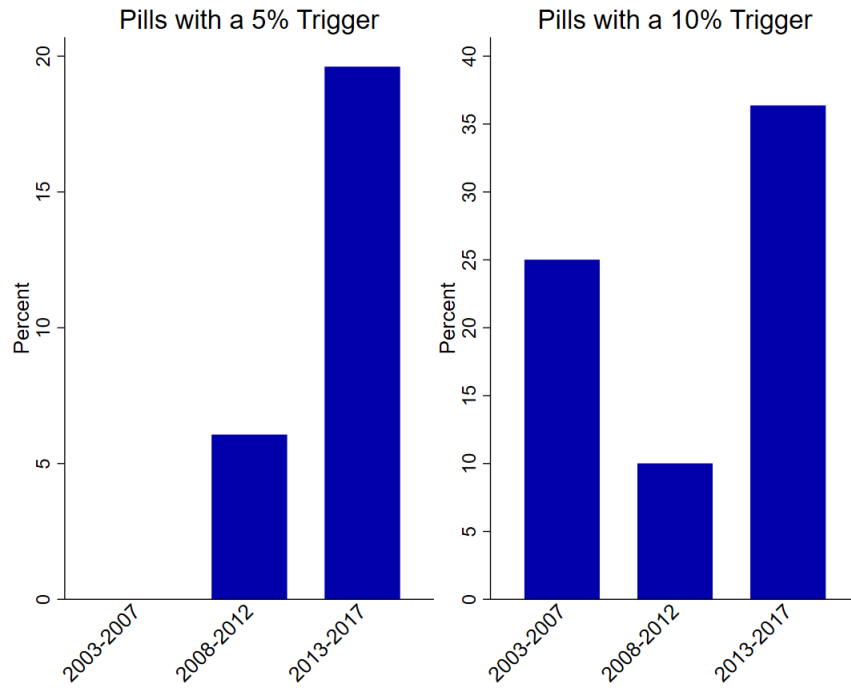
(D) Synthetic Provisions in Pills with Low Trigger Thresholds.
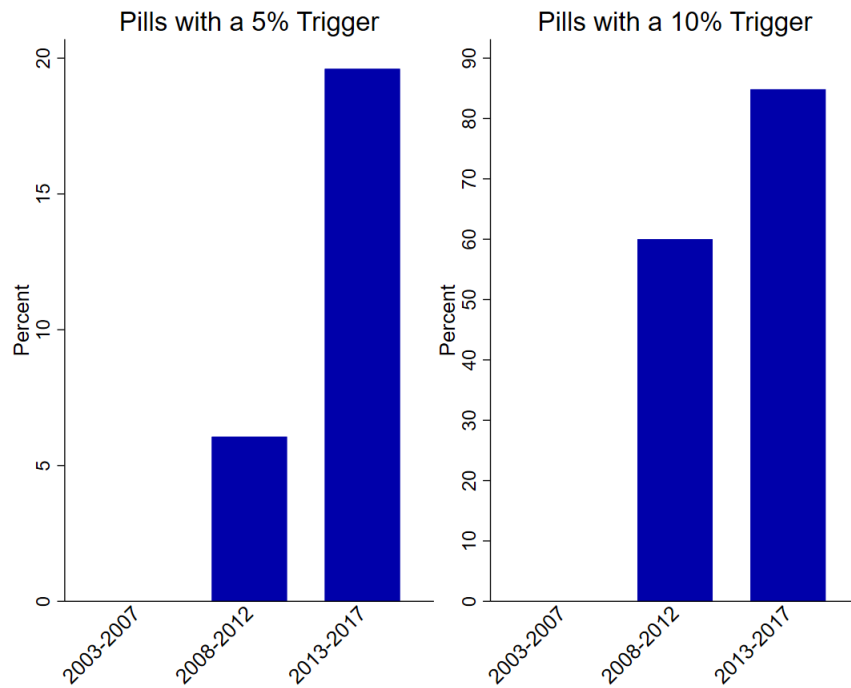
Figure 2: Clicks Surrounding New Pill Adoptions. This figure depicts the average number of hedge fund clicks for firms that adopt new poison pills. The x-axis represents event time, where t=0 represents the quarter the firm adopts the pill. However, the quarters not based on calendar time, but rather 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 HF clicks on any firm filing, whereas the blue squares depict HF clicks on the firm's 8k, which discloses the adoption of the poison pill. 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 Section 4.
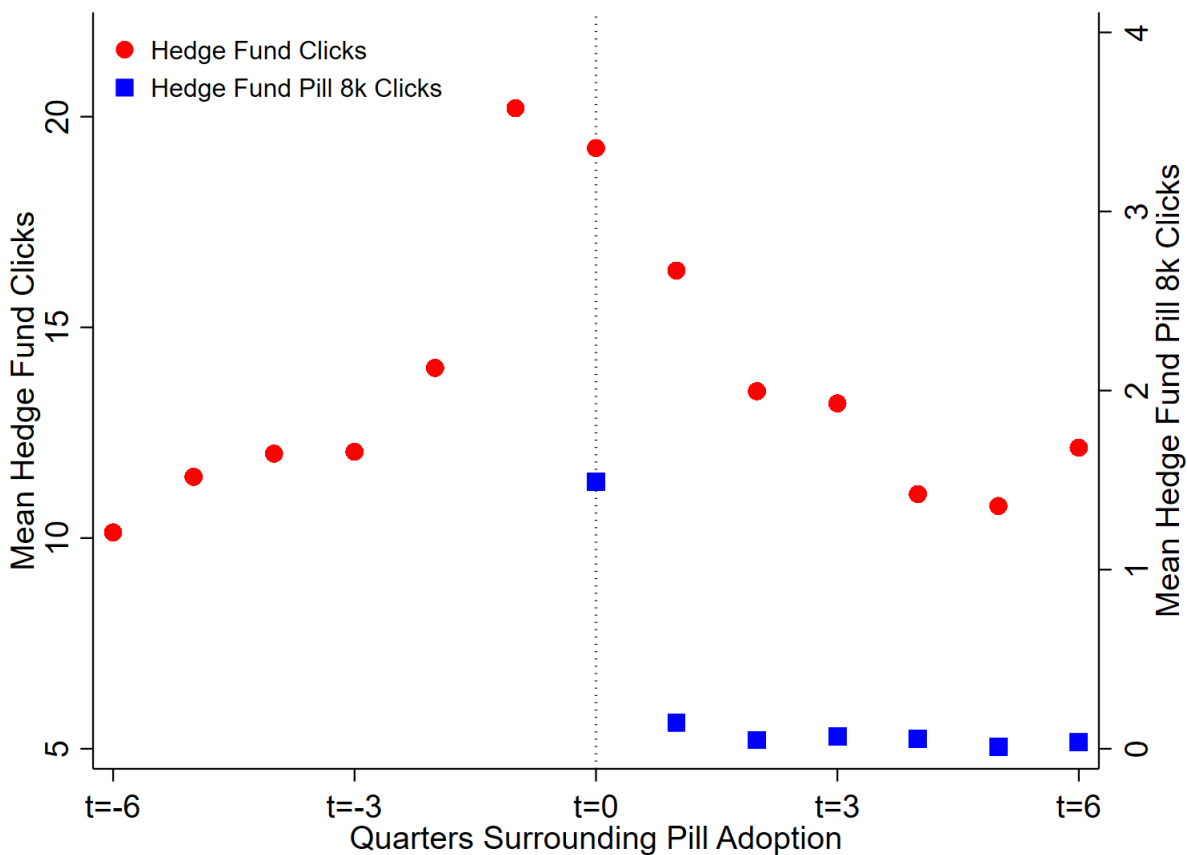
Figure 3: Poison Pills Following Hedge Fund Clicks through Time. This figure depicts the number and percentage of poison pills that are preceded, in the quarter prior to their adoption, by (1) nonzero hedge fund clicks, (2) more than one standard deviation of hedge fund clicks (30 clicks), and (3) more than the 99th percentile of hedge fund clicks (129 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 Section 4. The total number of pills includes 571 new adoptions, 407 renewals, and 220 modifications.
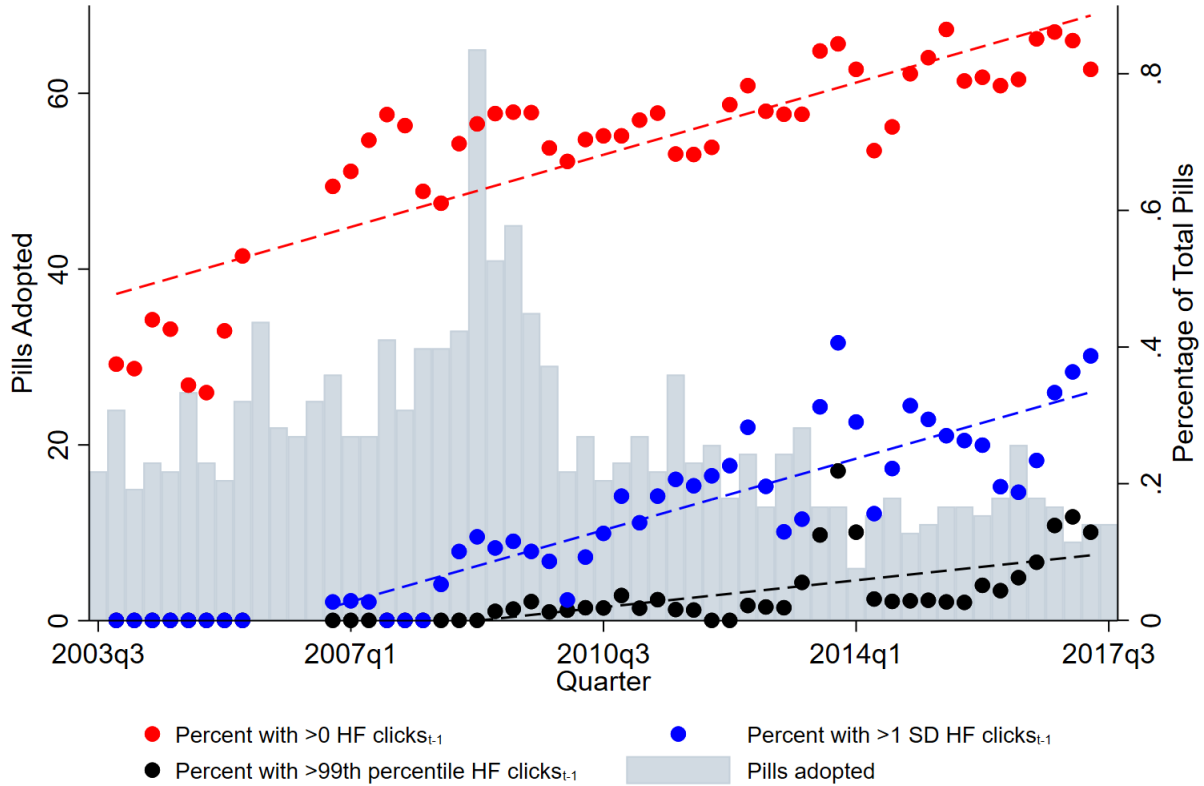
Table 1: **Correlation Matrix of Poison Pill Provisions.** This table reports the correlation coefficients between various provisions and characteristics of the poison pills in our sample. Descriptions of these characteristics and provisions appear in Section 3. Data on poison pills and their provisions are hand-collected from firm SEC filings.

	NOL Pill	Acting in Concert	Synthetic Equity	Higher Trigger for Institutions	Grandfather Provision	Adverse Person Clause	Trigger (%)	Duration (years)	Shareholder Vote	Chewable Chewble Pill
NOL Pill	1.00									
Acting in Concert	-0.04	1.00								
Synthetic Equity	-0.16***	0.25***	1.00							
Higher Trigger for Institutions	-0.11**	0.01	0.15***	1.00						
Grandfather Provision	0.15***	0.03	0.04	-0.01	1.00					
Adverse Person Clause	-0.05	0.01	-0.06	-0.03	-0.09*	1.00				
Trigger (%)	-0.78***	-0.00	0.02	-0.02	-0.13**	-0.06	1.00			
Duration (years)	-0.21***	-0.14***	-0.43***	-0.05	0.01	0.10*	0.22***	1.00		
Shareholder Vote	0.41***	0.00	-0.03	-0.02	0.09*	-0.05	-0.30***	-0.21***	1.00	
Chewable Pill	-0.08	0.05	-0.10*	0.04	0.06	0.04	0.11**	0.07	0.18***	1.00

Table 2: Summary Statistics. This table reports the summary statistics for the main variables included in our analysis. 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 4, and data on firm financials is taken from CRSP/Compustat Merged Quarterly.

	Mean	P25	P50	P75	St. Dev.
Poison Pill Adoption$_{i,t}$	0.005	0.0	0.0 0.0	0.0	0.073
Hedge Fund Clicks$_{i,t}$	10.7	0.0	2.0	9.0	30.0
Number of Hedge Funds$_{i,t}$	2.1	0.0	1.0	3.0	3.3
Total Clicks$_{i,t}$ (100s)	1.9	0.4	0.9	2.0	12.3
Total Assets$_{i,t}$ ($Ms)	8774	141	615	2403	71354
Quarterly Stock Return$_{i,t}$ (%)	0.031	-0.107	0.013	0.136	0.307
Return on Assets$_{i,t}$ (%)	0.008	-0.003	0.021	0.069	0.359
Cash Holdings$_{i,t}$ (% of assets)	0.200	0.035	0.101	0.280	0.231
Capital Expenditures$_{i,t}$ (% of assets)	0.024	0.003	0.011	0.028	0.036
R&D Expense$_{i,t}$ (% of assets)	0.013	0.000	0.000	0.012	0.030
Net Operating Loss (NOL)$_{i,t}$ (% of assets)	0.485	0.000	0.001	0.157	1.509
Tobin's $q_{i,t}$	1.58	0.66	1.11	1.89	1.61
Dividend Yield$_{i,t}$	0.002	0.000	0.000	0.003	0.005
Years since IPO$_{i,t}$	18.2	7.0	14.0	24.0	16.4
Market Leverage $_{i,t}$	0.235	0.013	0.160	0.384	0.245
Observations	201,363				

Table 3: 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 Section 4.

| | All | Hedge Fund Clicks$_{t-1}$ | | | Differences | | | | | |
		0 clicks (1)	(0,99th) (2)	[99th,100th] (3)	Diff. (2) − (1)	T-stat	Diff. (3) − (2)	T-stat	Diff. (3) − (1)	T-Stat
Anti-Activist Provisions										
NOL pill	21.19	13.02	25.30	40.0	12.27	3.51***	14.70	1.45	26.98	3.26***
Acting-in-Concert provision	13.31	12.09	12.80	35.0	0.70	0.24	22.20	2.80***	22.91	2.86***
Synthetic Equity	25.22	13.02	30.06	75.0	17.04	4.69***	44.94	4.26***	61.98	7.63***
Discriminatory Provisions										
Higher Trigger for Institutions	7.18	6.51	6.25	30.0	-0.26	-0.12	23.75	3.97***	23.49	3.69***
Grandfather provision	45.01	39.53	48.21	50.0	8.68	2.00**	1.79	0.15	10.47	0.91
Adverse Person clause	1.05	2.33	0.30	0.0	-2.03	-2.24**	-0.30	-0.24	-2.33	-0.69
Other Characteristics and Provisions										
Trigger (%)	13.29	14.29	12.85	10.0	-1.44	-3.02***	-2.85	-2.10**	-4.29	-3.93***
Duration (years)	6.35	7.83	5.70	1.51	-2.13	-6.59***	-4.19	-4.83***	-6.32	-8.33***
Shareholder Vote required	16.81	10.23	21.13	15.0	10.90	3.36***	-6.13	-0.65	4.77	0.66
Chewable pill	18.21	20.93	16.67	15.0	-4.26	-1.26	-1.67	-0.19	-5.93	-0.63

Table 4: Hedge Fund Interest and Poison Pill Adoptions. This table reports the results of liner 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 variables for when the number of hedge fund clicks crosses various thresholds, and when the dependent variable represents new pill adoptions, versus those that are modifications or renewals. Meaningful modifications represent changes in existing pills that appear to target an activist hedge fund, for example, reducing the trigger threshold to 10% or adding an acting-in-concert provision. 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 4, 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)				New Pill	Meaningful Modification	Other Modification	Renewal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hedge Fund Clicks$_{t-1}$ (100s)	0.004***	0.004***			0.004***	0.001*	0.000	0.000
	(0.001)	(0.001)			(0.001)	(0.000)	(0.000)	(0.001)
I(Hedge Fund Clicks$_{t-1}$ > 0)			0.001*					
			(0.000)					
I(Hedge Fund Clicks$_{t-1}$ > 99th percentile)				0.008**				
				(0.003)				
Total Clicks$_{t-1}$ (100,000s)	0.003	0.005	0.012	0.009	0.004	0.001	0.000	0.001
	(0.004)	(0.004)	(0.010)	(0.007)	(0.004)	(0.001)	(0.001)	(0.001)
log(Book assets$_{t-1}$)		-0.002***	-0.002***	-0.002***	-0.001*	-0.000*	-0.001**	-0.001***
		(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Market leverage$_{t-1}$		0.004**	0.005**	0.004**	0.002	0.001	0.001	0.001
		(0.002)	(0.002)	(0.002)	(0.001)	(0.000)	(0.001)	(0.001)
Cash/book assets$_{t-1}$		0.006**	0.006**	0.006**	0.004***	0.001**	-0.001	0.003**
		(0.003)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)	(0.001)
CapEx/book assets$_{t-1}$		0.023**	0.023**	0.023**	0.016***	0.002	0.003	0.003
		(0.009)	(0.009)	(0.009)	(0.006)	(0.001)	(0.005)	(0.005)
R&D expense/book assets$_{t-1}$		-0.004	-0.004	-0.004	-0.004	-0.004	-0.001	0.000
		(0.017)	(0.017)	(0.017)	(0.011)	(0.003)	(0.010)	(0.008)
NOL/book assets$_{t-1}$		0.046	0.045	0.045	0.049**	0.026**	-0.035*	0.025
		(0.036)	(0.036)	(0.036)	(0.023)	(0.011)	(0.018)	(0.018)
ROA$_{t-1}$		0.002	0.002	0.002	0.001	0.000	0.000	0.000
		(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Quarterly return$_{t-1}$		-0.003***	-0.003***	-0.003***	-0.001***	0.000	-0.001***	-0.001***
		(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Tobin's q_{t-1}		-0.008***	-0.008***	-0.008***	-0.003**	-0.001***	-0.002	-0.003***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.000)	(0.001)	(0.001)
Dividend yield$_{t-1}$		-0.103*	-0.101*	-0.101*	-0.039	-0.012**	-0.007	-0.057**
		(0.053)	(0.053)	(0.053)	(0.038)	(0.006)	(0.025)	(0.026)
Firm age$_{t-1}$		0.017*	0.016*	0.016*	0.011	0.001***	0.003	0.004
		(0.009)	(0.009)	(0.009)	(0.008)	(0.000)	(0.003)	(0.003)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0054	0.0054	0.0054	0.0054	0.0025	0.0003	0.0013	0.0020
Observations	201,363	201,363	201,363	201,363	201,363	201,363	201,363	201,363
R^2	0.04	0.04	0.04	0.04	0.03	0.03	0.04	0.04

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. 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 4, 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.

	Anti-Activist Provisions				Other Provisions		
	I(Trigger $\leq$ 10%)	NOL pill	AIC pill	Synthetic equity pill	I(Trigger $>$ 10%)	Non-NOL pill	Chewable pill
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hedge Fund Clicks$_{t-1}$ (100s)	0.004***	0.002**	0.001*	0.003***	0.001	0.002***	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Total Clicks$_{t-1}$ (100,000s)	0.003	0.003	-0.001	-0.002	0.002	0.002	0.001
	(0.003)	(0.003)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0016	0.0010	0.0007	0.0011	0.0038	0.0044	0.0012
Observations	201,363	201,363	201,363	201,363	201,363	201,363	201,363
R^2	0.04	0.05	0.04	0.04	0.04	0.04	0.04

Table 6: 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. 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 $t-1$. 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 4, data on activist hedge fund public campaigns is from Boyson et al. (2017) 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.

	Activism Target$_t$ (Indicator)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hedge Fund Clicks$_{t-1,t-2}$ (100s)	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Poison Pill Adoption$_{t-1}$	0.006	0.008					
	(0.006)	(0.006)					
Hedge Fund Clicks$_{t-1,t-2}\times$ Poison Pill Adoption$_{t-1}$		-0.006					
		(0.004)					
NOL Pill$_{t-1}$			0.014				
			(0.017)				
Hedge Fund Clicks$_{t-1,t-2}\times$ NOL Pill Adoption$_{t-1}$			-0.010**				
			(0.004)				
Acting-in-Concert with 10% Trigger Pill Adoption (AIC10)$_{t-1}$				-0.033***			
				(0.010)			
Hedge Fund Clicks$_{t-1,t-2}\times$ AIC10 Pill Adoption$_{t-1}$				-0.006**			
				(0.003)			
Anti-Activist Pill Adoption$_{t-1}$					0.009		
					(0.015)		
Hedge Fund Clicks$_{t-1,t-2}\times$ Anti-Activist Pill Adoption$_{t-1}$					-0.010***		
					(0.003)		
Synthetic Equity with 10% Trigger (SE10) Pill Adoption$_{t-1}$						-0.029***	
						(0.008)	
Hedge Fund Clicks$_{t-1,t-2}\times$ SE10 Pill Adoption$_{t-1}$						0.003	
						(0.009)	
Non-Activist Pill Adoption$_{t-1}$							0.007
							(0.006)
Hedge Fund Clicks$_{t-1,t-2}\times$ Non-Activist Pill Adoption$_{t-1}$							0.001
							(0.011)
Total Clicks$_{t-1}$ (100,000s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131
Observations	190,710	190,710	190,710	190,710	190,710	190,710	190,710
R^2	0.06	0.06	0.06	0.06	0.06	0.06	0.06

Table 7: Hedge Fund Interest, Poison Pill Adoption, and the Outcomes of Public Activism Campaigns. This table reports the results of cross-sectional linear regression models in which the dependent variable is an indicator that takes the value of 1 if the activist hedge fund makes specific demands (Columns (1) through (4)) or if the activist hedge fund attains their demands (Columns (5) through (6)), and 0 otherwise. The sample includes firm-hedge fund 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 $t-1$. 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 4, data on the demands and outcomes of activist hedge fund public campaigns is from Boyson et al. (2017) 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.

	Specific Request$_t$ (Indicator)				Successful Outcome$_t$ (Indicator)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Poison Pill Adoption$_{t-1}$	-0.021	0.039	-0.225	-0.133	0.225*	0.338**	0.031	0.315
	(0.092)	(0.097)	(0.158)	(0.179)	(0.125)	(0.137)	(0.259)	(0.264)
Hedge Fund Clicks$_{t-1,t-2}$ × Poison Pill Adoption$_{t-1}$		-0.002**		-0.002**		-0.005***		-0.010***
		(0.001)		(0.001)		(0.002)		(0.002)
Hedge Fund Clicks$_{t-1,t-2}$	0.000**	0.000**	0.000	0.000	0.000	0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Total Clicks$_{t-1}$ (100,000s)	0.286	0.281	-0.810*	-0.823*	0.132	0.129	-0.091	-0.220
	(0.247)	(0.248)	(0.466)	(0.464)	(0.164)	(0.165)	(0.706)	(0.709)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	No	No	Yes	Yes	No	No	Yes	Yes
Observations	2,299	2,299	1,324	1,324	1,375	1,375	695	695
R^2	0.02	0.02	0.55	0.55	0.02	0.02	0.59	0.59

Table 8: 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. 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 4, data on the objectives of activist hedge fund public campaigns is from Boyson et al. (2017) 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)	0.0006	0.0005	0.0005		
	(0.0004)	(0.0004)	(0.0004)		
Hedge Fund Clicks$_{t-1}$ (Mode = All Other)		0.0011***			
		(0.0004)			
Hedge Fund Clicks$_{t-1}$ (Mode = General Objective)			0.0007**		
			(0.0003)		
Hedge Fund Clicks$_{t-1}$ (Mode = Capital Structure Objective)			0.0001		
			(0.0002)		
Hedge Fund Clicks$_{t-1}$ (Mode = Business Strategy Objective)			0.0001		
			(0.0002)		
Hedge Fund Clicks$_{t-1}$ (Mode = Governance Objective)			0.0006**		
			(0.0003)		
Hedge Fund Clicks$_{t-1}$ (Never Sale Objective)				0.0010***	0.0009***
				(0.0003)	(0.0003)
Hedge Fund Clicks$_{t-1}$ (At least 1 Sale Objective)					0.0006**
					(0.0003)
Total Clicks$_{t-1}$ (100,000s)	0.0011	0.0005	0.0005	0.0007	0.0005
	(0.0009)	(0.0004)	(0.0004)	(0.0006)	(0.0004)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0054	0.0054	0.0054	0.0054	0.0054
Observations	201,363	201,363	201,363	201,363	201,363
R^2	0.04	0.04	0.04	0.04	0.04

Table 9: Hedge Funds Interest and Anti-Activist Pill Adoptions - Large Firms. 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 of views of SEC public filings (clicks) by activist hedge funds in quarter $t-1$. The specifications in this table are conditioned upon the firm having a positive net operating loss carryforward in quarter t. The characteristics and provisions considered in this table are described in Section 3. 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 4, and data on firm financials is taken from Compustat 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 | Anti-Activist Provisions | | | | Other Provisions | | |
| | | I(Trigger $\leq$ 10%) | NOL pill | AIC pill | Synthetic equity pill | I(Trigger > 10%) | Non-NOL pill | Chewable pill |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hedge Fund Clicks$_{t-1}$ (100s)	0.005*	0.004	0.003	0.002	0.003**	0.001	0.002	0.002
	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)
Total Clicks$_{t-1}$ (100,000s)	0.000	0.000	0.000	-0.000	-0.000	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0036	0.0024	0.0015	0.0005	0.0009	0.0012	0.0021	0.0008
Observations	20,112	20,112	20,112	20,112	20,112	20,112	20,112	20,112
R^2	0.07	0.07	0.06	0.08	0.10	0.05	0.07	0.06

Table 10: Hedge Fund Interest, Poison Pill Adoption, and Public Activism Campaigns - Large Firms. 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. 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 $t-1$. 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 4, data on activist hedge fund public campaigns is from Boyson et al. (2017) 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 Compustat Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *,**, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Activism Target$_t$ (Indicator)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hedge Fund Clicks$_{t-1,t-2}$ (100s)	0.003*	0.003**	0.003*	0.003*	0.003*	0.003*	0.003*
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Poison Pill Adoption$_{t-1}$	0.007	0.033					
	(0.022)	(0.030)					
Hedge Fund Clicks$_{t-1,t-2}\times$ Poison Pill Adoption$_{t-1}$		-0.016**					
		(0.007)					
NOL Pill$_{t-1}$			0.047				
			(0.057)				
Hedge Fund Clicks$_{t-1,t-2}\times$ NOL Pill Adoption$_{t-1}$			-0.014				
			(0.013)				
Acting-in-Concert with 10% Trigger Pill Adoption (AIC10)$_{t-1}$				-0.016			
				(0.013)			
Hedge Fund Clicks$_{t-1,t-2}\times$ AIC10 Pill Adoption$_{t-1}$				-0.009***			
				(0.002)			
Anti-Activist Pill Adoption$_{t-1}$					0.037		
					(0.045)		
Hedge Fund Clicks$_{t-1,t-2}\times$ Anti-Activist Pill Adoption$_{t-1}$					-0.013		
					(0.008)		
Synthetic Equity with 10% Trigger (SE10) Pill Adoption$_{t-1}$						-0.007	
						(0.009)	
Hedge Fund Clicks$_{t-1,t-2}\times$ SE10 Pill Adoption$_{t-1}$						-0.008***	
						(0.002)	
Non-Activist Pill Adoption$_{t-1}$							0.044
							(0.043)
Hedge Fund Clicks$_{t-1,t-2}\times$ Non-Activist Pill Adoption$_{t-1}$							-0.037**
							(0.018)
Total Clicks$_{t-1}$ (100,000s)	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095	0.0095
Observations	19,446	19,446	19,446	19,446	19,446	19,446	19,446
R^2	0.07	0.07	0.07	0.07	0.07	0.07	0.07

Table 11: Hedge Fund Interest, Poison Pill Adoption, and Proxy Fights. 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 experienced a proxy fight 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 $t-1$. 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 4, and data on firm financials is taken from Compustat Quarterly. Robust standard errors, clustered at the firm level, are reported in parentheses. *,**, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Proxy Fight$_t$ (Indicator)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hedge Fund Clicks$_{t-1,t-2}$ (100s)	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Poison Pill Adoption$_{t-1}$	0.015***	0.012***					
	(0.005)	(0.004)					
Hedge Fund Clicks$_{t-1,t-2}$× Poison Pill Adoption$_{t-1}$		0.010					
		(0.007)					
NOL Pill$_{t-1}$			0.004				
			(0.008)				
Hedge Fund Clicks$_{t-1,t-2}$× NOL Pill Adoption$_{t-1}$			-0.003*				
			(0.002)				
Acting-in-Concert with 10% Trigger Pill Adoption (AIC10)$_{t-1}$				0.050			
				(0.038)			
Hedge Fund Clicks$_{t-1,t-2}$× AIC10 Pill Adoption$_{t-1}$				-0.003			
				(0.012)			
Anti-Activist Pill Adoption$_{t-1}$					0.011		
					(0.009)		
Hedge Fund Clicks$_{t-1,t-2}$× Anti-Activist Pill Adoption$_{t-1}$					-0.001		
					(0.004)		
Synthetic Equity with 10% Trigger (SE10) Pill Adoption$_{t-1}$						0.064*	
						(0.035)	
Hedge Fund Clicks$_{t-1,t-2}$× SE10 Pill Adoption$_{t-1}$						0.009	
						(0.014)	
Non-Activist Pill Adoption$_{t-1}$							0.009*
							(0.005)
Hedge Fund Clicks$_{t-1,t-2}$× Non-Activist Pill Adoption$_{t-1}$							0.031*
							(0.016)
Total Clicks$_{t-1}$ (100,000s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028
Observations	190,710	190,710	190,710	190,710	190,710	190,710	190,710
R^2	0.07	0.07	0.07	0.07	0.07	0.07	0.07

Table 12: Director Turnover Results. Robust standard errors, clustered at the firm level, are reported in parentheses. *,**, and *** denote significance at the 10%, 5%, and 1% level.

	Director Turnover$_t$ (Number)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hedge Fund Clicks$_{t-1,t-2}$ (100s)	0.039***	0.038***	0.039***	0.039***	0.039***	0.040***	0.039***	0.038***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Poison Pill Adoption$_{t-1}$	0.090***	0.075***						
	(0.026)	(0.025)						
Hedge Fund Clicks$_{t-1,t-2}\times$ Poison Pill Adoption$_{t-1}$		0.039						
		(0.035)						
NOL Pill$_{t-1}$			0.264**	0.262**				
			(0.109)	(0.121)				
Hedge Fund Clicks$_{t-1,t-2}\times$ NOL Pill Adoption$_{t-1}$				0.003				
				(0.069)				
Acting-in-Concert (AIC) Pill$_{t-1}$					0.148**	0.153**		
					(0.066)	(0.074)		
Hedge Fund Clicks$_{t-1,t-2}\times$ AIC Pill Adoption$_{t-1}$						-0.008		
						(0.028)		
Synthetic Equity (SE) Pill$_{t-1}$							0.226***	0.176**
							(0.077)	(0.078)
Hedge Fund Clicks$_{t-1,t-2}\times$ SE Pill Adoption$_{t-1}$								0.065
								(0.046)
Total Clicks$_{t-1}$ (100,000s)	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0952	0.0952	0.0952	0.0952	0.0952	0.0952	0.0952	0.0952
Observations	190,710	190,710	190,710	190,710	190,710	190,710	190,710	190,710
R^2	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11

Online Appendix to "The Rise of Anti-Activist Poison Pills"

A   Construction of Data on Hedge Fund Activist Clicks

Data on hedge fund clicks are compiled from several sources following the methodology in Kirmse (2022). First, to obtain any clicks on SEC documents, we download the full history of log files from the SEC EDGAR log file website.[24] These log files cover the period from January 2003 through June 2017, with some inconsistent coverage in 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). Second, 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. Third, we unmask the last three digits of the IP address using the cipher table from Chen et al. (2020).[25]

To merge IP addresses from the EDGAR log file downloads to hedge funds, we start 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. Next, we compile a comprehensive list of 980 unique activist hedge funds by combining the hedge funds identified by two seminal works in the activism literature: Brav et al. (2008) (and their updated work in Bebchuk et al. (2015)) and Boyson et al. (2017). These hedge funds consist of all 13D filers from 1994 to 2018 as identified on their form ADV, or that self-identify as hedge funds.

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 for approximate matches with the names and addresses that hedge funds list on their SEC filings. This procedure yields 431 individual hedge funds for which we can identify at least one IP

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[24]https://www.sec.gov/dera/data/edgar-log-file-data-set.html

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

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 level during our sample period. We call these views *hedge fund clicks.* Figure A.3 shows data on the total number of clicks by quarter on SEC public disclosure documents, both for all users and for hedge funds. There is a steady increase in the number of clicks, including those by hedge funds across time.[26]

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[26]As noted above, there is a lapse in the EDGAR log file data in late 2005 and early 2006. This period corresponds to the gray shading in Figure A.3, in which both hedge fund and total user clicks essentially drop to zero. We drop 2005Q4 and 2006Q1 in our empirical results below. Further, in the Internet Appendix, 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); Gibbons et al. (2021).

B Additional Figures

Figure A.1: The Evolution of Poison Pills in 2003–2020. This figure depicts the evolution in the characteristics and provisions of newly adopted 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, and 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. The sample used for this figure includes firms that do not remain in the sample used in Figure 1 due to the procedures we describe in Section 4. The number of new pill adoptions in the periods of 2003–2007, 2008–2012, 2013–2017, and 2018-2020 are 315, 338, 183 and 139, respectively.

(A) Trigger Thresholds through Time.
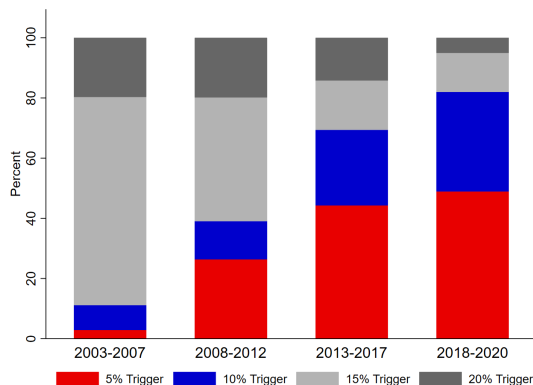
(B) Anti-Activist Provisions through Time.

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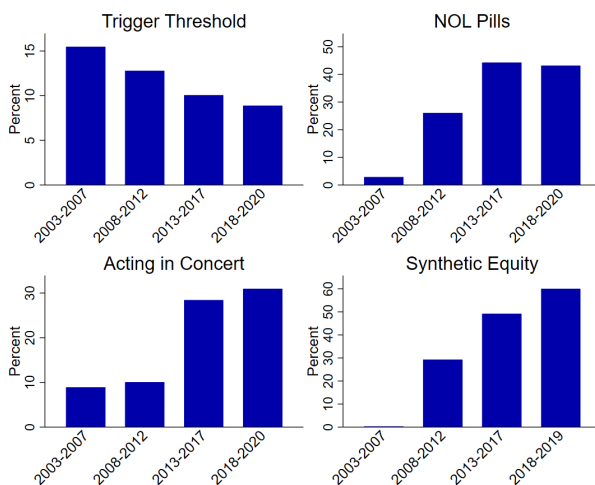
(C) Acting-in-Concert Provisions in Pills with a Low Trigger Threshold.
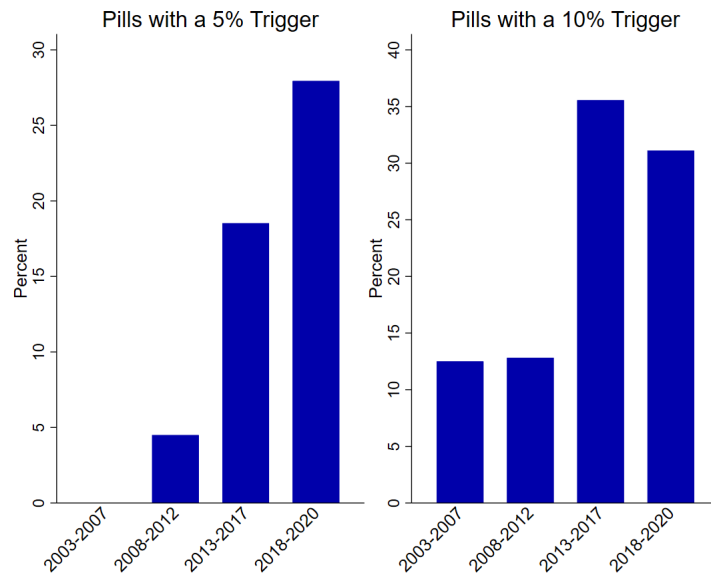
(D) Synthetic Equity Provisions in Pills with a Low Trigger Threshold.
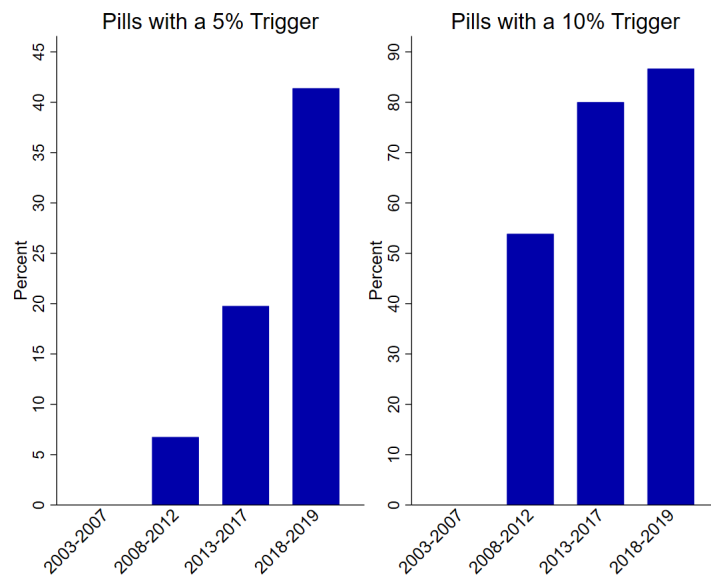
Figure A.2: The Evolution of Poison Pills. This figure depicts the evolution in the characteristics and provisions of newly adopted pills through time. Panel A depicts the prevalence of discriminatory provisions, and Panel B depicts the prevalence of other common features of poison pills such as the 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.

(A) Discriminatory Provisions through Time.
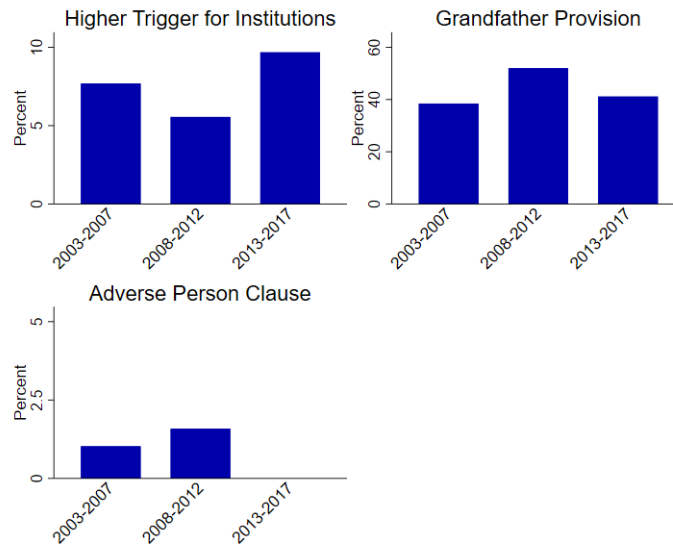
(B) Other Characteristics through Time.

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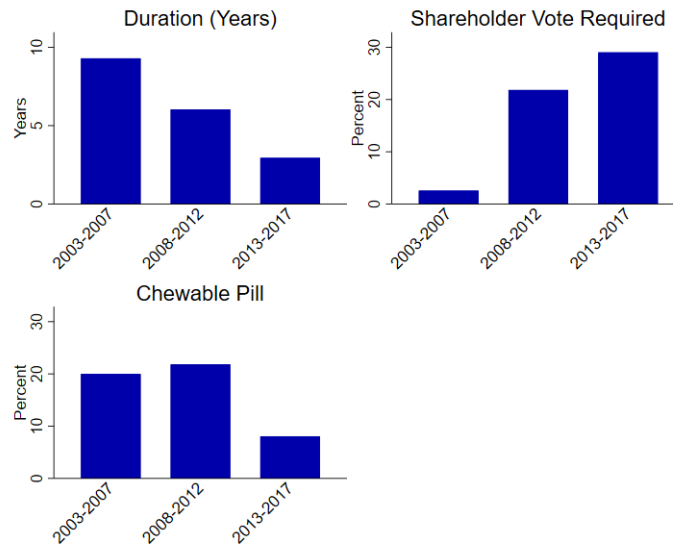
Figure A.3: Quarterly SEC Edgar Clicks. This figure depicts the quarterly average number of views of SEC public filings (clicks) by all users and by activist hedge funds from 2003Q1 through 2017Q2. The gray area depicts quarters in which there is a lapse in EDGAR log file coverage (Ryans, 2017; Bauguess et al., 2018; Gibbons et al., 2021).
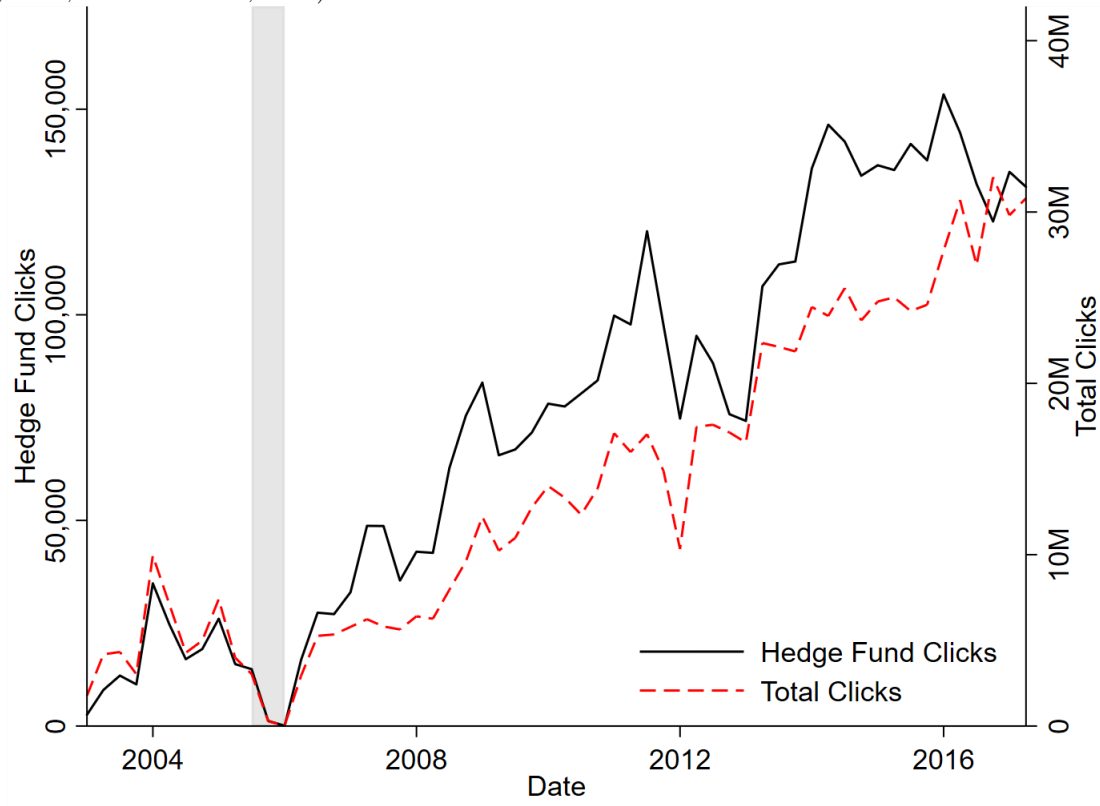
C   Additional Tables

Table A.1: Hedge Funds' Interest and Anti-Activist Pill Adoptions - Positive NOL. 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 specifications in this table are conditioned upon the firm having a positive net operating loss carryforward in quarter t. The characteristics and provisions considered in this table are described in Section 3. 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 4, 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	Anti-Activist Provisions				Other Provisions		
		I(Trigger $\leq$ 10%)	NOL pill	AIC pill	Synthetic equity pill	I(Trigger $>$ 10%)	Non-NOL pill	Chewable pill
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Hedge Fund Clicks$_{t-1}$ (100s)	0.004**	0.004**	0.003**	0.002*	0.003***	0.001	0.001	0.001
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Total Clicks$_{t-1}$ (100,000s)	0.000	0.000	0.000	-0.000	-0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0060	0.0021	0.0014	0.0009	0.0014	0.0039	0.0046	0.0011
Observations	101,911	101,911	101,911	101,911	101,911	101,911	101,911	101,911
R^2	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.04

Table A.2: 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. 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 4, 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	Anti-Activist Provisions				Other Provisions		
		I(Trigger ≤ 10%)	NOL pill	AIC pill	Synthetic equity pill	I(Trigger > 10%)	Non-NOL pill	Chewable pill
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of Hedge Funds$_{t-1}$ (10s)	0.005***	0.004***	0.003***	0.002**	0.003***	0.001	0.002***	0.001**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Total Clicks$_{t-1}$ (100,000s)	0.000	-0.000	0.000	-0.000	-0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0052	0.0016	0.0010	0.0007	0.0011	0.0038	0.0044	0.0012
Observations	201,363	201,363	201,363	201,363	201,363	201,363	201,363	201,363
R^2	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04

Table A.3: Hedge Fund Interest, Poison Pill Adoption, and Public Activism Campaigns - Positive NOL. 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. 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 specifications in this table are conditioned upon the firm having a positive net operating loss carryforward in quarter t. 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 4, data on activist hedge fund public campaigns is from Boyson et al. (2017) 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.

	Activism Target$_t$ (Indicator)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hedge Fund Clicks$_{t-1,t-2}$ (100s)	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Poison Pill Adoption$_{t-1}$	-0.002	-0.001					
	(0.007)	(0.008)					
Hedge Fund Clicks$_{t-1,t-2}\times$ Poison Pill Adoption$_{t-1}$		-0.002					
		(0.006)					
NOL Pill$_{t-1}$			0.002				
			(0.018)				
Hedge Fund Clicks$_{t-1,t-2}\times$ NOL Pill Adoption$_{t-1}$			-0.010**				
			(0.005)				
Acting-in-Concert with 10% Trigger Pill Adoption (AIC10)$_{t-1}$				-0.032***			
				(0.010)			
Hedge Fund Clicks$_{t-1,t-2}\times$ AIC10 Pill Adoption$_{t-1}$				-0.005**			
				(0.002)			
Anti-Activist Pill Adoption$_{t-1}$					-0.001		
					(0.015)		
Hedge Fund Clicks$_{t-1,t-2}\times$ Anti-Activist Pill Adoption$_{t-1}$					-0.010**		
					(0.004)		
Synthetic Equity with 10% Trigger (SE10) Pill Adoption$_{t-1}$						-0.028***	
						(0.011)	
Hedge Fund Clicks$_{t-1,t-2}\times$ SE10 Pill Adoption$_{t-1}$						0.002	
						(0.011)	
Non-Activist Pill Adoption$_{t-1}$							-0.005
							(0.009)
Hedge Fund Clicks$_{t-1,t-2}\times$ Non-Activist Pill Adoption$_{t-1}$							0.020
							(0.021)
Total Clicks$_{t-1}$ (100,000s)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0148	0.0148	0.0148	0.0148	0.0148	0.0148	0.0148
Observations	97,163	97,163	97,163	97,163	97,163	97,163	97,163
R^2	0.07	0.07	0.07	0.07	0.07	0.07	0.07

Table A.4: The Number of Hedge Funds, 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. 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 $t-1$ and $t-2$ interacted with the adoption of a poison pill in quarter $t-1$. Data on poison pill adoptions is hand-collected from firm SEC filings, data on hedge fund clicks is collected via the methodology described in Section 4, data on activist hedge fund public campaigns is from Boyson et al. (2017) 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.

	Activism Target$_t$ (Indicator)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Number of Hedge Funds$_{t-1,t-2}$ (10s)	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Poison Pill Adoption$_{t-1}$	0.006	0.010					
	(0.006)	(0.006)					
Number of Hedge Funds$_{t-1,t-2}\times$ Poison Pill Adoption$_{t-1}$		-0.001					
		(0.001)					
NOL Pill$_{t-1}$			0.025				
			(0.022)				
Number of Hedge Funds$_{t-1,t-2}\times$ NOL Pill Adoption$_{t-1}$			-0.002**				
			(0.001)				
Acting-in-Concert with 10% Trigger Pill Adoption (AIC10)$_{t-1}$				-0.031**			
				(0.012)			
Number of Hedge Funds$_{t-1,t-2}\times$ AIC10 Pill Adoption$_{t-1}$				-0.001*			
				(0.000)			
Anti-Activist Pill Adoption$_{t-1}$					0.018		
					(0.019)		
Number of Hedge Funds$_{t-1,t-2}\times$ Anti-Activist Pill Adoption$_{t-1}$					-0.002**		
					(0.001)		
Synthetic Equity with 10% Trigger (SE10) Pill Adoption$_{t-1}$						-0.041***	
						(0.012)	
Number of Hedge Funds$_{t-1,t-2}\times$ SE10 Pill Adoption$_{t-1}$						0.001	
						(0.002)	
Non-Activist Pill Adoption$_{t-1}$							0.006
							(0.007)
Number of Hedge Funds$_{t-1,t-2}\times$ Non-Activist Pill Adoption$_{t-1}$							0.000
							(0.001)
Total Clicks$_{t-1}$ (100,000s)	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131
Observations	190,710	190,710	190,710	190,710	190,710	190,710	190,710
R^2	0.06	0.06	0.06	0.06	0.06	0.06	0.06

Table A.5: 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)). 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 4, 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)	0.0040***	0.0030**	0.0031**	0.0024**	0.0023**	0.0024**
	(0.0014)	(0.0012)	(0.0013)	(0.0012)	(0.0011)	(0.0012)
Total Clicks$_{t-1}$ (100,000s)	0.0006	0.0006	0.0006	0.0003	0.0003	0.0003
	(0.0005)	(0.0005)	(0.0005)	(0.0003)	(0.0003)	(0.0003)
Excludes =	Bids	Rumors	Both	Bids	Rumors	Both
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0052	0.0049	0.0049	0.0011	0.0010	0.0010
Observations	194,844	200,849	194,530	194,844	200,849	194,530
R^2	0.04	0.04	0.04	0.05	0.05	0.05

Table A.6: Hedge Fund Interest, Poison Pill Adoption, and Public Activism Campaigns - 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 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. 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 excludes time periods around both actual takeover bids and rumored bids. 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 4, data on activist hedge fund public campaigns is from Boyson et al. (2017) 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, 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.

	Activism Target$_t$ (Indicator)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hedge Fund Clicks$_{t-1,t-2}$ (100s)	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Poison Pill Adoption$_{t-1}$	0.001	0.003					
	(0.005)	(0.006)					
Hedge Fund Clicks$_{t-1,t-2}$× Poison Pill Adoption$_{t-1}$		-0.007***					
		(0.002)					
NOL Pill$_{t-1}$			0.009				
			(0.016)				
Hedge Fund Clicks$_{t-1,t-2}$× NOL Pill Adoption$_{t-1}$			-0.008**				
			(0.004)				
Acting-in-Concert with 10% Trigger Pill Adoption (AIC10)$_{t-1}$				-0.031***			
				(0.010)			
Hedge Fund Clicks$_{t-1,t-2}$× AIC10 Pill Adoption$_{t-1}$				-0.004*			
				(0.002)			
Anti-Activist Pill Adoption$_{t-1}$					0.004		
					(0.014)		
Hedge Fund Clicks$_{t-1,t-2}$× Anti-Activist Pill Adoption$_{t-1}$					-0.008**		
					(0.003)		
Synthetic Equity with 10% Trigger (SE10) Pill Adoption$_{t-1}$						-0.033***	
						(0.006)	
Hedge Fund Clicks$_{t-1,t-2}$× SE10 Pill Adoption$_{t-1}$						-0.004***	
						(0.001)	
Non-Activist Pill Adoption$_{t-1}$							0.002
							(0.006)
Hedge Fund Clicks$_{t-1,t-2}$× Non-Activist Pill Adoption$_{t-1}$							-0.004
							(0.004)
Total Clicks$_{t-1}$ (100,000s)	0.006	0.006	0.006	0.006	0.006	0.006	0.006
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0116	0.0116	0.0116	0.0116	0.0116	0.0116	0.0116
Observations	184,171	184,171	184,171	184,171	184,171	184,171	184,171
R^2	0.06	0.06	0.06	0.06	0.06	0.06	0.06

Table A.7: 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. 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. 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 4, data on activist hedge fund public campaigns is from Boyson et al. (2017) 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. (2022), and data on firm financials is taken from CRSP/Compustat Merged Quarterly. For brevity, the coefficients for the other double interaction terms are ommitted 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.

	Activism Target$_t$ (Indicator)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hedge Fund Clicks$_{t-1,t-2}$ (100s)	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Poison Pill Adoption$_{t-1}$	0.009	0.013					
	(0.006)	(0.009)					
Classified Board$_{t-1}$	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***	0.008***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Hedge Fund Clicks$_{t-1,t-2}\times$ Poison Pill Adoption$_{t-1}$		-0.008**					
		(0.003)					
Hedge Fund Clicks$_{t-1,t-2}\times$ Poison Pill Adoption$_{t-1}\times$ Classified Board$_{t-1}$		0.019					
		(0.021)					
NOL Pill$_{t-1}$			0.018				
			(0.024)				
Hedge Fund Clicks$_{t-1,t-2}\times$ NOL Pill Adoption$_{t-1}$			-0.010**				
			(0.005)				
Hedge Fund Clicks$_{t-1,t-2}\times$ NOL Pill Adoption$_{t-1}\times$ Classified Board$_{t-1}$			0.029				
			(0.038)				
Acting-in-Concert with 10% Trigger Pill Adoption (AIC10)$_{t-1}$				-0.027**			
				(0.011)			
Hedge Fund Clicks$_{t-1,t-2}\times$ AIC10 Pill Adoption$_{t-1}$				-0.007***			
				(0.003)			
Hedge Fund Clicks$_{t-1,t-2}\times$ AIC10 Pill Adoption$_{t-1}\times$ Classified Board$_{t-1}$				0.015			
				(0.013)			
Anti-Activist Pill Adoption$_{t-1}$					0.014		
					(0.021)		
Hedge Fund Clicks$_{t-1,t-2}\times$ Anti-Activist Pill Adoption$_{t-1}$					-0.010**		
					(0.004)		
Hedge Fund Clicks$_{t-1,t-2}\times$ Anti-Activist Pill Adoption$_{t-1}\times$ Classified Board$_{t-1}$					0.034		
					(0.038)		
Synthetic Equity with 10% Trigger (SE10) Pill Adoption$_{t-1}$						-0.032***	
						(0.006)	
Hedge Fund Clicks$_{t-1,t-2}\times$ SE10 Pill Adoption$_{t-1}$						-0.005***	
						(0.002)	
Hedge Fund Clicks$_{t-1,t-2}\times$ SE10 Pill Adoption$_{t-1}\times$ Classified Board$_{t-1}$						0.109	
						(0.081)	
Non-Activist Pill Adoption$_{t-1}$							0.011
							(0.010)
Hedge Fund Clicks$_{t-1,t-2}\times$ Non-Activist Pill Adoption$_{t-1}$							0.001
							(0.014)
Hedge Fund Clicks$_{t-1,t-2}\times$ Non-Activist Pill Adoption$_{t-1}\times$ Classified Board$_{t-1}$							0.007
							(0.026)
Total Clicks$_{t-1}$ (100,000s)	0.006	0.006	0.006	0.006	0.006	0.006	0.006
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0133	0.0133	0.0133	0.0133	0.0133	0.0133	0.0133
Observations	178,668	178,668	178,668	178,668	178,668	178,668	178,668
R^2	0.06	0.06	0.06	0.06	0.06	0.06	0.06

Table A.8: 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 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)	-0.003	0.005***	0.006***	0.003**	0.001	0.003**	0.003*	0.002**
	(0.003)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)
Total Clicks$_{t-1}$ (100,000s)	1.147**	0.003	0.003	0.021	0.481**	0.003	0.002	0.012
	(0.492)	(0.003)	(0.003)	(0.020)	(0.244)	(0.003)	(0.002)	(0.016)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
DV Unconditional Sample Mean	0.0054	0.0054	0.0054	0.0054	0.0011	0.0011	0.0011	0.0011
Observations	100,610	100,635	101,674	99,092	100,610	100,635	101,674	99,092
R^2	0.05	0.05	0.07	0.08	0.07	0.05	0.07	0.09

Table A.9: Hedge Fund Interest, Poison Pill Adoption, HF strategy. 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 Robust standard errors, clustered at the firm level, are reported in parentheses. *,**, and *** denote significance at the 10%, 5%, and 1% level, respectively.

	Passive	Communication	Proposal	Proxy	Lawsuit	Takeover	Threat	Board Rep.	Hostile
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Poison Pill Adoption$_{t-1}$	0.1098	-0.2079*	0.1545	-0.1761	0.0264	0.0159	0.1253	0.0631	-0.0328
	(0.1627)	(0.1164)	(0.1543)	(0.1124)	(0.0301)	(0.0770)	(0.0921)	(0.1714)	(0.1561)
Hedge Fund Clicks$_{t-1,t-2}\times$ Pill Adoption$_{t-1}$	0.0034***	0.0008	-0.0038***	-0.0001	-0.0024***	0.0000	-0.0004	-0.0033***	-0.0028***
	(0.0010)	(0.0006)	(0.0007)	(0.0008)	(0.0008)	(0.0003)	(0.0005)	(0.0008)	(0.0008)
Hedge Fund Clicks$_{t-1,t-2}$	0.0001	-0.0004	0.0002	-0.0001	0.0001	0.0000	0.0001	0.0002	0.0003
	(0.0002)	(0.0003)	(0.0003)	(0.0002)	(0.0001)	(0.0000)	(0.0002)	(0.0002)	(0.0002)
Total Clicks$_{t-1}$ (100,000s)	0.0840	0.2419	0.1300	0.1292	-0.6439*	0.0251	-0.5868*	-0.8494**	-1.0262***
	(0.2659)	(0.4559)	(0.5047)	(0.2456)	(0.3539)	(0.0608)	(0.3498)	(0.3993)	(0.3416)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,335	1,335	1,335	1,335	1,335	1,335	1,335	1,335	1,335
R^2	0.54	0.48	0.54	0.51	0.58	0.48	0.50	0.51	0.50