

# The Value of Takeover Defenses: Evidence from Exogenous Shocks to Closed-End Mutual Funds

Martijn Cremers\*  
Robert J. Jackson, Jr.  
John Morley

September 27, 2016

## *Abstract*

This paper offers the first study of the shareholder welfare effects of poison pills and control share acquisition statutes in a research design that can support causal inference. We examine a series of four events between 2004 and 2010 that suddenly and exogenously changed the legality of poison pills and control share acquisition statutes for a peculiar class of company known as a closed-end fund. In the first two events, a court held for the first time that these defenses were legal under the Investment Company Act of 1940. In the latter two events, the SEC officials expressly rejected the court's decision, rendering these defenses effectively illegal. We show that as poison pills and control share acquisition statutes became more legal, closed-end fund stock prices increased; and as these defenses became less legal, closed-end fund stock prices decreased. We find, in other words, that closed-end fund shareholders *liked* the poison pill.

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\* Professor of Law and Finance, University of Notre Dame Mendoza College of Business; Professor of Law and Director, Program on Corporate Law and Policy, Columbia Law School; and Professor of Law, Yale Law School. We are grateful to Lucian Bebchuk, Alma Cohen, Allen Ferrell, Jeffrey Gordon, Joshua Mitts, and participants at the Columbia Law School Faculty Workshop for helpful comments and conversations, and to Robert Bishop, Kaitlin Bottock, Gregory Klochkoff, Rory Minnis, Xu Pang and Danyang Zhao for exceptional research assistance. We also thank Kate Thompson and the Columbia Law School DataLab for their assistance in automated data collection.

## 1. INTRODUCTION

For more than a generation, the implications of takeover defenses for the welfare of corporate shareholders have been the subject of intense debate by researchers and lawmakers. On the one hand, some observers have argued that allowing board and managers to resist takeovers tends to coddle ineffective managers and increase agency costs and managerial slack. (Easterbrook & Fischel, 1981; Gilson, 1981.) Others contend that takeover defenses arm boards with valuable bargaining power in negotiations with acquirers. (Lipton, 1979.) A huge volume of empirical work has piled up in finance and economics journals, with each side contending that the data support their view.

It is now well understood, however, that the empirical evidence on the value of takeover defenses, though massive, has severe limitations. One reason is that a firm's decision to adopt a takeover defense is generally endogenous—that is, it is influenced by firm-specific circumstances that make it hard to distinguish correlation from causation. If a firm adopts a takeover defense and the firm's performance subsequently declines, for example, we cannot say whether the decline is a response to the takeover defense, or whether the takeover defense is a response to the expected decline. Second, for certain takeover defenses, it has been almost impossible to find variation to study statistically. This is because, as John Coates famously observed, every corporation can be understood to have certain “shadow defenses”—that is, the legal power to adopt devices immediately upon detecting the approach of an unwanted activist (Coates, 2000). This is especially true of the poison pill. Since every firm can adopt a poison pill on a few hours' notice, it is as though

every firm already has a poison pill. This makes it very difficult to compare firms that have poison pills to firms that do not. A third reason takeover defenses have been difficult to study is that different kinds of defenses often substitute for one another. If state law does not allow a company to opt into a control share acquisition statute, for example, the company can simply use a poison pill to achieve almost exactly the same practical result.

These factors combine to make empirical research on takeover defenses extremely challenging. Catan and Kahan (2016) have recently shown in an extensive literature review spanning decades of published research that for the reasons just noted, the existing empirical work on takeover defenses has drawn its causal inferences improperly. What we need in order to draw causal conclusions about the effects of takeover defenses, these authors have explained, is an *exogenous* change to the law of takeover defenses that (a) is beyond the control of the companies it effects and (b) changes both a takeover defense and its potential substitutes roughly *simultaneously*. Unfortunately, little work has been done to examine exogenous changes that meet these criteria, because these kinds of changes are extremely rare and hard to spot.<sup>1</sup>

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<sup>1</sup> There are two important recent exceptions. First, recent work by one of us (Cremers & Ferrell, 2014) used the Delaware Supreme Court's well-known decision in *Moran v. Household International*, 500 A.2d 1346 (Del. 1985) as an exogenous shock to corporate governance. These authors studied restrictions on shareholder rights *other than the poison pill* and found that these restrictions were associated with lower firm value, but only after the Court in *Moran* approved the use of the pill. Second, Cohen and Wang (2014) recently used the Delaware Chancery and Supreme Court rulings in the takeover battle involving Airgas Inc., which arguably strengthened the antitakeover effects of staggered boards. These authors found that the *Airgas* decisions were associated with lower firm value (Cohen & Wang, 2014). Neither of these studies directly examined the value implications of the poison pill or state antitakeover statutes.

In this Article, however, we identify just such an exogenous change. We examine, specifically, four separate unexpected changes to the law of takeover defenses in a peculiar class of company known as a closed-end fund (CEF). Like an open-end mutual fund, a closed-end fund is a pool of stocks, bonds and other investment assets that issues shares to the general public. Unlike an open-end mutual fund, a closed-end fund does not allow its shareholders to redeem their shares. A CEF locks in its capital like an ordinary company. A CEF's investors can thus buy and sell their shares on a stock exchange, just like the shareholders of an ordinary public company.

One of the peculiar results of this share trading system is that CEFs attract hostile takeover attempts with unusual intensity and frequency. CEF shares have a tendency to trade at prices below the liquidation value of the assets that underlie them. This tendency to trade at a discount to liquidation value attracts hostile acquirers, because a discount transforms a CEF into an easy profit opportunity: an acquirer can buy shares at \$95 and then use its control to gain access to the \$100 worth of assets that underlie those shares. Anti-takeover defenses are thus even more important to the survival of CEFs than other companies (Bradley, Brav, Goldstein and Jiang, 2010).

In most public companies, takeover defenses are governed by a body of state law that has remained static for decades. CEFs, however, are governed by *federal* law in addition to state law, and this federal law has changed dramatically in recent years. Prior to 2004, practitioners in the field of closed-end funds widely believed that the Investment Company Act prohibited a CEF from adopting a poison pill or relying on a state control share acquisition statute to defend against hostile

acquirers.<sup>2</sup> But between 2004 and 2010, a series of changes in the law threw the status of takeover defenses for CEFs into considerable doubt. These changes offer the kind of exogenous shock to the law of takeover defenses that permits valid causal inferences about the effects of defenses on firm value.

In this study, we examine four specific events: a pair of federal district court opinions in 2004 and 2007 and a pair of pronouncements by the Securities and Exchange Commission (SEC) in 2009 and 2010. The district court opinions upheld takeover defenses as being consistent with the ICA. The SEC pronouncements attacked takeover defenses as being inconsistent with the ICA. Using standard event-study methodology, we examine the share-price effects of each of these exogenous changes in the law.

We find strikingly consistent evidence that the validation of takeover defenses had a positive effect on CEF share prices, and the invalidation of takeover defenses had a negative effect. After market participants learned from two district court decisions that CEFs could use poison pills and state antitakeover laws to defend against hostile attacks, share prices at CEFs rose. After the market learned about the two SEC events that made it so that CEFs could no longer use these defenses, share prices at CEFs fell. Our results are robust to a variety of specifications, including the choice of event window, different approaches to calculating abnormal returns, adjusting for different investment-fund styles, and controlling for the presence of staggered boards and variation in states of incorporation. Taken together, these four events tell a clear and compelling story: closed-end fund shareholders believed that

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<sup>2</sup> We base this claim on extensive conversations with leading CEF practitioners.

giving CEFs the ability to defend against activist attacks increased the value of the funds' shares.

The economic magnitude of these effects is significant. We estimate that, in response to the two district court decisions suggesting that CEFs may use takeover defenses, funds' share prices rose by an average of between 15 and 46 basis points on a benchmark-adjusted basis. Conversely, in response to the SEC's two interventions indicating that takeover defenses were illegal at CEFs, share prices fell by between 18 and 43 basis points. These findings indicate that investors viewed takeover defenses at CEFs to have significant implications for the value of the funds.

To be sure, because of the unusual nature of CEFs and their investors, it is far from clear that our findings are generalizable to settings beyond closed-end funds. In particular, we do not assert that these findings extend to the ordinary public companies on which the takeover defense literature has focused. CEFs are unusual firms with unusual regulatory regimes, share pricing patterns and business models, and it is not obvious whether takeover defenses should be more or less valuable in these firms than in other firms.

Nevertheless, we think this study offers a valuable contribution to the large and growing literature on the value effects of takeover defenses.<sup>3</sup> Perhaps no single issue in corporate law debate has attracted more attention than the value of takeover defenses. Yet the challenges in drawing causal inferences about the effects of these defenses have remained frustratingly persistent, leading to questions about the

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<sup>3</sup> Even in the narrow context of CEFs, a cleanly identified examination of the value implications of takeover defenses is important, particularly in light of recent work (Souther 2015) establishing associations, but not causal relationships, between closed-end fund governance and value.

methodological soundness of much research in the field. For that reason, a study offering clear causal inferences provides valuable information, even if it applies only in a unique context. We hope that this work, by providing a cleanly identified understanding of the value effects of antitakeover devices for a narrow set of firms, will advance understanding of the effects of takeover defenses more generally.

The paper proceeds as follows. Part 2 provides institutional background on CEFs, the circumstances under which they are subject to hostile takeover attempts, and the funds' use of takeover defenses in response. Part 3 describes our event-study setting, detailing the four events that exogenously altered the legality of takeover defenses at CEFs. Part 4 describes our data and results. Part 5 briefly concludes.

## **2. INSTITUTIONAL BACKGROUND**

### **2.1 Closed-End Funds**

Closed-end funds resemble in many ways the open-end mutual funds that many Americans hold in their retirement portfolios and brokerage accounts. Like an open-end mutual fund, a closed-end fund holds a portfolio of stocks, bonds and other securities that are designed to produce an investment return. And like an open-end fund, a closed-end fund issues securities of its own to the general public, which investors can buy in order to save for retirement or other purposes. Also like an open-end fund—but unlike a hedge fund or private equity fund—a closed-end fund sells shares widely to the general public, rather than just to wealthy institutions and individuals. A closed-end fund must therefore comply with a set of rules in the Investment Company Act of 1940 (ICA), which regulate, among other things, a fund's capital structure and disclosure obligations and the voting rights of its shareholders.

Like all investment funds, a CEF receives all of its portfolio management services and operational assets from an external company, which is known as an adviser or manager. Although a CEF is required by the ICA to have its own board of directors, a CEF generally signs a contract with its external adviser that gives the adviser complete authority to operate the fund and decide how to invest the fund's assets. The logic of this external management system is explained in Morley (2014).

The key difference between a closed-end fund and an open-end fund is that, unlike an open-end fund, a closed-end fund does not allow its shareholders to redeem their shares. In an open-end fund, a shareholder can redeem her shares by returning them to the fund and receiving in exchange an amount of cash equal to the value of the portion of the fund's net assets that corresponds to each share. The proportional value of the fund's portfolio that corresponds to each share is known as the fund's "net asset value," or "NAV." A shareholder of an open-end fund thus does not buy and sell shares on a stock exchange—she instead transacts directly with the funds.

In contrast to an open-end fund, a closed-end fund does not allow its shareholders to redeem. A shareholder of a closed-end fund cannot return her shares to the fund and request the cash value in exchange, because the capital structure of a closed-end fund is *closed*. Hence, shareholders who want to buy or sell shares in a closed-end fund must go to a market, such as the New York Stock Exchange, and transact with other shareholders. In this respect, closed-end funds are like ordinary companies, such as General Electric and Microsoft, which also do not redeem their shareholders' shares, and whose stock also trades on stock exchanges.

One of the most peculiar facts about closed-end funds is that the prices at which their shares trade on stock exchanges tend to be about five percent lower than the value of the assets that underlie these shares. A fund's stock might trade at \$95 per share for instance, even as the proportion of the fund's net assets that corresponds to each share may be worth \$100. This discount from NAV has made CEFs into one of modern finance's most enduring objects of theoretical fascination. Ross (2002) and Lee, Shleifer and Thaler (1991) have famously offered explanations for the discount, as have many others.<sup>4</sup>

Closed-end funds attract a variety of investors. Investors who buy in initial public offerings of CEFs tend to be small and poorly informed. (Hanley, Lee & Seguin 1996).<sup>5</sup> But once a fund begins trading at a discount to NAV, the fund's shares can become an attractive investment for larger and more sophisticated investors. It is these sophisticated investors who become the activists in CEFs.

The closed-end format offers a number of advantages and a number of disadvantages relative to an open-end format. The biggest advantage is simply that a CEF does not have to incur the costs associated with redemption. The closed-end format avoids the costly administrative apparatus necessary to keep track of redemption orders and also eliminates the need to maintain liquid assets in a portfolio to generate cash to pay redemptions. The maintenance of liquid assets is costly, since basic financial theory predicts that, all else is equal, liquid assets will yield lower

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<sup>4</sup> Dimson and Minio-Kozersky (1999) survey the literature on the closed-end fund discount.

<sup>5</sup> This is presumably because a closed-end fund IPO is usually a bad investment. A CEF's shares necessarily sell at or near NAV in the fund's IPO, since a fund's promoters cannot profit by selling \$100 worth of portfolio investments for \$95. The shares then tend to drop quickly to a value below the NAV, making it very likely that the IPO investors will lose money. (Hanley, Lee & Seguin 1996)

investment returns than illiquid assets. A related benefit of the closed-end format is that it diminishes the pressure to realize tax liabilities on investments by selling appreciated investments to raise cash to pay redemptions.

Balancing these advantages, the closed-end format also offers a number of disadvantages. The main disadvantage is that the advisers of a closed-end fund may be less accountable to shareholders than the advisers of an open-end fund. Since the shareholders of a closed-end fund cannot withdraw the money they contribute like the shareholders of an open-end fund can, the advisers of a closed-end fund can arguably mismanage the money assets more easily. Unlike open-end fund managers, closed-end fund managers who perform poorly do not face the risk that future investors will redeem or decide not to buy into the fund.

## **2.1 Closed-End Funds and Hostile Attacks**

For our purposes the most important feature of closed-end funds is that they attract hostile acquisition attempts with greater frequency and intensity than ordinary companies. The basic strategy of many closed-end fund activists is to arbitrage the difference between the price of a CEF's shares on a stock exchange and the value of the assets that underlie the shares. An activist, in other words, can profit by buying a share in a fund on the New York Stock Exchange at \$95 and then somehow gaining access to fund's portfolio of investments, which might be worth \$100 per share. This strategy seems very simple in principle, but in actual practice, it turns out to be rather complicated. Closed-end fund activism proceeds down a variety of winding paths, with uncertain and debatable consequences for shareholders.

To understand the practical realities of closed-end fund activism, we collected data on the nature and frequency of activism. First, we collected data on every Schedule 13D ever filed by an outside investor in a closed-end fund between June of 1995, when the SEC first began placing these filings in its online EDGAR system, and September of 2015, when we commenced our data collection efforts.<sup>6</sup> We examined a total of 4,985 filings. We first identified these filings using an automated program that pulled the filings from EDGAR. We then coded the contents of the filings by hand. From among these nearly 5,000 filings, we identified 361 unique instances in which an investor or group of investors disclosed an intention to push for specific changes at a particular fund.<sup>7</sup> Some of the attempts at activism disclosed in the 13Ds involved an informal request by an activist that called on a board to implement certain changes. Other disclosures threatened more formal action, expressing an intention to initiate a formal shareholder vote or to run a proxy campaign on a set of specific proposals.

In their 13D filings, investors requested several different types of reforms. For the 361 filings that made at least one specific request, Table 1 below describes the proportion that requested each of various specific reforms.<sup>8</sup>

[Insert Table 1 Here.]

In addition to collecting data on 13D filings, we also collected data on contested shareholder votes. We collected data from all contested proxy statements

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<sup>6</sup> As at all public companies, investors in CEFs who obtain beneficial ownership of 5% or more of the company's outstanding shares must file a Schedule 13D describing their identity, ownership, and intentions. An investor must amend its Schedule 13D if to provide details if its beneficial ownership changes.

<sup>7</sup> Many investors filed several amendments to their 13Ds. If we count each subsequent amendment in addition to each initial filing in a particular fund by a particular group of investors, we end up with 716 total filings that disclose an intention to request reforms.

<sup>8</sup> [Explain how our data differ from Bradley, Brav, Goldstein and Jiang (2010) and Souther (2015).]

filed by both issuers and activists on SEC forms PREC 14A and DEFC 14A in all closed-end funds between March of 1996, when these filings first appeared on the EDGAR system, and September of 2015, when we commenced our data collection efforts. We identified a total of 584 contested proxy statements, which were connected to a total of 154 distinct proxy contests. As with the 13D filings, we identified the proxy statements using an automated program and then coded the contents by hand. We also coded whether in each of the 154 distinct proxy contests the activists succeeded or failed. We should note that observing the success or failure of a CEF proxy contest is somewhat difficult, because unlike an ordinary company, a CEF is not required to disclose the outcomes of shareholder votes.<sup>9</sup> We therefore assessed success somewhat roughly by simply assessing (based on whatever SEC filings were available) whether a fund had substantially implemented a proposal within two years of the last proxy statement filed in the relevant proxy contest. Our data for proxy contests appear in Table 2.

[Insert Table 2 Here.]

Together, the data on 13Ds and contested proxy filings reveal a number of different activism strategies. The most obvious strategy is to try to force a fund to go open-end. This is the most well known arbitrage strategy and it works, because when a fund goes open-end, it must redeem its shares for a cash amount equal to NAV, creating a profit opportunity for any shareholder who bought on the stock market at a price below NAV. Surprisingly, open-ending was not the most popular form of

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<sup>9</sup> Exchange Act Rule 13a-11(b) exempts investment companies from the obligation to file any current updates on Form 8-K, including reports of the outcomes of shareholder votes. 17 CFR 240.13a-11(b).

activism. Of the 361 unique instances in which a 13D filing made at least one specific request or proposal, only 8.5% involved an attempt to convert a fund to an open-end format. And out of the 154 total proxy contests we observed, only 43 involved a proposal to go open-end. Open-endings were not universally popular in shareholder voting. Only about half—51.2%—of these proposals succeeded.

Another common strategy was simply to cause a fund to liquidate entirely by selling off all of its assets and distributing the cash to shareholders. Our data show that 7.2% of the Schedule 13Ds that attempted activism and 13% of the proxy contests tried to get a fund to completely liquidate.

Another strategy that is less well known than open-ending or liquidation but more common in our data is for an activist to ask a fund to self-tender for the fund's shares at a price close to NAV. This has an effect similar to open-ending, by causing a fund to liquidate some of its assets in order to repurchase some of its shares. A self-tender allows an investor who buys stock on the market at a price below NAV to profit by selling the share to the fund at NAV. Our data show that 12.1% of the 13D filings that proposed activism tried to encourage a fund to pursue a self-tender, and 25.3% of the proxy contests did the same.

Interestingly, we also find that arbitrage is not the only form of activism in closed-end funds. In addition to trying to force funds to give up cash, investors also occasionally attempted a number of other kinds of reforms. A very significant proportion of activism attempts tried to terminate a fund's advisory agreement, including 18.6% of the 13Ds that contained activism proposals and 20.8% of the proxy contests. Still more investors sought other corporate-governance changes, including

43.8% of the 13Ds that contained activism proposals and 9.1% of the closed-end funds. These other corporate governance changes included a wide array of proposals, such as eliminating a staggered board and changing a fund's investment strategy.

One of the most surprising lessons of this data is that attempts at activism met with a surprising amount of resistance—or at least apathy—from non-activist stockholders. For most types of proposals, activist proxy contests failed more often than they succeeded. In particular, the most common ambition in proxy contests—obtaining seats on the board of directors—succeeded only 26.5% of the time. Proposals to require a fund to self-tender for its shares succeeded only 15.4% of the time and proposals to convert a fund to an open-end format or liquidate succeeded 51.2% and 40% of the time, respectively. Proposals to terminate advisers also succeeded less than half the time, with a success rate of 43.7%. Proposals to change a fund's corporate governance or to approve or oppose a merger with another fund each succeeded about a quarter of the time.

## **2.2 Takeover Defenses and the Investment Company Act**

Closed-end funds adopt a variety of defenses against hostile activism. In this study, we examine two such defenses: poison pills and state control-share acquisition statutes. Poison pills, which are often known more formally as “shareholder rights plans,” deter takeovers by diluting hostile acquirers' interests. When a hostile acquirer buys more than a certain percentage of stock, a poison pill requires a company to issue stock at a discounted price to all of the company's other shareholders. Because the acquirer is excluded from the company's offer, all of the other stockholders get to buy into the company at a discounted price, while the

acquirer is stuck holding the same number of shares, which it originally bought at a higher price. The net effect is to dilute the acquirer's holdings in both percentage and value.

The second antitakeover defense we consider is a state control share acquisition statute. Control share acquisition statutes appear in the corporation codes of about 27 states. (Bebchuk & Cohen, 2002.) The details of these statutes vary from state to state, but the general principle is that an acquirer who purchases shares in excess of a certain percentage may not vote any shares in excess of that percentage unless the acquirer receives permission. The permission must come either from the company's board of directors in advance of the acquisition or from a supermajority of the company's other shareholders after the acquisition. Though a board of directors has the authority to waive the statute or approve an acquisition, a board will ordinarily refuse to do this in the event of a hostile attack. Thus, most observers agree that these statutes impose a significant burden on acquirers seeking to obtain control from incumbent directors. Note that some of these statutes apply by default, and others require a company to expressly opt in.

Both of these defenses are now widely believed to be legal for ordinary companies. But their legality in closed-end funds has been the subject of intense debate. It is the twists and turns of this debate that form the basis for our study. The questions about legality arise from several provisions of the Investment Company Act. When Congress first adopted the Act in 1940, it could not have did not anticipated either of poison pills or control share acquisition statutes, because neither of them

had yet been invented. Nevertheless, many people have subsequently interpreted the ICA to prohibit both of these defenses.

Poison pills are arguably inconsistent with the ICA for two reasons. First, section 18(d) of the ICA imposes a non-discrimination rule in the issuance of shares: a fund cannot issue warrants or rights to purchase shares unless these rights are issued “ratably” to all holders of a particular class of securities.<sup>10</sup> Poison pills arguably violate this provision by preventing a hostile acquirer from purchasing shares at the same rate as other shareholders when a poison pill is triggered.<sup>11</sup> Second, section 18(d) says that any subscription right to purchase a share in a CEF must expire “not later than one hundred and twenty days after [the] issuance” of that right. This provision arguably requires a fund to terminate a poison pill within four months of the time the fund adopts the pill. The provision does not say expressly whether a fund can extend a subscription right by serially renewing it every four months. Note that this automatic sunset provision discourages a CEF from adopting the pill unless a hostile acquisition is already underway. Since a pill may have a built-in time limit, there is no sense in adopting a pill until an activist is actually knocking on the door. This is especially true, since the paperwork necessary to adopt a pill can be executed on a moment’s notice. Conversations with legal practitioners confirm that no fund has ever

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<sup>10</sup> Section 18(d) provides: “[i]t shall be unlawful for any registered management company to issue any warrant or right to subscribe to or purchase a security of which such company is the issuer, except in the form of warrants or rights . . . issued exclusively and ratably to a class or classes of such company’s security holders.”

<sup>11</sup> Section 23(b) of the ICA adds to this rule, providing that a fund cannot issue shares at less than NAV unless the issuance complies with the nondiscrimination rule in Section 18(d). Section 23(b) provides: “No registered closed-end company shall sell any common stock of which it is the issuer at a price below the current net asset value of such stock,” although Section 23(b)(4) supplies an exception where the stock is “issued in accordance with the provisions” of Section 18(d).

adopted a poison pill except in the face of an imminent takeover threat, and we therefore do not attempt to collect data on the number of funds with poison pills.

The ICA also arguably restricts state control-share acquisition statutes, because of an equal voting rule in section 18(i). This section says that every share of stock issued by a closed-end investment fund “shall...have equal voting rights with every other outstanding voting stock.”<sup>12</sup> Control share acquisition statutes arguably violate this rule by preventing hostile acquirers who cross the triggering threshold from voting their shares on the same terms as other shareholders.

It is important to study poison pills and control share acquisition statutes in tandem, because the two devices are substitutes for one another. In the absence of one, a company can rely on the other to achieve the same effect. This is because both devices operate in the same basic way: they discourage an activist from crossing a certain threshold. And both devices can only be defeated in the same basic way: by an activist who wins a proxy contest prior to crossing the threshold. To defeat both a poison pill and a control share statute, an acquirer must elect a new board and then use its influence over the new board to remove the takeover defense and clear the way for the acquirer to purchase more shares. If we want to understand poison pills, therefore, we must also understand control share acquisition statutes.

## **2.2 Motivations for Takeover Defenses**

We can imagine a number of reasons why a fund might adopt a takeover defense. Some of these reasons might help shareholders, and some might harm

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<sup>12</sup> Section 18(i) provides, in relevant part: “[e]xcept as provided in subsection (a) of this section, or as otherwise required by law, every share of stock hereafter issued by a registered management company . . . shall be a voting stock and have equal voting rights with every other outstanding voting stock.”

shareholders. Theoretically, activism could be either good or bad. This is why the only way to resolve whether takeover defenses are ultimately good or bad for closed-end fund stockholders is to examine the empirical evidence.

The harmful effects of takeover defenses mostly revolve around the interests of advisers, who might use takeover defenses to protect their control rights and fee revenue at the expense of shareholders. An adviser might want to avoid a hostile acquisition, for example, because the adviser might expect that an acquirer will try to terminate a fund's contract with its adviser. The adviser might also expect that an acquirer will force the fund to liquidate and distribute some of its assets, and thus reduce the adviser's fees, which most likely are charged as a percentage of the fund's total assets. Since advisers tend to charge fees as a percentage of a fund's total assets, a fund that has fewer assets will tend to generate fewer fees for its adviser. Directors might be expected to take advisers' concerns seriously, because at the time a fund is initially formed, its directors tend to be selected and appointed by the adviser.

The positive effects of takeover defenses revolve around the interests of shareholders.. Takeover defenses may help shareholders by serving as a bonding device to ensure that a fund's directors and adviser will maintain a specific investment strategy or a contract with a specific adviser that the shareholders want. A takeover defense, in other words, might protect shareholders from the risk that activists will change the fund in ways that some the other shareholders do not like. A takeover defense may also protect shareholders from the costs of liquidating a fund's portfolio. Liquidating a fund's portfolio to pay for share redemptions or tender offers

may harm shareholders by requiring a fund to sell illiquid assets at fire sale prices.<sup>13</sup> A sudden liquidation might also harm shareholders by requiring a fund to sell off appreciated investments and thereby prematurely realize tax liabilities. These concerns about forced liquidation may be especially important in closed-end funds, because, as observed above, the closed-end format's special appeal is that it avoids the costs associated with liquidating investments.

This ambivalence in economic theory finds a reflection in the ambivalence of shareholders. As indicated in Table 2, activist proxy contests fail more often than they succeed, suggesting that a large number of shareholders in CEFs are opposed to activists' efforts or at least ambivalent or apathetic about them.

### **3. SETTING**

#### **3.1 Events Affecting the Legality of Takeover Defenses at Closed-End Funds**

Since economic theory offers no clear answers, we must turn to the empirical evidence. Our empirical evidence comes from a series of events that changed the legality of poison pills and control share statutes in CEFs. Before 2004, legal practitioners and industry observers widely believed that poison pills and control share acquisition statutes were prohibited by the ICA. Prior to this time, no closed-end fund that we know of had ever adopted a poison pill or used a control share acquisition statute during a takeover battle, even though hostile takeover attempts against closed-end funds were common. Our informal conversations with practitioners

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<sup>13</sup> An activist seeking to open-end a CEF can profit even where a fire sale of the fund's assets results from open-ending so long as the fund's NAV after such a fire sale exceeds the acquisition price of the activist's stake. Particularly given the significant gap between the price of CEF shares and the fund's NAV, causing a fire sale can be a profitable strategy for the activist, even though those profits would come at the expense of other shareholders.

indicate that many practicing lawyers strongly believed poison pills and control share statutes were illegal before 2004.

In 2004, however, a federal court case in Maryland raised significant doubts about this prevailing wisdom. The court's ruling, and the events that followed, resulted in four exogenous changes to the perceived legality of poison pills and control share statutes. Each of these events, and their effect on the legality of poison pills and control share statutes in CEFs, is summarized in Table 3.

[Insert Table 3 Here.]

### ***Event 1***

The first event we study involved the Maryland district court's initial ruling. During the fall of 2004, a set of trusts controlled by Stewart Horejsi, a professional activist investor who specializes in taking over closed-end funds, commenced a tender offer for shares of the Neuberger-Berman Real Estate Income Fund. Horejsi and his affiliates acquired 10.05% of the fund's common stock in open market transactions. Horejsi and his affiliates then disclosed an intent to acquire a majority stake in the fund, and then gain control of the fund's board of directors and appoint Horejsi's own affiliates as the fund's advisors and administrators.

In response to the tender offer, the fund's board adopted a poison pill, setting the trigger threshold just above Horejsi's ownership level, at 11%. The board also passed a resolution opting in to the Maryland Control Share Acquisition Act (MCSAA). The MCSAA is a standard control-share acquisition statute that disables the voting rights of any shares that would entitle a single acquirer and its affiliates to control more than 10% of a company's outstanding equity securities unless the acquirer

receives approval in advance from the company's board of directors or receives approval after the acquisition from a 2/3 majority of the company's other stockholders.<sup>14</sup> Although the MCSAA applies to most Maryland corporations by default, it does not apply by default to CEFs registered under the ICA.<sup>15</sup> Nevertheless, the statute permits the board of a CEF to opt-in by adopting an appropriate resolution.<sup>16</sup>

After the fund adopted its takeover defenses, Horejsi and the fund sued each other. Horejsi claimed that the fund's poison pill violated section 18(d) of the ICA and that the fund's decision to opt into the MCSAA violated section 18(i) of the ICA. Horejsi also argued that the MCSAA did not apply to him, because the MCSAA included a grandfather clause that exempted stockholders who had acquired shares before a company opted into the statute.<sup>17</sup> In an opinion issued on October 28, 2004, the court upheld the poison pill against the ICA challenge, holding that the pill was legal under the ICA. The court also concluded that the grandfather clause exempted Horejsi from the MCSAA. Because Horejsi was exempted from the MCSAA, the court did not reach the question of whether the MCSAA was legal or illegal under the ICA.

Technically, the court's judgment applied only to Horejsi and the Neuberger Berman fund. As a decision of trial court, rather than an appellate court, the judgment did not establish the law in all jurisdictions nationwide. The event nevertheless significantly affected the market's perception of the legal validity of poison pills in CEFs. Because practitioners had previously thought that pills were

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<sup>14</sup> The relevant provisions are Sections 3-701 through 3-710 of the Maryland Corporations and Associations Code.

<sup>15</sup> Practitioners have told us they believe this is because the Maryland state legislature was uncertain whether the MCSAA would be legal in closed-end funds.

<sup>16</sup> Maryland Corporations and Associations Code § 3-702(c)(4).

<sup>17</sup> Specifically, this clause provided that the MCSAA did not apply to shareholders who were shareholders at the time a fund opted into the statute's application.

unlikely to be legal in this context, the court's clear statement that pills were available to CEFs significantly increased investors' estimation of the odds that the pill would be held legal in other funds as well.

The court issued its opinion on October 28, 2004. However, because the opinion did not appear on the federal courts' PACER web site until 5:23 pm that day—after the stock markets had already closed—we take the following day, October 29, 2004, as the first day of our event window for purposes of this event. News coverage of the opinion was thin and the few news reports we could find about the opinion dribbled out slowly. However, closed-end fund investors and practicing lawyers we have talked with insist that the Neuberger-Horejsi takeover battle was closely followed by people in the industry. In particular, investors who specialize in closed-end funds said that they downloaded the opinion from the federal courts' PACER web site and read it almost as soon as it appeared.

## ***Event 2***

After the ruling, Horejsi continued his attack on the Neuberger fund, extending his tender offer for several more years, up through the summer of 2007. The fund's board refused to yield, however. Because Section 18(d) of the ICA limits the duration of warrants in closed-end funds, the fund's board repeatedly renewed its poison pill every 120 days from the fall of 2004 up through the spring of 2007. Horejsi and his allies eventually challenged this practice in the same district court in which they had previously sued the fund, arguing that the fund's serial renewal of its pill violated the spirit of section 18(d)'s limit on the duration of closed-end fund subscription rights.

On March 30, 2007, the court issued, without elaboration, a brief order saying that it would deny in part and grant in part the parties' cross-motions for summary judgment. The court then issued a more detailed judgment order two weeks later, on April 15, 2007, in which it identified which claims were being denied and granted without explaining the reasons why. On May 9, 2007, the court issued a full opinion explaining both its decisions and its reasoning.

The court reached two conclusions. First, the court strengthened the legality of the poison pill by holding that the Neuberger-Berman fund's serial renewal of the pill did not violate Section 18(d) of the ICA. Second, the court squarely held that the MCSAA did not violate the ICA. After the fund opted into the MCSAA in 2004, Horejsi purchased even more shares, and these subsequent shares were not covered by the grandfather clause. The court thus held that these subsequently purchased shares—which were clearly not protected by the grandfather clause—were not eligible to vote under the MCSAA.

The gradual release of the district court's decision in three different orders between March 30 and May 9 of 2007 gives us an array of different possible dates to choose as the date of this second event. We think the best date is the release of the first order. Although the first order did not explain the court's reasoning, it still revealed the likely outcome of the case, and thus probably provided the key piece of information that the markets were waiting for. Because the first order was not released until after the markets had already closed on Friday, March 30, 2007, we take the next stock market trading day, Monday April 2, as the first date of our event window for this event.

### **Event 3**

Two and a half years after the Maryland court issued its second opinion, the Securities and Exchange Commission intervened. On November 12, 2009, Andrew J. Donohue, then Director of the SEC's Division of Investment Management,<sup>18</sup> gave the keynote address at the Investment Company Directors Conference in Amelia Island, Florida. The conference was organized by the Independent Directors Council, a nonprofit organization dedicated to educating independent directors of mutual funds and closed-end funds. In his address, Donohue criticized the use of poison pills and control share statutes in CEFs and expressly disapproved of the Maryland district court's holdings. Donohue reiterated the same arguments that Horejsi had made in the Neuberger-Berman litigation, arguing that, in his view, the use of poison pills by closed-end funds violated Sections 18(d) and 23(b) of the ICA. Donohue also attacked the MCSAA and similar statutes, arguing that they ran afoul of Section 18(i) of the ICA. Donohue made no specific threats of enforcement, but he nevertheless said that under the ICA, "I believe it could be very difficult for fund counsel to advocate for, or fund directors to approve, a fund's use of a poison pill and the restrictions on the voting shares of a dissident shareholder."

Like the Maryland district court opinions, Donohue's speech took a few days to produce news stories. Professional investors and others with a strong interest in the closed-end fund industry nevertheless noticed Donohue's speech almost immediately. From conversations with those who were in the room during Donohue's speech, we understand that his remarks produced a chaotic scene, with some audience members

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<sup>18</sup> Mr. Donohue is now the Commission's Chief of Staff.

angrily arguing with Donohue while others rushed out of the room to make phone calls to colleagues and investors. All of the professionals we have spoken with conveyed the strong view that news of Donohue's speech spread quickly among industry observers.

Because Donohue's speech was technically an informal articulation of a personal position, rather than a formal statement of SEC policy, its effect on the law might seem weak or doubtful. The professional investors and industry observers we have spoken with, however, say that for all practical purposes, Donohue's speech completely settled the question, ending the use of poison pills and control share statutes in CEFs. These observers argue that even if a board of directors believed that Donohue was wrong and that the SEC would lose if challenged in litigation, the board nevertheless would be extremely reluctant to directly challenge the interpretation of a key SEC official. Observers note further that a mere phone call from the SEC—even without any formal action—would likely be enough to force most closed-end fund boards to abandon the use of a poison pill or control-share statute in a takeover battle.

For this third event, we choose November 12, 2009 as the start of our event window. This was the date that Donohue gave his speech. Since he gave the speech at lunchtime, the markets may well have had time to react that same day.

#### ***Event 4***

The final event we study is the public refusal by the SEC staff to issue a no-action letter. Like most people in the CEF industry, Horejsi had heard Donohue's speech and wanted to be certain about how strongly the SEC stood behind it. Thus, on

November 12, 2010, Horejsi caused another fund that he already controlled, the Boulder Total Return Fund, to send a no-action letter request to the SEC asking if the fund could opt into the MCSAA. Horejsi was apparently hoping for a negative response from the SEC, so that he could use it as a precedent in fights with other funds. Thus, although the fund Horejsi controlled was formally asking for permission to opt into the MCSAA, the fund nevertheless set out the arguments *against* the MCSAA, explaining why the statute violated the ICA and arguing that the fund should not be allowed to opt into the statute's protections. The staff of the Office of Chief Counsel of the SEC's Division of Investment Management replied three days later on November 15, 2010 by posting a letter to the SEC's website. In the letter, the staff agreed with the fund, offering a lengthy, intricately reasoned opinion explaining in detail why it believed the MCSAA violated Section 18(i) of the ICA. The letter concluded by saying that "the Fund, by opting into the [MCSAA], would be acting in a manner inconsistent with Section 18(i) of the Investment Company Act."

The legal effect of this letter was probably smaller than that of the other events we study here. The letter simply restated the position that Donohue had already staked out in his speech a year earlier. Nevertheless, unlike Donohue's speech, the refusal to issue a no-action letter was an official statement of the position of the SEC's staff. Since the SEC's letter was dated November 15, 2010 and was probably posted to the SEC's web site that same day, we take November 15, 2010 as the first date of our event window for this fourth event.

## **4. DATA AND RESULTS**

### **4.1 Dataset**

Our analysis of these events begins with the collection of a dataset. We identify all closed-end funds traded on a U.S. stock exchange in the CRSP equity database on any of the four event dates we study. We then identify each fund's style in order to ensure that we compare the fund's returns to an appropriate benchmark. We hand-match the funds identified in CRSP to Morningstar Direct to get information on each fund's self-declared benchmark and Morningstar's general classification of the fund's investment style. For a few of the funds that we cannot match to Morningstar, we use the fund's name or (when in doubt) the fund's prospectus to classify the fund into one of 13 broad fund style groups. Four style groups contain so few funds that we leave those groups out of the sample.<sup>19</sup>

For the remaining 9 style groups, we order the fund benchmarks and assign the most popular benchmark within each style group as that group's main benchmark. This style-specific benchmark is used to compute the benchmark-adjusted return, which is the difference between the return of the closed-end fund and the main benchmark within its style group.

As an alternative measure of style-adjusted fund performance, we calculate abnormal returns using a style-specific multifactor model, which includes a selection of the benchmarks as factors. The resulting multifactor models for each of the 9 style groups are presented in Table 4, together with a brief description of the benchmark. The number of factors included ranges from 4 (for the 'allocation' and 'high yield fixed income' style) to 2 (for five style groups).

[Insert Table 4 Here.]

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<sup>19</sup> For this reason we drop funds we identify as "commodities" funds (11 funds), "inflation-linked" funds (3 funds), a "multialternative" fund, and an "other fixed income" fund.

Further descriptive statistics are provided in Panel B of Table 4, which shows the distribution of funds across the 9 style groups. The most common style is “U.S. municipal fixed income,” with about 38% of funds. The next three styles with the largest number of funds are “U.S. fixed income” with about 17% of funds, “international equity” and “U.S. equity” with about 9% of funds each, and “high yield fixed income” with about 8% of funds. The remaining 4 styles have fewer than 8% of funds each.

In order to control for heterogeneity in governance and corporate law across our sample of funds, we next obtain governance data by hand. We assess whether a fund’s board of directors is elected annually or in classes staggered over time and we identify each fund’s state of incorporation as of the date the fund first appears in our sample.<sup>20</sup>

Having obtained appropriate benchmarks for calculating fund returns and controls for fund governance and state of incorporation, we next calculate the daily abnormal return windows. For each of the four events, we select the 210 trading days preceding the event day, from which we drop the last 20 days. Over this 190-day window, we calculate each fund’s loadings on the factors included in its style-specific multifactor model. We require at least 50 daily returns to be available during this pre-event window; otherwise, the abnormal return of the fund is set to missing. The abnormal return is calculated as the difference between the fund’s return and the

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<sup>20</sup> In future iterations of this study, we intend to control for additional fund governance characteristics by drawing data on these characteristics by hand. We will collect data on whether a fund requires a supermajority vote to go open-end, whether a fund vests exclusive control of its bylaws in its board, and whether a fund requires advance notice of shareholder proposals at annual meetings, as in Souther (2015). Following publication of Souther (2015), we requested that the author share his data from that study, but he understandably declined.

product of the factor (i.e., benchmark) returns times the fund's loadings. For each of our four events, we calculate abnormal returns over three separate windows, in each case starting with the event day and ending 1, 2, and 3 days later.

Table 5 below provides summary statistics. For each of the four event days, Panel A of Table 5 shows the number of funds trading on that day,<sup>21</sup> the number of funds for which we could calculate abnormal returns, the percentage of funds incorporated in Maryland and the percentage of funds with a staggered board. For each event, we have more than 600 closed-end funds with trading prices in our sample. We only use a few funds due to insufficient pre-event window returns when using abnormal returns. About 70% of funds have a staggered board, and about 30% of the funds are incorporated in Maryland.

[Insert Table 5 Here.]

## 4.2. Results

In this section, we describe our empirical results. We first present the cumulative abnormal returns (CARs) for the full sample, with the benchmark-adjusted CARs reported in Panel A of Table 6, and the abnormal returns using the benchmark models that differ by style group reported in Panel B of Table 6. The 2-day event window is denoted as  $[0,1]$ , where day 0 is the first trading day following the event and day 1 is the following trading day. The 3-day event window is  $[0,2]$  and the 4-day event window is  $[0,3]$ .

[Insert Table 6 Here.]

### ***Event 1***

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<sup>21</sup> We have benchmark-adjusted returns for all funds trading on a given day.

Recall that, upon our first event, the legality of the poison pill—which had previously been doubtful for CEFs—was upheld by a federal district court. As Table 6 shows, the CARs for this event are consistently positive and statistically significant, both for benchmark-adjusted returns (see Panel A) and for abnormal returns (see Panel B). This suggests that when markets learned that, for the first time, the poison pill could be used by CEFs, markets responded with unusually positive share-price results at these funds. Economically, the abnormal returns seem meaningful, with 4-day CARs of 46 basis points (t-statistic of 9.74) using benchmark-adjusted returns and of 39 basis points (t-statistic of 7.72) using abnormal returns.

### ***Event 2***

During our second event, the federal district court affirmed that boards of directors at CEFs could serially renew their poison pills to thwart hostile advances. In addition, the court upheld the MCSAA's legality under the ICA. As with the first event, the CARs we observe around the second event are positive and statistically significant. This indicates that the market again reacted positively when the district court strengthened the authority of fund directors to use antitakeover devices. Economically, the announcement returns are a bit weaker for the second event than the first. The CAR over the first 2 days using benchmark-adjusted returns equaled 32 basis points (t-statistic of 8.93) for our first event but just 15 basis points (t-statistic of 3.78) for the second.

One explanation for the weakness of the results for this second event is that the second event was a weaker signal than the first. Recall that the news of the court's opinion for the second event leaked out gradually over the course of three

opinions containing progressively more information. Additionally, this second event was probably less of a surprise than the first event. Once the Maryland court had already upheld the poison pill's basic legality, it was perhaps easy to predict that the court would also uphold the poison pill against further challenges and uphold the legality of the MCSAA.

### ***Event 3***

Recall that, during our third event, the Director of the Division of Investment Management at the Securities and Exchange Commission surprised a lunchtime audience by announcing his view that the use of both poison pills and state control-share statutes at CEFs was prohibited by federal law. As Table 6 shows, the abnormal returns following this third event are consistently negative and strongly statistically significant. The market responded negatively, then, when learning about the Director's speech, which expressly disagreed with the earlier decisions of the federal court that constituted events 1 and 2. The meaningful economic magnitudes of the CARs are in line with those of these previous events. For example, the 2-day CARs using benchmark-adjusted returns equals -52 basis points (t-statistic of 7.44), and using abnormal returns equals 41 basis points (t-statistic of 5.69). Compared to the earlier 2 events, the 2-, 3- and 4-day event window CARs for event 3 are all very similar. This suggests that the market learned about the implications of the district court decisions over a period of a few days, with some additional reaction occurring on the third and fourth trading days after the event, while basically the full market reaction after the third event seemed complete after 2 days.

### ***Event 4***

The fourth and final event shows the most volatile but also the largest abnormal returns. Recall that this event reflects the response to a no-action letter request by the staff of the SEC confirming the position of the Director of the Division of Investment Management that the MCSAA was inconsistent with the ICA. The abnormal returns using style-specific benchmark models appear to be robust: the 2-, 3- and 4-day CARs for the fourth event are all negative, statistically significant, and economically large. For example, the 4-day CAR using abnormal returns equals 1.03% (t-statistic of 9.94). This, too, suggests that the market reacted negatively when it learned that the SEC intended to adhere to the position articulated in the speech given by the Director of the Division of Investment Management in event 3.<sup>22</sup>

Overall, the event-study returns described in Table 6 present a clear and consistent picture. The two events that increased the legality of poison pills and control-share statutes were associated with positive and statistically significant abnormal returns. These positive returns were subsequently reversed when the market learned, in two separate events (our events 3 and 4), that these takeover defenses were legally unavailable to CEFs, leading to generally negative and statistically significant abnormal returns.

### ***Robustness to Staggered Boards and State of Incorporation***

We checked the robustness of the results in Table 6 for variation in staggered boards and state of incorporation. We separately run the analysis in Table 6 for funds with and without staggered boards and for funds that were incorporated inside and

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<sup>22</sup> We note, however, the need for caution in the interpretation of this result, because the benchmark-adjusted returns in the full sample of closed funds for this event (Panel A of Table 6), although negative and statistically significant in the one-day window specification, switch signs in the two- and three-day specification.

outside of Maryland. We do not report these results here, but we find that they remain strongly consistently across all of these different specifications.

### ***Style-Specific Benchmark Returns***

In Table 7, we examine the above event-study results from a slightly different perspective, presenting the 4-day CARs for the four events for each of the 7 fund styles with most significant representation in our sample.<sup>23</sup> As Table 7 shows, these results are strikingly consistent across fund styles. We observe positive and statistically significant CARs for events 1 and 2—events that strengthened the use of takeover defenses in CEFs—and negative and statistically significant CARs for events 3 and 4—which weakened the legal authority of directors at these funds to use such defenses.<sup>24</sup>

The results in Table 7 allow us to consider in more detail the varying explanations for the use of takeover defenses in the CEF context. As noted in Section 2.1, at CEFs, takeover defenses may serve the arguably unique purpose of preventing a hostile attacker from destroying shareholder value by selling off illiquid fund assets at fire sale prices. To the extent that this explanation reflects a meaningful proportion of the value we identify for takeover defenses in this study, we would expect that our results to be most economically and statistically significant at funds whose styles emphasize illiquid asset classes.

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<sup>23</sup> For the remaining fund-style categories, we have fewer than 30, and often fewer than 10-observations. In light of this sample-size constraints, analysis of returns in these styles is not meaningful. When we analyze these returns, we generally see results that are statistically insignificant, but directionally consistent with the result we report.

<sup>24</sup> We note that, in contrast to the event-study results described above, the signs and significance for four-day style-adjusted CARs do change direction for two fund styles, U.S. Fixed Income and International Equity, for two events (event 3 and event 4, respectively). But signs and significance in Table 7 are generally quite consistent with those described in Table 6.

Indeed, the fund-style results in Table 7 are consistent with that hypothesis. The fund style that is best-represented in our sample, and for which are results are most consistent, is the U.S. Municipal Fixed Income fund style, a type of fund well-known for investment in illiquid municipal bonds (Ang et al., 2014). And the economic significance of our results appears to be most pronounced in other fund styles, such as High Yield Fixed Income, that emphasize illiquid securities. These results suggest that the value of poison pills and control-share statutes that we have identified at CEFs may be attributable to the value investors place on preventing an activist from forcing a fire sale of illiquid assets—and, hence, permitting pursuit of an investment strategy that involves heavy use of those investments.

We emphasize, however, that our style-specific results are not limited to funds of this type. Indeed, as Table 7 shows, we observe statistically and economically significant abnormal returns for fund styles, such as Sector U.S. Equity and U.S. Equity, that focus on highly liquid investments that are traded on large U.S. stock exchanges. We note also that the strength of the results for municipal bond fund category may simply be an artifact of the category's large size. We have more statistical power for municipal bond funds than for funds in other investing styles.

## **5. Conclusion**

The results of this study identify, for the first time, the effects of poison pills and control share acquisition statutes in a research design that can support causal inference. We focus our analysis on a series of exogenous changes to the law of closed-end funds. We find that as poison pills and control share statutes became more

legal, stock prices reacted positively. And as these devices became less legal, stock prices reacted negatively.

Given that these results emerge from a study of a unique kind of company, one might reasonably ask whether these results can tell us anything about other kinds of companies. Do poison pills and control share statutes have the same effects in industrial companies as they do in closed-end funds? Unfortunately, it is difficult to say. Some of the motives that push closed-end funds to adopt takeover defenses might be unique to closed-end funds. But other motives might be shared more generally by other kinds of companies. Consider, for example, the desire to avoid premature liquidation of assets. This concern may be especially important in closed-end funds, because of the tendency of closed-end fund activists to aggressively demand the liquidation of fund assets as the activists attempt to profit off the difference between a closed-end fund's stock price and its NAV. But closed-end funds are not the only companies in which activists try to liquidate assets. It is not uncommon for activists in industrial companies to demand spinoffs of corporate subsidiaries and distributions of cash through dividends and stock buybacks. It is thus very difficult to say whether our results are unique to closed-end funds, or are more broadly applicable to other contexts. In other words, this study has a problem of uncertain external validity.

This does not render our results irrelevant, however. External validity problems are endemic to all experimental and quasi-experimental research designs. No experiment is unambiguously valid outside the precise circumstances in which it was conducted. But this does not prevent us from learning something from the

experimentation. Thus, if taken with an appropriate grain of salt, our results may have much to tell us. This is especially true because there may be no single topic in corporate law that has attracted more scholarly attention than the shareholder wealth effects of takeover defenses. Given the frustrating difficulty of finding research designs that can support clear causal inferences, we think our results—however limited in scope—will make an important and lasting contribution to the debate.

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**Table 1. Requests by Outside Investors at Closed-End Funds.** This table describes the specific requests that investors disclosed in Schedule 13Ds in closed-end funds. We coded every Schedule 13D filed between June of 1995 and September of 2015. We identified 361 separate filings in this period in which an investor or group of investors disclosed for the first time an intention to request specific reforms in a particular fund.

	Director Nomination	Self-Tender Offer	Open-End Conversion	Liquidation	Terminate or Change Adviser	Corporate Governance / Investment Policy
Percentage of Schedule 13Ds Including Proposals	49.3%	19.1%	8.6%	7.2%	18.6%	33.2%

**Table 2. Proxy Contests at Closed-End Funds.** This table describes the contents and outcomes of all proposals that investors made in contested proxy votes in closed-end funds between May of 1996 and September of 2015. The unit of observation in this table is a proxy contest, which may include more than one individual proxy statement.

	Director Nomination	Self-Tender Offer	Open-End Conversion	Liquidation	Terminate or Change Adviser	Corporate Governance / Investment Policy
Number Attempted	136	39	43	20	32	14
Percent of all Contested Proxies that Included Proposal	88.3%	25.3%	27.9%	13%	20.8%	9.1%
Percentage Successful	26.5%	15.4%	51.2%	40%	43.7%	28.6%

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Total Proxy Contests: 154  
Total Fund-Year Observations: [?]

**Table 3. Effect of Events on Legality of Takeover Defenses.** This table describes the series of events that form the basis of our event study and explains their implications for the legality of poison pills and control share acquisition statutes. We provide a description of each event, the date of the event, and the effect of the event on the legality of both pills poison and control share acquisition statutes.

Event	Description	Date	Legal Effect	
			Poison Pills	Control Share Statutes
1	Court ruling upholding the poison pill	Oct. 29, 2004	More legal	Neutral
2	Court ruling upholding the serial renewal of a poison pill and addressing the Maryland Control Share Acquisition Act	April 2, 2007	More legal	More legal
3	Speech by SEC official questioning the legality of the poison pill and the Maryland Control Share Acquisition Act	Nov. 12, 2009	Less legal	Less legal
4	SEC no action letter refusing to accept the legality of the Maryland Control Share Acquisition Act	Nov. 15, 2010	Neutral	Less legal

**Table 4. Benchmark Models.** This table describes the benchmarks used in the multi-factor models we use to calculate abnormal fund returns. Within each fund style, we choose the benchmarks to be included in the factor model as follows. After ordering the benchmark by popularity, we begin by including the most popular, or main, benchmark as a factor. We then add the next most-popular benchmark, as long as that benchmark does not have a 90% or higher correlation (based on daily returns during our sample period, from 2004 through 2010) with one of the benchmarks that are already included. We do this until all of the benchmarks assigned in Morningstar for funds in the style are exhausted.

**Panel A. Benchmark Factors.**

Closed-end fund style	Benchmark 1	Benchmark 2	Benchmark 3	Benchmark 4
Allocation	S&P 500	MSCI World	Barclays US Agg Bond	Russell 3000 Value
Energy US Equity	Alerian MLP	S&P 500	N/A	N/A
High Yield Fixed Income	Barclays US Agg Bond	Barclays US Corporate High Yield	S&P 500	BofA Pref.Stk. Hy. Sec.
International Equity	S&P 500	MSCI World	MSCI Golden Dragon	N/A
International Fixed Income	JPM_EMBI	Barclays US Agg Bond	N/A	N/A
Sector US Equity	S&P 500	MSCI US REIT	N/A	N/A
US Equity	S&P 500	Russell 2000	N/A	N/A
US Fixed Income	Barclays US Agg Bond	Barclays US Corporate High Yield	BofA Pref.Stk. Hy. Sec.	N/A
US Municipal Fixed Income	Barclays Municipal	Barclays Municipal Long 22+ Yr	N/A	N/A

**Panel B. Distribution of funds by style category (averaged over 4 events).**

Closed-end fund style	% of funds
Allocation	6.2%
Energy US Equity	3.9%
High Yield Fixed Income	7.8%
International Equity	9.5%
International Fixed Income	3.5%
Sector US Equity	5.9%
US Equity	8.5%
US Fixed Income	16.5%
US Municipal Fixed Income	38.3%

**Table 5. Descriptive Statistics on Fund Governance and State of Incorporation.** This table describes the number of funds for which we are able to calculate abnormal returns and obtain board-election and incorporation information for each of the four events we study.

Event year	# funds	# abnormal returns	% staggered board	% Maryland incorporation
2004	604	598	72%	30%
2007	625	621	76%	31%
2009	610	610	76%	29%
2010	608	607	77%	28%

**Table 6. Basic Event Study Abnormal Returns.** Results show 2, 3 and 4-day cumulative benchmark-adjusted returns (in Panel A) and abnormal returns using the style-specific benchmark model (in Panel B) starting with the event day, for each of the 4 events and using the full sample of closed-end funds. Event day 0 is the start of each event window. T-statistics based on robust standard errors are given between parentheses. \*\*\*, \*\* and \* indicate statistical significance at the 1%, 5% and 10% levels, respectively.

**Panel A. Benchmark-adjusted returns, full sample of closed-end funds**

Event Event window	Event 1 in 2004			Event 2 in 2007		
	[0,1]	[0,2]	[0,3]	[0,1]	[0,2]	[0,3]
	(1)	(2)	(3)	(4)	(5)	(6)
Abnormal return	0.319%*** (8.93)	0.492%*** (11.63)	0.459%*** (9.74)	0.153%*** (3.78)	0.200%*** (3.91)	0.290%*** (4.78)
N	604	604	604	625	625	625

  

Event Event window	Event 3 in 2009			Event 4 in 2010		
	[0,1]	[0,2]	[0,3]	[0,1]	[0,2]	[0,3]
	(7)	(8)	(9)	(10)	(11)	(12)
Abnormal return	-0.523%*** (-7.44)	-0.483%*** (-5.50)	-0.566%*** (-4.88)	-1.08%*** (-14.60)	0.395%*** (5.38)	0.0508% (0.66)
N	610	610	610	608	608	608

Panel B. Abnormal returns using benchmark models by style group, full sample of closed-end funds

Event Event window	Event 1 in 2004			Event 2 in 2007		
	[0,1]	[0,2]	[0,3]	[0,1]	[0,2]	[0,3]
	(1)	(2)	(3)	(4)	(5)	(6)
Abnormal return	0.299%***	0.430%***	0.394%***	0.182%***	0.231%***	0.315%***
	(8.22)	(9.72)	(7.72)	(5.15)	(4.91)	(5.78)
N	598	598	598	621	621	621
Event Event window	Event 3 in 2009			Event 4 in 2010		
	[0,1]	[0,2]	[0,3]	[0,1]	[0,2]	[0,3]
	(7)	(8)	(9)	(10)	(11)	(12)
Abnormal return	-0.406%***	-0.376%***	-0.436%***	-1.85%***	-0.681%***	-1.03%***
	(-5.69)	(-4.20)	(-3.67)	(-22.32)	(-7.87)	(-9.94)
N	610	610	610	607	607	607

**Table 7. Four-Day Cumulative Abnormal Returns by Style.** The table presents the four-day cumulative abnormal returns (CARs), i.e., with event window [0,3], for each of the four events by style. For each style, we use a different benchmark model to calculate abnormal returns, see Table 3.

	<u>Event 1 in 2004</u>			<u>Event 2 in 2007</u>			<u>Event 3 in 2009</u>			<u>Event 4 in 2010</u>		
	Abn. Ret.	T-stat.	#	Abn. Ret.	T-stat.	#	Abn. Ret.	T-stat.	#	Abn. Ret.	T-stat.	#
Allocation	0.525%**	(2.47)	29	0.0238%	(0.13)	39	-0.568%***	(-3.13)	43	-0.893%***	(-3.83)	41
High Yield Fixed Income	-0.298%	(-1.40)	44	-0.225%	(-0.67)	46	-1.23%***	(-5.28)	42	-0.555%**	(-2.48)	45
International Equity	-0.357%	(-1.20)	47	0.356%	(1.17)	56	-1.02%**	(-2.64)	63	0.629%***	(3.21)	62
Sector US Equity	0.890%***	(4.08)	32	0.463%*	(1.97)	36	-0.597%*	(-1.95)	35	-0.106%	(-0.40)	31
US Equity	0.628%**	(2.53)	40	0.284%	(1.25)	59	-1.52%*	(-1.97)	55	-0.152%	(-0.59)	53
US Fixed Income	0.0446%	(0.39)	85	0.519%***	(4.76)	82	0.993%**	(2.06)	82	0.383%	(1.46)	88
US Municipal Fixed Income	0.656%***	(12.09)	295	0.394%***	(8.25)	271	-0.303%***	(-3.11)	259	-2.61%***	(-16.70)	254