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THE COST OF PRIVATE FUND REGULATION

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The Cost of Private Fund Regulation*

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Abstract

When the Securities and Exchange Commission (SEC) ramped up its oversight of private equity and hedge fund advisers after the Financial Crisis, commenters argued that compliance costs would be far higher than the SEC predicted. In this paper, I test whose prediction was more accurate. I estimate private fund advisers' compliance costs by measuring their "bunching" beneath an assets under management (AUM) threshold that triggers mandatory registration with the SEC. My estimate reveals that compliance costs for smaller advisers are lower than predicted by many commenters but in line with the SEC's expectations. I find little evidence that advisers are passing their compliance costs on to investors. I also show that advisers take compliance costs into account when they raise additional capital and that oversight induces advisers to adopt stronger internal controls than they would otherwise, though this effect is relatively small.

Keywords: private equity; hedge funds; SEC regulation; compliance costs; investment advisers; bunching

JEL Codes: G20; G23; G28; K22

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1 Introduction

*“In over a quarter century of work in the regulated securities industry, I have never seen a regulatory provision that so significantly hinders small businesses.”*¹

Samuel L. Katz, Managing Partner, TZP Capital Partners I

Despite its immense size and economic importance, the private investment fund industry has been subject to serious regulatory oversight for only about a decade (SEC 2023). Each time the government has proposed additional private fund regulations, members of the industry have complained about the anticipated cost of the proposed rules (Berger 2022; B. Gordon 2004; Volpert 2011). In comment letters to the SEC about the Dodd-Frank Act’s implementing regulations—which set up a monitoring and reporting system for private fund advisers—some advisers predicted that they would spend hundreds of thousands of dollars per year in compliance costs, far more than the \$25,000 to \$65,000 predicted by the SEC (SEC 2011c). More recently, a representative of the National Association of Private Fund Managers commented that a set of rules proposed by the SEC in 2022 “would impose staggering aggregate costs and unprecedented operational and other practical challenges” (Han 2023). The same commenter predicted that the changes would “force[] out of the market” “smaller and even mid-sized advisers” and raise costs to investors (Han 2023).

In spite of these dire predictions, there have been few attempts to measure the costs associated with private fund regulations and study how compliance costs have impacted the industry. Research has been hampered by the fact that it is very difficult to obtain data on private fund advisers’ expenses. Advisers are not required to make their financial statements publicly available, and commercial databases that provide data on private equity and hedge funds do not include itemized expense information. A pair of academic studies tried to estimate compliance costs using survey data (Kaal 2013, 2016), but these data came with their own set of challenges. The surveys suffered from low response rates (Kaal 2016), and cost estimates based on the survey data may have been badly biased.

In this article, I use data from private fund advisers’ regulatory filings and empirical techniques from the financial economics literature to estimate the direct cost of private fund regulation. My methodology allows me to isolate the compliance costs borne by private fund advisers (as opposed to the costs passed on to investors) by taking advantage of a regulatory quirk. Private fund advisers that manage less than \$150 million in assets are not required to register with the SEC and accordingly have fewer regulatory obligations than registered funds.² Because advisers are compensated based on the size of their funds, advisers capable

¹This statement is from a comment letter to the SEC regarding the post-Dodd Frank private fund rules (Katz 2011).

²17 C.F.R. §275.203(m)-1(a).

of raising more than \$150 million in assets under management (AUM) face a trade-off: they can choose to manage a smaller fund and avoid the costs associated with registering from the SEC, but if they do so, they miss out on the income they could have earned from managing a larger fund. By measuring the extent to which private fund advisers “bunch” beneath the \$150 million threshold, I can infer the cost that advisers expect to incur when they register.

Using this approach, I estimate that smaller private fund advisers are willing, on average, to forgo up to \$29 million in AUM to avoid registering with the SEC. Assuming a traditional fee structure and gross-of-fees return, this level of bunching implies that smaller registered private fund advisers spend \$54,000 more per year on compliance costs on average than similarly sized exempt advisers. I estimate that compliance costs are somewhat higher for advisers to only private equity funds (around \$84,000) than for advisers to only hedge funds (around \$30,000).

To complement my bunching estimates, I also attempt to test whether private fund advisers are passing a substantial portion of their compliance costs on to investors. I use regression analysis to compare the returns of hedge funds before and after their advisers switch from registered to exempt status and vice versa. I find little evidence that hedge fund advisers are passing a noticeable portion of their costs on to investors. I also address the possibility that private fund advisers bunch beneath the mandatory registration threshold because avoiding oversight gives them a greater opportunity to take advantage of investors and the gains from exploiting investors exceed the income advisers could earn by managing more assets. I conclude as a theoretical and empirical matter that the bunching I observe cannot be fully explained by an investor exploitation theory and must be driven, at least in part, by cost avoidance.

Finally, as an additional extension, I document several ways in which compliance costs affect private fund advisers’ behavior around the mandatory registration cutoff. First, I measure how long advisers maintain exempt reporting status after claiming it in their first SEC filing, and I look at where they move after giving up exempt status. I find that, after about 4 years, half of previously exempt advisers have given up exempt status, about 25% having registered with the SEC, and 25% having ceased reporting altogether. In subsequent years, the percentage of previously exempt advisers who have registered remains roughly constant while the percentage that have ceased reporting increases to more than 50% by year 10. Second, I analyze AUM growth and changes in internal controls at advisers who move from exempt status to registered status. I find that firms time registration to coincide with a sharp jump in AUM and that internal controls strengthen in the two years following registration by a relatively small but statistically significant amount. I also find that the latter effect is smaller for hedge fund advisers than private equity fund advisers. Third, I

investigate why some advisers choose to register with the SEC even though they could claim an exemption. I find that advisers who voluntarily register are more likely than similarly sized exempt advisers to experience a substantial near-term asset increase. I also find that the percentage of voluntary registrants has decreased over time.

My analysis confirms several of the predicted consequences of the SEC’s Dodd-Frank era private fund rules and casts doubt on others. First, my estimates confirm that private fund advisers’ complaints about the costs of regulation were unnecessarily dramatic. For this reason, it seems unlikely that the private fund rules had the sweeping indirect effects that many commenters feared. Second, my estimates confirm that the SEC’s private fund oversight does come at a cost, and private fund advisers bear a substantial portion (likely the majority) of that cost. The SEC must therefore be mindful that its rules have a real effect on advisers’ decisionmaking. Third, my results suggest that private fund regulation has so far not reduced investors’ returns in a noticeable way.

These findings have important implications for the ongoing policy debate on private fund regulation. Like other financial regulators, the SEC performs economic cost-benefit analyses to justify its regulations and considers such analyses “a matter of good regulatory practice” (SEC 2012). When the SEC does not perform an adequate cost-benefit analysis when adopting regulations, it also makes its regulations more vulnerable to being challenged in court. In the well-known *Business Roundtable*³ case in 2011, the D.C. Circuit struck down an SEC rule as arbitrary and capricious because it concluded that the SEC had not adequately assessed the economic consequences of the rule. The SEC’s ability to craft regulations that stand up to scrutiny therefore depends on its ability to accurately grasp the likely costs and benefits of those regulations. By testing several of the predicted consequences of the Dodd-Frank Act and its implementing regulations, my work should serve as a useful “retrospective analysis” (Jackson and Rothstein 2019) of the SEC’s past work to help the agency calibrate its approach moving forward.

2 Private Fund Regulation Overview

2.1 Brief Note on Private Fund Structure

When people colloquially refer to a “private equity fund” or a “hedge fund,” they are actually referring to a collection of related entities. To avoid confusion, I will explain briefly how I refer to the different parties throughout this paper and how they are treated for regulatory purposes.

³647 F.3d 1144 (D.C. Cir. 2011).

The core of a private fund is the fund itself, which is often structured as a limited partnership. The limited partners (LPs) of the fund are investors who are usually high net-worth individuals, university endowments, pension funds, or other institutional investors. The general partner (GP) of the limited partnership, also referred to sometimes as the fund’s “sponsor,” is the firm that sets up and manages the fund. The sponsor, or GP, is paid a performance fee (usually 20% of gross returns) and a management fee (often around 1.5–2% of assets under management) for its work managing the fund’s investments. A single sponsor is often the general partner of multiple funds at once.

Private fund sponsors are the parties covered by the Investment Advisers Act. They are therefore required to register with the SEC as investment advisers unless they can obtain an exemption. For regulatory purposes, a sponsor’s clients are the funds it manages, not the limited partners investing in those funds. Additionally, a sponsor’s total assets under management (AUM) is the sum of the value of the assets committed to each fund that the sponsor advises.

In some (perhaps most) cases, a sponsor will create multiple legal entities in connection with its private funds. For example, it may create an LLC for each fund to formally serve as the fund’s general partner, and it may create a distinct LLC that houses the operating advisory business (Naidech 2023). In cases involving complex legal structures with multiple affiliated entities, the SEC takes a functional approach to regulation. For example, if a sponsor creates multiple affiliated advisory entities that operate in an integrated way, the SEC will treat the entities as one adviser for regulatory purposes (SEC 2011c). The SEC does this to prevent advisers with more than \$150 million in AUM from reorganizing as a bundle of smaller advisers that all claim the private fund exemption (SEC 2011c). Therefore, throughout the rest of this paper, I use the term “adviser” to refer to the collection of advisory entities set up by a sponsor other than the private funds themselves.

2.2 History of Private Fund Regulation

2.2.1 Early Attempts at Regulation: The Hedge Fund Rule

Historically, private funds and their advisers managed to stay mostly out of the SEC’s sight by taking advantage of exemptions to the Investment Company Act of 1940 and the Advisers Act. The funds avoided being designated as an “investment company” by not offering their securities to the public and making sure that either (1) they had fewer than one hundred investors⁴ or (2) their investors were all “qualified purchasers,”⁵ a designation generally

⁴15 U.S.C. §80a-3(c)(1).

⁵15 U.S.C. §80a-3(c)(7).

reserved for very high net worth individuals and institutional investors.⁶ Their advisers, on the other hand, met the Adviser Act’s definition of “investment adviser,”⁷ so they were always subject to the Act’s generally anti-fraud provisions.⁸ However, they were able to avoid registering with the SEC under a “private adviser exemption,” which exempted any adviser from registration who had fewer than fifteen clients (SEC 2011b). From at least 1985 onward, the SEC maintained the position that each private fund counted as one client.⁹

The SEC changed course, however, in 2004. Motivated by the spectacular collapse of the hedge fund Long-term Capital Management in 1998 and reports showing hedge funds’ increasing relevance in U.S. capital markets, the SEC proposed a rule to increase its oversight of hedge funds in particular.¹⁰ The rule redefined “client” in the private adviser exemption to include investors in hedge funds, eliminating the exemption’s availability for most advisers to hedge funds.¹¹

Hedge fund advisers opposed the proposed rule (B. Gordon 2004). They argued that the costs they would face by being forced to register would outweigh whatever benefits the SEC would gain from increased insight into their businesses. The SEC voted to approve the rule over these objections in December 2004, but the new rule was short-lived.¹² Less than two years later, in *Goldstein v. Securities and Exchange Commission*,¹³ the D.C. Circuit struck down the registration rule as “arbitrary,” and many of the advisers who had registered with the SEC quickly deregistered.¹⁴

2.2.2 The Dodd-Frank Act

Following the financial turmoil in 2008–09—which some commentators blamed at least partly on hedge funds—there were renewed calls for the SEC to step up its oversight of private funds. These calls even found support among the larger private equity and hedge fund advisers. Congress agreed that oversight was needed and passed the Dodd-Frank Act. The Act was not focused primarily on private funds, but it nonetheless made several important changes to how the SEC oversaw private funds. Most importantly, the Act repealed the private adviser exemption and directed the SEC to replace it with two much narrower ones: one for “venture capital fund advisers” and another for “private fund advisers” with less than \$150

⁶15 U.S.C. §80a-2(a)(51)(A).

⁷15 U.S.C. §80a-2(a)(11).

⁸15 U.S.C. §80b-6.

⁹See *Goldstein v. Sec. & Exch. Comm’n*, 451 F.3d 873, 880 (D.C. Cir. 2006).

¹⁰See *id.* at 877.

¹¹*Id.*

¹²See *Goldstein*, 451 F.3d at 877.

¹³451 F.3d 873 (D.C. Cir. 2006).

¹⁴Some of the largest hedge fund advisers remained registered, however (Baker 2009).

million in assets under management. The SEC quickly implemented the new exemptions. As before, advisers who fall under one of these exemptions (called “exempt reporting advisers” or “ERAs”) are still subject to the Advisers Act’s general anti-fraud provisions and owe fiduciary duties to their clients. Exempt advisers are also required to fill out parts of Form ADV annually, providing the Commission with contact information and some basic details about their operations (*SEC Adopts Dodd-Frank Act Investment Adviser Rules and Delays Implementation of Some Deadlines* 2011). They are not, however, required to register with the SEC.

The SEC’s implementing regulations also placed new requirements on registered investment advisers (RIAs). Among other things,¹⁵ registered advisers are required to

- Keep certain books and records,¹⁶
- Designate a chief compliance officer,¹⁷
- Adopt, implement, and annually review compliance policies and procedures,¹⁸
- Provide clients and prospective clients with a brochure meeting certain requirements,¹⁹
- Fill out Form PF and Form ADV (in full) annually,²⁰
- Create and enforce a code of ethics meeting certain requirements,²¹ and
- Use advertising materials that fall only within certain parameters.²²

As private fund advisers started to register, the SEC began regularly examining registered advisers to assess compliance with the new regulations. The SEC could not examine all advisers every year, so it complemented its examination program with regularly published “Risk Alerts” to “raise awareness of compliance issues observed by the staff” (SEC Office of Compliance Inspections and Examinations 2015). At the outset, SEC Chair Mary Shapiro advised that the SEC did not intend to perform regular examinations of exempt advisers, even though it had the authority to do so (*SEC Adopts Dodd-Frank Act Investment Adviser Rules and Delays Implementation of Some Deadlines* 2011).

¹⁵See *Consequences of Registration Under the Investment Advisers Act of 1940* 2015 for a more thorough description of the consequences of registration.

¹⁶17 C.F.R. §275.204-2

¹⁷17 C.F.R. §275.206(4)-7(c)

¹⁸17 C.F.R. §275.206(4)-7(a), (b)

¹⁹17 C.F.R. §275.204-3

²⁰17 C.F.R. §275.204(b)-1

²¹17 C.F.R. §275.204A-1

²²17 C.F.R. §275.206(4)-1

2.2.3 2023 Rule Adjustments

The SEC’s regulatory regime for private fund advisers remained largely unchanged until the SEC announced in February 2022 that it intended to revisit its rules in light of the experience it had accumulated over a decade of examining private fund advisers (SEC 2022). The SEC’s announcement proposed a number of significant new disclosure obligations and bans on several practices that the SEC considered to be unfair to investors (SEC 2022). The announcement once again provoked opposition from the private fund industry (Berger 2022). It took more than a year for the SEC to finalize its rule (Thomas and Buren 2023), and the final version walked back several of the most dramatic rules from the proposal (Calabrese et al. 2023; *SEC Adopts Significant Rule Changes for Private Fund Advisers (Part 1 of 2)* 2023; Thomas and Buren 2023). Even so, it marked a substantial change in the regulatory requirements for both registered and unregistered advisers (Calabrese et al. 2023). For instance, the new rules require all advisers (registered or not) to disclose to investors when they charge “regulatory or compliance fees and expenses” to their funds, allocate certain fees and expenses across their funds on a non-pro rata basis, or give preferential treatment to some of their investors (Calabrese et al. 2023). Registered advisers are additionally required to, among other things, (1) provide standardized quarterly statements to investors regarding performance, fees and expenses, (2) obtain “independent annual financial statement audit[s] of each of the private funds they advise,” and (3) obtain an independent fairness or valuation opinion in connection with every adviser-led secondary transaction (Calabrese et al. 2023).

At the time of writing, the new rules have yet to fully take effect, so I cannot measure their impact in my analysis. The rules give advisers a grace period of one year to 18 months (depending on the specific rule and the size of the fund) to come into compliance (Thomas and Buren 2023), so it will be several years before the rules’ impact is fully apparent. Additionally, “six trade associations representing private fund and loan syndication firms” have filed suit to challenge the new rules, adding to the uncertainty about the rules’ likely effect (Hellman et al. 2023).

2.3 Arguments For and Against Private Fund Regulation

Advocates of the Dodd-Frank Act and its accompanying regulations pointed to three primary benefits to justify the reforms. The first was that the reforms would give regulators a transparent look into the private fund industry, which they knew very little about. The second was that the reforms would reduce the risk of fraud by private fund advisers. The third was that the reforms would help regulators monitor systemic risk and allow to take proactive steps to avoid future meltdowns in the financial system.

For—Transparency. At the time the Dodd-Frank Act was passed, the public (including financial regulators) knew shockingly little about the private fund industry. A Congressional Hearing in May 2009 made it clear that no one—not even industry participants—had more than a vague idea about how many hedge funds were operating in the U.S. at the time or how many assets they controlled (Capuano 2009; Harris 2009). Industry representatives also expressed concern that the SEC staff did not understand the industry (Chanos 2009). Several years earlier, when the SEC was considering its first attempt to regulate private fund advisers, a law firm partner who frequently represents advisers wrote a comment letter describing instances where his registered clients had to “spend significant amounts of time educating the [SEC’s] staff about the basics of the hedge fund industry ...” (Roth 2004). The SEC apparently made some attempts to increase its staff’s knowledge about the private fund industry after 2004 (Williams 2009), but industry participants were still frustrated in 2009, to the point that the Managed Funds Association arranged to meet with the SEC to help them improve their examination process (Baker 2009).

Proponents of the Dodd-Frank reforms anticipated that requiring private fund advisers to the SEC and having the SEC conduct regular examinations of these advisers would allow the SEC to build in-house expertise about the private fund industry. This expertise would then allow the SEC to engage with the industry more productively and identify developing problems before they grew into a full-blown crisis.

For—Fraud Reduction. At the time Congress was conducting hearings about increasing private fund oversight, it was also conducting hearings about Bernie Madoff’s massive Ponzi scheme.²³ While Madoff “operated solely as a registered broker-dealer” (as opposed to an investment adviser) for the “vast majority” of the time he was running his scheme, the discovery of his fraud apparently created a general sense that professionals who manage other people’s money should be under stricter oversight to prevent future frauds (Aguilar 2013). Proponents of the new rules for private fund advisers hoped that the rules would allow to the SEC to uncover and deter fraud to restore investor confidence (Chanos 2009).

For—Systemic Risk Monitoring. Legislators and regulators in 2009 were also focused on reducing the chance that another financial crisis would occur. Hedge funds and private equity funds were not primary causes of the 2008–09 crisis, but lawmakers worried that they could be a source of future trouble as the private fund industry continued to grow. They worried that substantial losses in the industry might spread to the mainstream of the

²³See “Assessing the Madoff Ponzi Scheme and Regulatory Failures: Hearing Before the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises of the House Committee on Financial Services” 2009 and “The Madoff Investment Securities Fraud: Regulatory and Oversight Concerns and the Need for Reform: Hearing Before the Senate Committee on Banking, Housing, and Urban Affairs” 2009 for more details.

financial sector and set off further issues (Klein 2009). A lot of the debate surrounding post-crisis reforms therefore focused on whether and to what extent private funds could be future source of systemic risk (Baker 2009; Loy 2009; Williams 2009). Lawmakers did not adopt substantive restrictions on leverage or risk-taking for private funds like they did for banks, but they concluded that the SEC needed to be able to monitor activity in the private fund sector to spot problems as they developed. This would give the newly formed Financial Stability Oversight Council (FSOC) time to respond before the problems developed into a full-blown crisis.

Against—Cost. The primary economic argument advanced against increasing oversight of private fund advisers was that the regulatory costs would outweigh the benefits. In comment letters to the SEC, private fund advisers identified several aspects the new private fund regulations that they expected to be particularly burdensome. Several commenters focused on the SEC’s new Form PF, which registered private fund advisers would be required to file at least annually. Commenters told the SEC that they expected the new form to be “extremely burdensome” (Cahill and Barker 2011; Medero 2011; Poglinco and Grover 2011). In its rule proposal for Form PF, the SEC itself estimated that filling out Form PF would require around 52 person-hours of work per “large private equity fund adviser” per year (SEC 2011a), a figure that one adviser found “alarming” (Morris 2011). The Managed Funds Association argued that the SEC was too low, estimating that the initial filing would require “150–300 hours” of work for “large managers” (Baker 2011). Industry participants expected the new Form PF to take so much time to complete, especially at the beginning, because many advisers did not have their “back office procedures” set up properly “in order to capture all of [the] information in the format required by Form PF” (Nash 2011). Some of these problems could be expected to work themselves out over time as advisers improved their systems, but even still, commenters like Joanne Medero at BlackRock found “the frequency of reporting and level of detail requested by the Form” to be “highly disproportionate to the benefit to be gained by the regulators” (Medero 2011).

In addition to the burden imposed by Form PF, smaller advisers commented that, for them, the costs of developing a compliance program would be substantial. These advisers explained that, because they were leanly staffed, they did not have people in house who could develop their compliance systems or serve as compliance officers (Katz 2011). They therefore anticipated having to rely on expensive outside consultants or hire additional personnel to come into compliance with the SEC’s registration requirements (Katz 2011). These advisers anticipated spending an additional \$50,000 to \$500,000 on compliance costs (SEC 2011c), and one commenter lamented that they would have to “postpone hiring new employees who c[ould] help [them] grow [their] business” and “spend less time assisting [their] portfolio

companies to grow,” “wast[ing] [their] talent, skill[,] and resources” (Katz 2011).

2.4 The Need for Evidence

Before a set of regulations has been enacted, performing cost-benefit analysis is notoriously difficult. As Coates 2015 and J. Gordon 2014 point out, financial regulation affects economic growth in “large” and “uncertain” ways, and financial regulations often have “continuous second-order effects” that are “impossible to quantify in a meaningful way.” Even computing direct regulatory costs—which seems more tractable than quantifying J. Gordon 2014’s nebulous “second-order effects”—can prove difficult. Regulated parties have an incentive to exaggerate the costs and downplay the benefits of proposed regulations to obtain regulatory relief, so the SEC must take their estimates with a grain of salt. But in creating its own cost estimates, the SEC has historically relied on approximations and assumptions that might not be accurate for every setting. For example, Commissioner Uyeda pointed out in a dissent from a recent rulemaking that, from 2006 to 2022, the SEC built its cost estimates on the assumption that the cost of hiring outside professionals such as lawyers and accountants was \$400 per hour on average (Uyeda 2022). This assumption may have been realistic in 2006 but was likely far out of line by 2022.

Because cost-benefit analysis is such an imperfect art at the time a regulation is passed, “retrospective studies” play a complementary role by helping regulators confirm the accuracy of their predictions and identify areas where regulations should be adjusted (Jackson and Rothstein 2019). Hahn and Dudley 2007 describe three basic approaches to measuring the quality of a cost-benefit analysis after the fact. Their first and third approaches involve experts looking closely at regulatory cost-benefit analyses after they are published to check modeling assumptions or determine whether the analyses followed set procedures. Their second approach involves estimating the “actual impact of a policy.” While this approach has some advantages, Hahn and Dudley 2007 note that “there have been relatively few studies of this kind” because estimating the “ex post effects of a regulation can be difficult and costly” (e.g., if data are unavailable) and because “[p]oliticians are typically not interested in supporting [these types of] analyses.” This analysis highlights the potential for academics to play a useful role in the regulatory process by providing credible estimates of the ex post effects of regulation that would otherwise go unassessed.

Several academics have taken on this role in the private fund context and produced empirical studies assessing the effects of various attempts to regulate private fund advisers. For example, on the benefit side, Dimmock and Gerken 2016 study the effect of the SEC’s 2004 rule change (and its subsequent reversal) and find that requiring hedge funds to register with

the SEC substantially reduced the incidence of return misreporting. Honigsberg 2019 confirms their finding and finds that the Dodd-Frank Act and its implementing regulations had the same effect. Honigsberg 2019 also finds that the new registration requirements induced hedge funds to “make changes in their internal governance, such as hiring or switching the fund’s auditor, and that these changes induced funds to report their financial performance more accurately.” On the cost side, Kaal 2013, 2016 conducts a pair of survey studies to measure the cost of regulation and private fund advisers’ responses. Kaal 2013, 2016 finds that a substantial number of advisers hired additional staff or outside experts after the Dodd-Frank Act’s passage and some advisers (approximately 30% of 2015 respondents) took the new regulatory environment into account when deciding how many assets to manage. Kaal 2013, 2016 also reports estimated annual compliance costs ranging from “Less than \$50k” (4% of respondents in 2015) to “More than \$400k” (14% of respondents in 2015).

To my knowledge, Kaal 2013, 2016 are the only academic studies to date that attempt to measure the costs to private fund advisers of the Dodd-Frank Act and its implementing regulations. Unfortunately, the studies suffered from several limitations. First, the surveys had a very low response rate, which makes it difficult to assess how generally the findings apply. In Kaal 2013, the author reached out to 1,267 registered private fund advisers and only heard back from 94. In Kaal 2016, he only heard back from 69. Kaal 2013, 2016 acknowledges this limitation but maintains that, at least on some observable dimensions, the survey respondents appear to be broadly representative of the population of private fund advisers. However, this does not rule out the possibility that the respondents were unrepresentative on other dimensions, making it hard to generalize the survey results. Second, survey respondents had an incentive to exaggerate their estimated compliance costs or the degree to which the new rules impacted their decisionmaking. If the advisers thought that the studies might get the attention of policymakers, they may have reasoned that overstating their regulatory burden might buy them some regulatory relief.

In this article, I try to fill in an additional piece of the cost-benefit picture by taking a different approach to cost estimation. Rather than relying on what private fund advisers have *said* their costs are, I focus on what private fund advisers *did* in response to regulation (Alvero, Ando, and Xiao 2023; Ewens, Xiao, and Xu 2023). More specifically, I measure the cost of regulation as the amount of fee income advisers are willing to give up to stay within a regulatory exemption. By focusing on behaviors that have real economic consequences for the advisers themselves, I obtain what is arguably a less biased picture of the direct costs of regulation.

3 Methodology and Data

3.1 An Economic Model of AUM Choice

I use an informal economic model to describe how private fund advisers choose how many asset to manage.²⁴ The model draws heavily from the model in Alvero, Ando, and Xiao 2023 and yields testable predictions about how advisers respond to the new regulatory costs. It also leads to an equation that I can use to estimate the dollar cost of regulation.

I begin by assuming that each private fund adviser operates with the goal of maximizing dollar profits. Profits are defined as fee income minus operating expenses. I assume that fee income (as a percentage of AUM) depends on two things: (1) the adviser’s AUM (i.e., size) and (2) the adviser’s skill. I define “skill” broadly here to include ability to find good investments, managerial capabilities, productivity, reputation, and any other adviser-specific, non-size factors that affect income and expenses. I also assume that operating expenses (expressed as a percentage of AUM) depend on skill, but not size. This is the same as assuming that advisers cannot take advantage of meaningful economies of scale (at least over the relevant range of sizes) or, equivalently, that total operating expenses are proportional to AUM.

To see how income and expenses might depend on size and skill, consider the classic “2 and 20” private fund fee structure. In this fee structure, total annual fee income is approximately equal to 2% of assets under management plus 20% of the fund’s profits. An adviser’s profit can thus be broken down as follows:

$$\begin{aligned} Profit(\$) = [& Management\ Fee(\%) + Performance\ Fee(\%) \times Gross\ Return(\%) \\ & - Operating\ Expenses(\%)] \times AUM(\$) \end{aligned}$$

Management Fee, *Performance Fee*, *Gross Return* (on invested capital), and *Operating Expenses* are all expressed as a percentage of assets under management.

Holding size constant, the management and performance fees that an adviser can charge investors will generally be higher when the adviser is more skilled (or has a better reputation or a longer track record of successful investing) because there will be higher investor demand for the adviser’s services. Holding skill constant, fees will generally be lower if the adviser tries to raise a larger fund because the adviser will have to accept funds from investors with a lower willingness to pay to increase assets under management. I also assume that gross returns have a similar relationship to skill and size: returns increase with skill (holding size constant) and decrease with size (holding skill constant). The intuition behind the assumption that

²⁴A more formal version of the model is included in the Appendix.

returns decrease as size increases is that, as an adviser increases assets under management, the adviser will gradually run out of attractive investment opportunities and eventually have to settle for less profitable ones. Finally, I assume that percent operating expenses decrease as skill increases but are constant as size increases.

The relationship between profit (expressed as a percentage of AUM) and skill follows from the foregoing assumptions. As skill increases, percentage fee income increases and percentage expenses decrease, so percentage profits must increase. As size increases, percentage fee income decreases and percentage expenses remain constant, so percentage profits also decreases. This relationship between size and fee income then implies that each adviser has an optimal, profit-maximizing size at which the adviser would prefer to operate in the absence of regulation.

Next, I introduce a size-based regulation into the model. This regulation imposes a fixed regulatory cost on advisers operating above a certain, pre-defined AUM threshold. Once the regulation has been introduced, advisers whose AUM was previously below the threshold will choose to stay the same size. Because they are not affected by the regulation, their optimal size remains the same. But advisers whose AUM is above the threshold now face a choice. They can either stay at their current size or shrink their AUM below the threshold to avoid regulation. If they shrink, the advisers do not have to bear the regulatory cost, but they also miss out on the extra profits they could have earned by operating at their undistorted (pre-regulatory) optimal size. For the largest advisers, it will not be worth it to shrink because the extra profits they can earn by operating at their undistorted optimal size far exceed the regulatory cost. But for advisers whose undistorted optimal size is just above the threshold, the extra profits will not exceed the regulatory cost, and the profit-maximizing decision will be to shrink their AUM until they fall just below the regulatory threshold.

Because an adviser's optimal size may change over time, I do not assume that advisers have to commit to operate at a certain size forever. Advisers are allowed to reconsider year to year whether it makes sense for them to bunch or not and scale their operations up or down accordingly (Ewens, Xiao, and Xu 2023).

For some adviser, the regulatory cost will perfectly offset the extra profits that the adviser can earn at their undistorted optimal size. The adviser for whom this will be true will be indifferent between managing their undistorted optimal amount of assets and shrinking beneath the threshold. I refer to this adviser as the "marginal adviser."

Alvero, Ando, and Xiao 2023 use a model very similar to the one I have described here to show that, if you can identify the size of the marginal firm in settings where firms choose their size in response to a size-based regulation, you can estimate the cost of the regulation

as a percentage of the marginal firm’s pre-regulatory profits using the following formula:²⁵

$$\tau \simeq 1 - (\bar{q} - \underline{q} + 1) \exp(\underline{q} - \bar{q}) \quad (1)$$

Here, τ is the regulatory cost expressed as a percentage of pre-regulatory annual profits, \bar{q} is the logarithm of the marginal adviser’s undistorted (pre-regulatory) optimal AUM, and \underline{q} is the logarithm of the regulatory AUM threshold.

3.2 Overview of Fuzzy Bunching Estimation

The public economics, labor economics, and finance literatures have developed several “bunching” estimation techniques that allow researchers to use the behavior of regulated parties around arbitrary regulatory thresholds to estimate economic parameters (Chetty et al. 2011; Ewens, Xiao, and Xu 2023; Kleven and Waseem 2013; Saez 2010). These approaches generally proceed in two steps (Ewens, Xiao, and Xu 2023). First, the researcher estimates the point at which regulated parties stop responding to the incentives created by the threshold. (This can be referred to as identifying the “marginal agent.”) Second, the researcher then uses a model of economic behavior to translate this “indifference point” into a parameter of interest. This two-step approach matches up neatly with the model I describe in the previous section. When I calculate the AUM of the marginal adviser (step one), then I can use Equation 1 to translate this indifference point into an estimate for the cost of becoming a registered investment adviser.

The first bunching estimator to be developed was a “sharp” bunching estimator (Alvero and Xiao 2023). This estimator works well in situations where regulated parties can precisely control the variable that determines whether they are subject to regulation (Alvero and Xiao 2023). However, recent work has shown that the sharp bunching estimator struggles in situations where the regulated parties have imprecise control over the relevant variable (Alvero and Xiao 2023). To accommodate these situations, Alvero and Xiao 2023 recently developed a “fuzzy” bunching estimator that can identify an indifference point even when the relevant variable is noisy.

Private fund advisers have some control over their AUM. They can choose whether to accept new investors into their funds and when and if to distribute funds to investors (subject to whatever limitations are set in their partnership agreements). Their control is imprecise, however, because private fund AUM fluctuates based on the market value of the fund’s investments, which changes constantly. Because an adviser’s current AUM is a very noisy approximation of the adviser’s optimal size, the Alvero and Xiao 2023 fuzzy bunching estimator

²⁵In the Appendix, I briefly show how my slightly altered model can also be used to derive this equation.

is better suited to my setting than the traditional sharp bunching approach.

Alvero and Xiao 2023 propose the following formula to estimate the length of the bunching region $\Delta q \equiv \bar{q} - \underline{q}$:

$$\Delta q_{FB} \equiv \sqrt{\frac{2A}{\bar{f}_0}} \quad (2)$$

A is the area between actual CDF of advisers’ AUM and a counterfactual CDF without bunching, and \bar{f}_0 is the average slope of the CDF “around the threshold.”

(Alvero and Xiao 2023) also propose an alternate formula that accounts for the possibility that frictions prevent some agents from bunching beneath the regulatory threshold. Illiquidity may be an example of such a friction in the private fund context. A private fund adviser whose funds are primarily invested in illiquid assets might prefer to sell some assets and shrink beneath the threshold. However, such an adviser might nonetheless decide not to bunch or might wait to bunch to avoid having to sell illiquid assets at a steep discount. The possibility of market rumors might be another friction. A private fund adviser (particularly a hedge fund adviser) may be reluctant to return capital to investors to avoid setting off damaging rumors that the fund is struggling or winding down its operations.

Another source of “friction” that might keep some advisers from registering is the perception that the market demands registration, even for advisers that could take the exemption. There is some anecdotal support for this theory. After the SEC’s 2004 hedge fund rule was struck down, not all advisers deregistered. Even before the 2004 rule was finalized, attorneys for a leading New York law firm noted in a comment letter to the SEC that “[m]any of [their] private fund investment adviser clients ha[d] registered with the Commission for various reasons, including ... requests from institutional investors and perception of market desires” (Jordan et al. 2004). Finally, as an additional data point, 39% of advisers with AUM between \$100 million and \$150 million in my dataset were registered with the SEC in the years after Dodd-Frank’s passage.

Alvero and Xiao 2023’s alternate formula is similar to Equation 2, but the denominator is adjusted by a new variable α , which represents the fraction of agents that cannot bunch due to frictions:

$$\Delta q_{FB} \equiv \sqrt{\frac{2A}{\bar{f}_0 \cdot (1 - \alpha)}} \quad (3)$$

α in turn can be estimated using the following equation (Alvero and Xiao 2023):

$$\alpha_{FB} = \frac{2 \cdot [F(\bar{q}) - F(\underline{q})]}{\bar{f}_0 \cdot \Delta q} - 1 \quad (4)$$

Because Δq is used to solve for α and vice versa, Equations 3 and 4 must be solved jointly.

Ewens, Xiao, and Xu 2023 use Equations 3 and 4 to estimate the cost of being a publicly traded company.

Once Δq has been estimated using Equation 2 or 3, it can then be added to the regulatory threshold q to obtain an estimate for \bar{q} , the log AUM of the marginal adviser. Next, this estimate for \bar{q} can be plugged into Equation 1 to estimate τ , the regulatory cost expressed as a percentage of the marginal adviser’s pre-regulatory profits. Finally, τ can be combined with an estimate for the marginal adviser’s pre-regulatory profits to approximate the dollar cost of regulation.

The Alvero and Xiao 2023 estimator is most precise when the CDF is roughly uniform throughout the bunching region and when the amount of noise is small. As the CDF becomes less uniform and the amount of noise increases, the estimator becomes less precise. Additionally, the estimator is only valid if three assumptions are met Alvero and Xiao 2023. The first two assumptions are technical and deal with the smoothness of the counterfactual, non-bunching CDF and the smoothness of the noise distribution. It is reasonable to assume that both are met here. The third assumption is that the noise in the bunching CDF is independent of the bunching variable. This assumption may be violated if “agents make bunching decisions strategically after observing the realized measurement error and random shocks [noise].” In other words, I need to assume that advisers cannot tell at the time they decide which AUM level to target whether their future returns will be higher or lower than they would expect on average. This assumption is generally reasonable but could be fail if bunching advisers who unexpectedly earn outsized returns that tip them over the threshold can misreport their AUM to avoid registering. Because valuing illiquid, privately held assets is an inherently subjective process, I cannot rule out this possibility.

If advisers who should report AUM just above the threshold are misreporting to avoid registration, then my cost estimates likely overestimate compliance costs. The reason for this is that, all else equal, shifting advisers from above the threshold to below it increases the size of the bunching area. My cost estimate should therefore be interpreted as an upper bound on the true compliance cost borne by advisers. With this caveat, I proceed by assuming that the independence condition is met.

3.3 Data

The data used for this paper come from data provided by both exempt and registered private fund advisers on Form ADV. The SEC requires all private fund advisers to file some basic information every year on Form ADV, including information about each fund adviser’s total assets under management, private fund assets under management, types of private funds,

and home state. It also includes some basic information about whether each adviser has been subject to civil, criminal, or regulatory sanctions within the past 10 years.

Data from Form ADV are freely available on the SEC’s website.²⁶ For this paper, I use Form ADV data from Q1 2012 through Q4 2022 for registered and exempt investment advisers. I limit my sample to “pure play” private fund advisers, which I define as advisers whose assets are more than 90% invested in private funds. I exclude advisers who rely on the venture capital exemption because these advisers are exempt from the registration requirement regardless of their size and because they are not required to report as much information on Form ADV as other advisers. (For example, advisers who claim the venture capital exemption are not even required to report their total assets under management.) In order to screen out some reporting errors, I also throw out the small number of filings where an adviser has reported private fund assets exceeding 120% of their reported regulatory assets under management. Where a single adviser has filed Form ADV multiple times in a single calendar year (perhaps to correct an error or because its AUM crossed the \$150,000,000 threshold), I use only the latest filing in the year. My data includes information from 7,100 different advisers, and I have 31,416 unique adviser-year data points.

To study the impact of registration on fund returns and fees, I also use commercial data available from Preqin on hedge fund returns. The Preqin database relies on self-reported information from industry participants, so it does not cover the full universe of funds for which I have Form ADV filings. I match the Preqin data to my Form ADV data at the fund level based on fund name. I am able to match 883 advisers in my dataset to hedge fund advisers in the Preqin database.²⁷

4 Estimating the Cost

4.1 Main Result—Bunching Estimation

According to the model from Part 3, if private fund advisers incur additional costs when they register with the SEC, then I should observe many more advisers with assets under management just below the \$150 million regulatory threshold than just above. Figure 1a is a histogram of all log AUM-year observations from 2013 to 2022 where AUM was between \$100 million and \$1 billion. (I drop 2012 observations here and for the rest of my bunching

²⁶The data can be downloaded from <https://www.sec.gov/foia/docs/form-adv-archive-data>. I gratefully acknowledge Professor Colleen Honigsberg’s work in persuading the SEC to make Form ADV data freely available (Honigsberg 2019).

²⁷In total, I am able to match 890 advisers, but I drop 7 advisers who in the past have filed multiple Form ADVs on the same day to simplify data processing.

analyses to account for the possibility that it took advisers some time to adjust to the new regime after Dodd-Frank passed.) The \$150 million threshold is marked with a black dashed line. A cursory inspection of the histogram reveals what appears to be an abnormally large mass of advisers just beneath the threshold.

To test whether the mass beneath the threshold is, in fact, statistically significant, I use a distribution discontinuity test developed in the accounting literature.²⁸ The test was developed by Burgstahler and Dichev 1997 and subsequently updated by Beaver, McNichols, and Nelson 2007. The test is based on the idea that, if a distribution is smooth enough, you can divide observations from the distribution into bins, and the number of observations in a chosen bin will be approximately the same as the average of the number of observations in the bins on either side. If the number of observations in the chosen bin is significantly different from what you would expect given the number of observations in the surrounding bins, then you can reject the hypothesis that the distribution is smooth.

I split the log AUM-year observations around the threshold into three bins (which are closed on the left): \$140–145 million, \$145–150 million, and \$150–155 million. These bins have 246, 316, and 121 observations respectively. I then test whether the number of observations in the \$145–150 million bin (246) is significantly different than the average number of observations in the other two ($\frac{246+121}{2} = 183.5$). The test statistic—known as the “standardized difference[]” in this context (Burgstahler and Dichev 1997)—is 5.996, which is significant at the 1% level. It is therefore highly improbable that we would observe the excess mass we do below the regulatory threshold purely as the result of chance.

When I conduct the same test using \$150–155 million (the area just above the threshold) as the center bin, I get similar results. The standardized difference is -5.590, again indicating a statistically significant discontinuity around the threshold, with lower than expected mass just above the threshold. On the other hand, when I conduct placebo tests using \$250 million as the test threshold, the standardized differences are only -0.908 and 0.442, both of which are statistically insignificant.

Next, I use the fuzzy bunching estimator to estimate the marginal private fund adviser’s AUM. The results are reported in Table 1, column (1) and depicted in Figure 1. Using the full sample of private fund advisers and allowing for optimization frictions, I estimate the marginal adviser’s AUM to be \$179 million with a standard deviation of \$3.95 million. This means that a private fund adviser who would prefer to manage \$179 million in assets in the absence of regulation would be indifferent between (1) managing \$179 million and registering with the SEC on the one hand and (2) giving up more than \$29 million in assets to avoid

²⁸In the Appendix, I include the results from a different distribution discontinuity test developed by McCrary 2008 and others in the economics literature. The results are similarly.

registration on the other. Plugging this AUM estimate into Equation 1, I estimate the net, incremental cost of registering with the SEC to be 1.4% of the marginal adviser’s profits with a standard deviation of 0.3%. I also estimate the fraction of non-bunching advisers to be 45% with a standard deviation of 6.8%. This indicates that private fund advisers face substantial optimization frictions or that many choose to register voluntarily due to perceived market pressure. (By way of comparison, 39% of advisers in my dataset with AUM between \$100 million and \$150 million are voluntarily registered.)

To translate the percentage estimate of regulatory costs into a dollar amount, I multiply the percentage cost by an estimate of the marginal adviser’s profits. Private fund advisers do not publicly report their financial statements, so I make some assumptions about advisers’ average gross returns and cost structures to estimate profits. For simplicity, I assume that advisers operating at their undistorted optimal size charge management fees that are approximately equal to their operating costs, so their profits are approximately equal to their performance fees (or “carried interest”). I also assume that the marginal adviser charges a standard 20% performance fee and generates a high enough return to clear any “hurdle rate” required by investors (Ben-David, Birru, and Rossi 2023). Finally, I assume that the marginal adviser generates on average a gross return on its assets of 11%. Estimates of private fund advisers’ gross returns vary quite a bit, but this assumption is roughly in line with other estimates. For example, Ben-David, Birru, and Rossi 2023 estimate that, between 1995 and 2016, hedge fund advisers earn gross returns of 5.4% on average above 3-month LIBOR, which ranged from a high nearly 7% in the early 2000s to a low of 20 to 30 basis points following the financial crisis (*3 Month London Interbank Offering Rate in USD (LIBOR)* 2023). This range implies an average expected return for hedge funds of between 6 and 12%. Professors Phalippou and Gottschalg 2009 estimate that gross returns for private equity funds exceed the return on the S&P 500 by 3% per year on average. According to data from Professor Ken French’s website, U.S. equities have returned around 11% per year on average over the past 30 years.²⁹ This implies a gross return for private equity advisers of around 14%.

Under these assumptions, I estimate that the dollar cost of registering with the SEC is around \$54,000 per year on average. This estimate sits comfortably in the estimate range provided by the SEC in its rule release. Regarding recurring costs, the SEC reported that it expected that “annual costs of compliance and examination would range from \$10,000 to \$50,000” and that other internal registration costs—including “costs attributable to completing and periodically amending Form ADV, preparing brochure supplements, and delivering

²⁹The data are available at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html.

codes of ethics to clients”—would be “\$15,077 on average” (SEC 2011c). It also estimated that the “one-time costs to new registrants to establish a compliance infrastructure would range from \$10,000 to \$45,000” (SEC 2011c). In sum, the SEC ball-parked ongoing regulatory costs at \$25,000 to \$65,000 with a somewhat higher cost in the first year of registration. The fact that this predicted range lines up neatly with a cost estimate generated by observing private fund advisers behavior in the decade after the SEC rules went into effect builds confidence that the SEC’s cost estimates are credible and made in good faith.

Conversely, my \$54,000 estimate is at the very bottom of the range of estimates offered by industry participants during the SEC’s rulemaking process. For example, in a statement accompanying its final rule release, the SEC noted that many industry participants “suggested that [the SEC’s] estimates [were] too low” and cited comment letters that predicted ongoing, annual costs of \$350,000 (Atlas Holdings), \$375,000 (Sentinel Capital Partners), \$300,000 to 500,000 (Crestview Advisors, LLC), \$50,000 to \$100,000 (Azalea Capital), \$150,000 to \$250,000 (Gen Cap America, Inc.), and \$100,000 to \$200,000 (“certain private fund representatives” in a meeting discussing “costs for small firms ... (exclusive of salary costs for a CCO)”) (SEC 2011c). These ranges were all substantially higher than the SEC’s predicted range and my estimate. This result is especially striking given the fact that my estimate represents an upper bound on private fund advisers’ compliance costs if a substantial amount of bunching is the result of AUM misreporting rather than a “real” effect on adviser decisionmaking.

There are at least five possible explanations for the discrepancy in estimates. First, advisers who anticipated higher costs may have been more likely to write comment letters to the SEC, so the sample of comment letter estimates may be significantly higher than the range of estimates across the industry (selection bias). Second, compliance costs might increase significantly with AUM, and the letter writers may have predominantly been larger advisers. My estimate, on the other hand, is only valid for advisers with AUM near \$150 million because it relies on observed behavior around that threshold. Third, private fund advisers may have been reporting estimates of their “gross” compliance-related costs, whereas my estimate is “net” in two ways: it nets out both the amount that registered advisers would have spent anyway if they were exempt and the benefits that flow from registration. Advisers could be spending hundreds of thousands of dollars a year on record-keeping and reporting, but if advisers would be making those expenditures even if they were not registered—because, for example, investors would demand them or exempt advisers are also required to make them—then they would not show up in my cost estimate. Fourth, registered private fund advisers may be recouping a substantial portion of the total regulatory cost by passing the cost on to investors. I explore this possibility in more detail below. Fifth, and finally,

private fund advisers may have purposefully exaggerated their estimates in an effort to obtain regulatory relief. Regardless of the source of the discrepancy, however, my estimate confirms that the SEC was correct not to let commenters sway its estimate of the likely cost of registration to smaller advisers.

Finally, in columns (2) and (3) of Table 1, I use the same estimation techniques on two smaller samples. In column (2), I report the results for a sample that includes only dedicated private equity fund advisers, and in column (3), I report results for dedicated hedge fund advisers. The results in these two subsamples are similar to the results I obtain in the full sample, though the estimated cost to private equity fund advisers is somewhat higher than the estimated cost to hedge fund advisers. I estimate the marginal private equity fund adviser's AUM to be \$182 million and the marginal hedge fund adviser's AUM to be \$172 million. Using estimated gross returns of 14% for private equity and 10% for hedge funds, I estimate the dollar cost to be \$84,000 for private equity fund advisers and \$30,000 for hedge fund advisers. Both figures are very close to the SEC's range and on the low end of industry estimates. The non-bunching fraction estimates for each subsample are also similar to the full sample estimate. I estimate the non-bunching fraction in the private equity sample to be 33% with a standard deviation of 10% and the non-bunching fraction in the hedge fund sample to be 48% with a standard deviation of 8%. Overall, these results suggest that hedge fund advisers may face lower regulatory costs and higher barriers to bunching than private equity fund advisers do.

4.2 Are Advisers Passing Costs on to Investors?

As I briefly mentioned in the previous section, registered advisers may be able to substantially reduce the regulatory cost they bear by passing part of the total cost on to investors. This could be cause for concern if it means that private fund investors (who include public employee pension funds and university endowments) are earning significantly lower returns as a consequence of the SEC's oversight of private fund advisers. Because I do not have access to data on the expenses that advisers charge directly to their funds (other than performance fees and management fees), I cannot test this hypothesis directly. Though I can access data on performance and management fees for some funds, testing for fee differences using these data provides little useful information. First, these fees are set by contract at a fund's inception, so the fees are not informative for funds created before the Dodd-Frank Act was passed. Focusing on funds formed after the Act's passage substantially reduces the sample of funds available to study. Second, performance and management fees may both be correlated with adviser skill, so a finding that funds managed by registered advisers have

higher fees might only indicate that more skilled advisers with AUM around \$150 million are more likely to register with the SEC, perhaps because they anticipate significant growth.

Even though I cannot directly measure costs passed on to investors, I can test whether investors' net returns decrease after the adviser who manages their funds registers with the SEC. A finding that net returns decrease following registration would be consistent with the hypothesis advisers are passing on compliance costs. Unfortunately, I would not be able to fully rule out the alternative hypotheses (e.g., that advisers choose to register voluntarily following a period of abnormally high returns) because advisers' decisions to register are nonrandom. On the other hand, a finding that net returns remain consistent or increase following registration would support the inference that (1) advisers are not passing on compliance costs or (2) advisers are passing on compliance costs, but only to the extent that they earn higher returns to offset those costs. For this analysis, I focus on hedge funds because I can obtain monthly historical hedge fund returns from the Preqin database. As mentioned previously, I was able to match 883 private fund advisers from my dataset to fund managers in Preqin's dataset, and I pulled data on all of the hedge funds managed by these advisers. I include every month of data for each adviser who has managed more than 90% private fund assets (and less than 120% private fund assets) in at least one year. This is slightly different than in my bunching analysis, where I only include adviser-year observations where private fund assets are between 90 and 120% of AUM. I use a broader filter here because I am looking at month-to-month changes within advisers and I want to obtain the most complete panel possible for each adviser. After filtering out entries with missing data and where the adviser's most recently reported AUM was less than \$1 million, I obtain a sample of 172,285 fund-month observations for 862 advisers.

I estimate the following two-way fixed effects regression specification to test whether hedge fund investors earn lower (higher) returns after their fund manager registers with (withdraws its registration from) the SEC:

$$Return_{ikt} = \beta_1 \cdot Registered_{it} + \beta_2 \cdot \log(AUM_{it}) + \mu_t + \gamma_i + \epsilon_{ikt}$$

$Return_{ikt}$ is the net of fees return to investors in fund k managed by adviser i in month t . To reduce the impact of outlier return values, I winsorize $Return_{ikt}$ at the 99% level. $Registered_{it}$ is an indicator variable that is equal to 1 if fund i 's adviser reported as a registered investment adviser on its most recent Form ADV prior to month t or 0 if the adviser reported as an exempt reporting adviser. $\log(AUM_{it})$ is the logarithm of the total regulatory AUM of fund i 's adviser (as reported on the most recent Form ADV filing prior to month t) minus the logarithm of the regulatory threshold. Thus, $\log(AUM_{it})$ would have

a value of 0 for an adviser with \$150 million in regulatory AUM. The purpose of this shift is to center my regression on the key regulatory threshold. μ_t and γ_i are month and adviser fixed effects, and ϵ_{ikt} is an error term.

Table 2 reports the regression results. After controlling for AUM, the estimated effect of registration is tiny (on the order of a few basis points) and statistically insignificant. This result is inconsistent with the hypothesis that advisers are passing on a large fraction of their registration costs to investors. If newly registered advisers are passing on compliance costs, they must also be earning higher returns to offset those costs or the passed-on costs must be small enough that they have a negligible effect on returns.

To provide a more complete picture of changes in hedge fund investor returns before and after registration, I also estimate the following event study specification:

$$Return_{ikt} = \beta_1 \cdot \log(AUM_{it}) + \mu_i + \gamma_t + \sum_{j=-121, j \neq -1}^{126} \mathbf{1}\{t - MonthRegistered_i = j\} \cdot \delta_j + \epsilon_{ikt}$$

$\log(AUM_{it})$, γ_i , μ_t , and ϵ_{ikt} are defined the same way they are defined in the previous specification. $MonthRegistered_{it}$ is the month in which adviser i first reports to the SEC as a registered adviser after having previously reporting as an exempt reporting adviser. For advisers that switch between registered and exempt status multiple times, $MonthRegistered_{it}$ marks the first switch from exempt to registered status. For firms that never change registration status during my sample period or that only switch from registered to exempt status, $\mathbf{1}\{t - MonthRegistered_i = j\}$ is always equal to 0. I drop the most negative and -1 relative month indicators.

In Figure 2, I plot the δ_j coefficients starting 48 months before and ending 48 months after first registration. The figure shows no clear trend in returns over the eight-year window, and there is no detectable movement in returns either immediately preceding or immediately following registration. This plot confirms the results reporting in Table 2 that indicate that investors' returns are not impacted when their fund manager registers with the SEC.

Taken together, these results provide some insight into the important question of whether private fund investors are made worse off when their advisers register with the SEC. They indicate that investors do not, on average, experience a drop in returns when their advisers shift from exempt reporting to registered status. If these advisers are shifting some of their increased compliance costs to their funds, those costs do not appear to be harming investors. The results do leave open the possibility that some advisers are passing substantial costs on to their investors (particularly advisers who never claim the exemption). But at the very least, they weigh against the dire predictions of some commenters that registration costs

would destroy investors' returns.

4.3 Are the “Costs” I Estimate Really Illicit Gains?

One weakness of the bunching analysis I have presented is that it does not allow me to determine whether the bunching I observe is being driven by the fact that registration is costly (as I hypothesize) or by the fact that advisers who avoid registration are allowed to take advantage of their clients to a greater degree than registered advisers. For example, it could be the case that exempt advisers are able to exaggerate their returns or overcharge their investors on fees because the SEC is less likely to examine exempt advisers, so they are less likely to be caught. This critique is serious because we should draw a completely different inference about the wisdom of having a sized-based regulatory exemption depending on what is driving the bunching. If costs drive bunching, then the exemption would appear to be a useful way to allow new, smaller advisers to get on their feet without being suffocated by regulatory costs. But if bunching is driven by advisers' search for ill-gotten gains, then the SEC should eliminate the private fund advisers' exemption and expand its enforcement program to crack down on unethical business practices.

As a preliminary note, it is difficult to argue that investors in hedge funds managed by exempt advisers are routinely taken advantage of given the regression results I present in the previous section. The results in Table 2 suggest that hedge fund investors' returns do not change when their fund managers change registration status. For it to be true that exempt advisers are taking advantage of their clients while simultaneously producing competitive net returns, it must also be true that exempt advisers earn abnormally large gross returns while claiming the exemption, which seems unlikely.

Even putting this evidence aside, my view is that advisers bunch beneath the \$150 million threshold out of a desire to avoid regulatory costs rather than a desire to abuse investors. For the alternative to be true, it must be the case that exempt advisers are able to take advantage of clients (1) to a meaningful degree and (2) to a greater degree than small, registered advisers can. I do not believe either condition is met. First, I do not believe that GP abuse of LPs is prevalent enough or lucrative enough to generate the degree of bunching I observe. A number of theoretical papers, including important works by Professor William Clayton and others, have shown that private fund LPs face a number of barriers that make it difficult for them to obtain robust contractual protections against GP abuse (Clayton 2020, 2022, 2023; Phalippou and G. Brown 2022). However, recent empirical work suggests that LPs are able, at least in some cases, to detect dishonest reporting and that they punish GPs for misbehavior. G. W. Brown, Gredil, and Kaplan 2019 show, for instance, that LPs appear

to be able to sniff out cases where GPs report exaggerated net asset values and that GPs who exaggerate net asset values are less likely to successfully raise follow-on funds. Jiang et al. 2023 also show that GPs’ ability to raise capital is negatively impacted when they report instances of misconduct on Form ADV, which exempt and registered advisers are both required to do.

Second, I do not believe that exempt advisers have a greater opportunity to abuse investors than registered advisers do. Importantly, the contracting problems that scholars have identified apply with equal force to investors of exempt and registered advisers, so it is unlikely investors of exempt advisers have systematically weaker contractual protections than investors of similarly sized registered advisers. Additionally, even though the SEC has spent fewer resources examining exempt advisers than registered ones, its resources are stretched thin enough that, in any given year, the probability that any small adviser (even a registered one) is examined by the SEC, let alone subject to an enforcement action, is quite small. In Fiscal Years 2019 through 2021, the SEC examined about 15% of registered investment advisers per year on average (SEC Division of Examinations 2022),³⁰ and the vast majority of these exams likely did not result in an enforcement referral.³¹ Finally, Honigsberg 2019 finds that there was a significant decline in return misreporting among exempt hedge funds following the passage of the Dodd-Frank Act and that this decline was “statistically equivalent” to the decline in misreporting among hedge funds that registered. Honigsberg 2019 also finds that exempt hedge funds “displayed similar patterns in auditor changes” as registered hedge funds.

To test whether there is a statistically and economically significant difference in internal control quality between registered and exempt advisers, I estimate the following regression specification:

$$Y_{it} = \beta_1 \cdot Registered_{it} + \beta_2 \cdot \log(AUM_{it}) + \beta_3 \cdot PE_{it} + \beta_4 \cdot Hedge_{it} + \mu_t + \epsilon_{it}$$

The right-hand side of this regression adds two new variables to the regressions from the previous section. PE_{it} is an indicator that equals 1 if over 90% of adviser i ’s AUM were in private equity funds in year t and 0 otherwise. $Hedge_{it}$ is similarly equal to 1 if over 90% of adviser i ’s AUM were in hedge funds in year t and 0 otherwise. On the left hand side of the regression, I use four different indicator variables, each of which relates to a different

³⁰In prior years, the SEC’s coverage was sometimes higher and sometimes lower. For instance, in 2013, it examined only 9% of advisers, while it managed to examine 17% in 2018 (SEC Office of Compliance Inspections and Examinations 2019).

³¹In Fiscal Year 2002, for example, the SEC found deficiencies or weaknesses in 90% of investment adviser examinations but only issued an enforcement referral in 3% of examinations (SEC Office of Compliance Inspections and Examinations 2002).

aspect of an advisers' internal controls or governance. $AnnualAudit_{it}$ is equal to 1 if each of adviser i 's funds is audited annual (as reported in year t), $GAAP_{it}$ is equal to 1 if each of adviser i 's funds has financial statements prepared in accordance with U.S. Generally Accepted Accounting Principles (GAAP), $FSDistributed_{it}$ is equal to 1 if each of adviser i 's funds' audited financial statements for year t were distributed to the funds' investors, and $UnqualifiedOpinion_{it}$ is equal to 1 if all of the reports for adviser i 's funds prepared by adviser i 's auditing firm in year t contain unqualified opinions. Note that $GAAP_{it}$, $FSDistributed_{it}$, and $UnqualifiedOpinion_{it}$ should all equal 0 if $AnnualAudit_{it}$ is equal to 0.

Table 3 reports the results of running this regression. Across all four dependent variables, the coefficient on $Registered_{it}$ is positive and highly statistically significant. The results indicate that registered advisers are on average 13–18 percentage points more likely than exempt advisers to obtain an annual audit for their funds, to obtain GAAP-compliant financials, to distribute financial statements to their investors, and to get a clean opinion from their auditor. Even though the estimated coefficients are significant, however, they are low relative to the means of the dependent variables, which range from 75% to 81%. In fact, the majority of exempt reporting advisers receive an annual audit, distribute financial statements to their investors, and so forth even though they are not subject to the regulations that obligate most registered advisers to do the same.³² For example, in 2022, 85% of exempt hedge fund advisers with AUM greater than \$50 million reported that they obtain an annual audit, compared to 92% of registered hedge fund advisers. The gap is a wider for other types of private fund advisers (60% of exempt private equity fund advisers got an annual audit in 2022 versus 88% of registered ones), but the general pattern holds.

The fact that many exempt advisers choose to adopt stronger internal controls than required by law means that it is difficult to explain the bunching we observe at the \$150 million threshold with the theory that some advisers want to take advantage of a laxer control environment to take advantage of investors. Annual audits are not, of course, a perfect bulwark against fraud. Even so, the fact that many exempt advisers obtain them suggests that market forces are enforcing a degree of discipline on lightly regulated segments of the private fund industry. This discipline likely makes it harder for exempt advisers to overcharge fees to their funds or inflate their returns than it would be if they were totally unconstrained. And even though a nontrivial number of exempt advisers do not receive annual audits, the number of such advisers is not large enough to explain the extent of bunching we observe.

³²17 C.F.R. §275.206(4)-2.

5 Understanding Advisers’ Bunching Behavior

In the following sections, I explore other aspects of adviser behavior around the \$150 million regulatory threshold to provide support for the economic model that motivates my bunching analysis, reveal previously unexplored aspects of private funds’ life cycles, and shed some light on how advisers have learned about the cost of regulation over time. In the first section, I investigate how long advisers stay exempt after initially claiming the private fund exemption. Next, I look at AUM growth and governance changes leading up to and following an adviser’s initial registration. In the last section, I take up the question of why some advisers who could claim the private fund exemption choose not to do so.

5.1 How Long Do Advisers Stay Exempt?

One interesting question posed by the bunching evidence I have presented so far is how long advisers claim the private fund exemption. On the one hand, advisers may view the exemption as a temporary way to keep costs down while they build up a track record for a few years before raising a significant amount of new capital. On the other hand, exempt reporting status may be a permanent home for the majority of exempt adviser, either because they prefer to operate on a relatively small scale long term or because they struggle to raise enough money to make registration worthwhile. Which of these scenarios is true may affect how we view the regulatory cost, whether as a manageable cost of doing business or as a permanent barrier to growth for some advisers.

I begin analyzing this question by constructing a Kaplan-Meier survival curve using data on the length of time advisers spend in exempt reporting status. Kaplan-Meier survival curves estimate the probability of “surviving” beyond a certain time t . In this context, an adviser is “alive” while it has exempt reporting status. An adviser “dies” if it leaves exempt status, either by registering with the SEC or by no longer filing reports with the SEC.

To construct the survival curves, I use a different dataset than I used to perform my main bunching analysis. This dataset uses a list of all of the SEC filings for all advisers who manage private funds (other than advisers claiming the venture capital exemption) to identify the exact dates on which advisers first start reporting to the SEC and on which they subsequently change reporting status. I drop the small number of advisers (57) who start and stop reporting to the SEC multiple times during the sample period.³³ I further limit the

³³The reason I drop these advisers is to avoid picking up the small number of would-be advisers who serially start reporting to the SEC under its 120 day rule (which allows advisers to start reporting even if they do not have the required AUM as long as they expect to soon) but inevitably fail to raise sufficient funds and stop reporting within 120 days.

dataset to advisers who file their first report as an exempt reporting adviser claiming the private fund exemption, and I define each adviser’s “death date” as the day on which they file their first report not as an exempt reporting adviser. Finally, in contrast to my main dataset, this dataset includes filings only through the end of June 2022.

Figure 3 plots the estimated survival curve for exempt reporting advisers in red. It shows that 50% of advisers who initially claim the private fund exemption are no longer reporting to the SEC under the exemption 4 years after their initial filing. After 10 years, less than a quarter of advisers are still claiming the exemption. To show what happens to firms who no longer claim the private fund exemption, I plot an additional survival curve in Figure 3 where each adviser’s “death date” is redefined as the date on which they stop reporting to the SEC altogether, rather than merely changing reporting status. Adding this additional curve reveals that most of the decline in exempt reporting advisers is explained by advisers withdrawing from reporting to the SEC. This could be because they fail or because they lose so many assets that they are no longer allowed to register with the SEC. The advisers that are still reporting to the SEC after 10 years appear to be split roughly equally between exempt advisers and registered ones.

A few additional facts about the survival curves are worth highlighting. First, exempt reporting status does not seem to be a viable long-term position for the vast majority of advisers. This is likely due at least partly to the fact that the AUM band for exempt advisers is narrow (\$100 million to \$150 million for non-NY advisers), so advisers who experience a major change in AUM have to change their reporting status. Second, exempt status does not seem to be sort of “purgatory” to which smaller advisers are eternally consigned. The distance between the two survival curves represents the probability that an adviser will be registered with the SEC a certain number of years after their initial filing, and based on this distance, the probability of an adviser registering with the SEC climbs to 25% within about 3 years of the initial filing and remains that high through year 10. This suggests that a substantial minority of exempt advisers register with the SEC within just a few years and stay that way throughout the sample period while others gradually shrink or fail.

5.2 Growth and Controls Before and After Registration

Next, I study the behavior and outcomes of the exempt advisers who register with the SEC. I do so by estimating three event study specifications with based on AUM growth rate, $\log(AUM)$, and the probability of receiving an annual audit around these advisers’ registration dates. The idea behind the first two specifications is to test whether previously exempt advisers deliberately time their registrations to coincide with major capital raisings.

For example, if advisers’ AUM growth rates spike in the year in which they first register with the SEC, there is strong evidence that advisers do not typically cross the \$150 million threshold “on accident” but rather register in response to a significant capital raising event that puts them in a new size tier. This type of evidence would lend additional support to the economic model that motivates my bunching analysis. The rationale for the third specification is to test whether advisers improve their internal controls in anticipation of registration or in response to it. This specification also provides some insight into how long it takes newly (or soon-to-be) registered advisers to lift their internal controls to the standard expected of registered advisers.

The event study specifications take the following general form, with the dependent variable changing depending on the specification:

$$Y_{it} = \mu_i + \gamma_{it} + \sum_{j=-8, j \neq -1}^9 \mathbf{1}\{t - YearRegistered_i = j\} \cdot \delta_j + \epsilon_{it}$$

As before, γ_i and μ_t are adviser and year fixed effects, and ϵ_{it} is an error term. $YearRegistered_{it}$ is the year in which adviser i first reports to the SEC as a registered adviser after having previously reporting as an exempt reporting adviser. For advisers that switch between registered and exempt status multiple times, $YearRegistered_{it}$ is the year of the first switch from exempt to registered. For firms that never change registration status during my sample period or that only switch from registered to exempt status, $\mathbf{1}\{t - YearRegistered_i = j\}$ is always equal to 0. I drop the most negative and -1 relative time indicators. The three dependent variables I use are $GrowthRate_{it}$, $\log(AUM_{it})$, and $AnnualAudit_{it}$. $AnnualAudit_{it}$ and $\log(AUM_{it})$ are defined the same way as in prior regressions with the exception that I do not re-center $\log(AUM_{it})$ around the regulatory threshold. $GrowthRate_{it}$ is defined as adviser i ’s AUM in year t divided by its AUM in year $t-1$, minus 1. $GrowthRate_{it}$ is also winsorized at the 99% level. It is necessary to adjust $GrowthRate_{it}$ for outliers because otherwise, a small number of extreme growth rates render the estimates uninterpretable. (These extreme growth rates are mostly caused by advisers who file an initial report with a tiny amount of AUM—sometimes as low as \$0 or \$1 and perhaps under the 120 day rule—before filing subsequent reports with AUM in the hundreds of millions or billions of dollars.)

For this event study analysis, I use a slightly different dataset than I use in my main bunching analysis. To make sure I get the fullest possible panel of data for every adviser, I do not drop years in which a private fund advisers’ percentage of AUM in private fund assets falls below 90% or rises above 120%. Instead, I include all years for each adviser who has managed more than 90% private fund assets (and less than 120% private fund assets)

in at least one year. In an unreported robustness check, I limit my sample to advisers that claimed the private fund exemption in their first year reporting with the SEC and obtain nearly identical results.

Figure 4a plots the relative time coefficients for an event study of AUM growth around first registration. Consistent with my model’s prediction, advisers’ first shift from exempt reporting status to registered status coincides with a statistically significant spike in AUM growth. AUM growth then appears to return to a normal level starting in the first year after registration. This evidence suggests that many exempt advisers in fact tend to control their AUM to remain below the threshold until they are ready to raise significant capital and “leap” above the threshold. Figure 4b tells the same story by plotting the coefficient of an event study with $\log(AUM)$ as the dependent variable. Consistent with the estimates in Figure 4a, AUM appears to trend upward in the years before registration before jumping up to significantly higher level at the time of registration. There, AUM continues to grow more modestly until flattening out in later years.

Figure 4c plots the relative time coefficients for an event study of the probability that an adviser receives annual audits around the date of the adviser’s first registration. Consistent with the results in Section 4.3 above, the probability that an adviser receives an annual audit increases by about 15 – 18 percentage points within a few years of registration. However, this percentage increase does not incur immediately at the time of registration. The percentage jumps around 9.6 percentage points at the time of registration, with the remaining 5 – 8 percentage point increase coming in later years. In other unreported specifications, I use other internal controls (such as $GAAP_{it}$ and $FSDistributed_{it}$) as dependent variables and obtain nearly identical results. This delayed reaction to registration is somewhat surprising given the fact that abnormal AUM growth appears to be confined to the year of registration. One inference that we could draw from the mismatch between AUM growth and the strengthening of internal controls is that strong internal controls are not a prerequisite for raising private funds. Alternatively, it may be the case that the advisers in my sample period who had weak internal controls prior to registration were the ones with below average AUM growth at the time they registered. These advisers may have crossed the \$150 million inadvertently and had to play catch up.

5.3 Why Do Some Advisers Refuse the Exemption?

In this final section, I take up the question of why a substantial percentage of advisers who could claim the private fund exemption choose not to. As I discussed in a previous Section, one possibility is that advisers choose to register because they feel pressure from the market

to register (whether real or perceived). But there are several other possible explanations. One is that some advisers perceive registration to be less costly than others because they estimate differently the effort required to comply with the additional obligations. These first two hypotheses are really two sides of the same coin because they reflect advisers' and their counsels' beliefs about the relative costs and benefits of SEC registration. A third and distinct possibility is that some advisers anticipate a substantial increase in AUM soon after they start reporting with the SEC and prefer to register right away rather than have to hire outside counsel twice in a short time frame (once when they start reporting and again when they register). If one of the first two hypotheses is true, I would expect the percentage of voluntarily registered advisers to either increase or decrease over time as advisers and their counsel and investors learn about the costs and benefits of registration and their beliefs converge. If the third hypothesis is true, then I would expect advisers' decisions about whether or not to claim the exemption to be correlated with future AUM.

To test the first two hypotheses, I plot the share of private fund advisers (defined as usual as advisers with between 90% and 120% of AUM in private funds) with AUM between \$25 million and \$150 million in each year from 2012 to 2022. Figure 5 displays this plot. The plot shows that the percentage of voluntarily registered advisers has steadily declined since 2012, falling from over 30% in 2012 to around 15% in 2022. This steady decline is consistent with the hypothesis that advisers and their counsel initially believed that the net cost of registration would be low for many advisers but that over time these industry participants have come to believe that registration requires more effort or is less in demand among investors than they anticipated.

To test the third hypothesis, I estimate the following regression model, which tests whether an adviser who voluntarily registers with the SEC in their first reporting year is more likely to report AUM above a set threshold in subsequent years:

$$\mathbf{1}\{AUM_{i,t+m} > 175,000,000\} = \beta_1 \cdot Registered_{it} + \beta_2 \cdot \log(AUM_{it}) + \beta_3 \cdot PE_{it} + \beta_4 \cdot Hedge_{it} + \mu_t + \epsilon_{it}$$

The dependent variable in this regression is an indicator that equals 1 if advisers i 's AUM is greater than \$175 million m years after the year in which adviser i first started reporting to the SEC and 0 otherwise. If adviser i is no longer reporting to the SEC in year $t + m$, then the dependent variable is also set equal to 0. I use \$175 million as the test threshold because the indifference point that I estimate in my main bunching analysis is approximately \$175 million. I also report regression results for three different values for m : one, three, and five years after the initial report. The right-hand side variables are all defined the same way they

are defined for the regression in Section 4.3 above. Finally, to make sure the coefficient on $Registered_{it}$ captures only the effect of voluntary registration in initial SEC reports, I limit my sample to advisers that report between \$25 million and \$150 million in AUM in their first report to the SEC. I also use only one observation per adviser, corresponding to the year t in which the adviser filed its first report.

Table 4 reports the regression results. The $Registered_{it}$ coefficient is positive and statistically significant for each value of m . Additionally, the coefficient estimates are large relative to the mean of the dependent variable. For instance, the unconditional probability that an adviser who first reported to the SEC with AUM between \$25 million and \$150 million reported AUM above \$175 million one year later is only 12%, but advisers in this range who voluntarily registered with the SEC were nearly 12 percentage points more likely to have made the jump than advisers who claimed the exemption. This finding is consistent with the theory that firms choose to voluntarily register with the SEC when they expect to quickly increase in size to the point where registration is required and worth the cost. Interestingly, the coefficient on $Registered_{it}$ gets smaller as the number of years after the initial report k increases, suggesting that voluntary registration is more of a signal about advisers' near term rather than long term growth expectations. Also of interest is the fact that the coefficient on PE_{it} increases and becomes highly significant as m increases, while the $Hedge_{it}$ coefficient decreases. This suggests that private equity fund advisers are more likely to have predictable AUM growth than other types of private fund advisers, at least over the first five or so years after they start reporting to the SEC.

Overall, the results in Figure 5 and Table 4 suggest that advisers' views about the cost of registration and their anticipated future growth (at least in the near term) both play a role in shaping their decisions about whether or not to register with the SEC, even if they can claim an exemption.

6 Conclusion

The debate surrounding the Dodd-Frank Act and its implementing regulations highlighted stark differences between the ways the SEC and some industry members viewed the cost of complying with the new rules. Some commenters argued that compliance costs would destroy the profitability of smaller advisers, while others speculated that the costs would be modest at best or that advisers might pass the bulk of their costs on to their investors. In this paper, I evaluate *ex post* whether the SEC or industry members more accurately predicted the cost to private fund advisers of the new rules. My analysis reveals that regulatory costs for private fund advisers are significant, but that the SEC predicted the costs far more accurately than

industry commenters (at least for the smaller advisers who were most affected). I also find little evidence that advisers are passing most of their compliance costs on to their investors, and I rule out the possibility that the behavior I document is being driven by an increased opportunity to take advantage of investors that might come from laxer rules.

I also document several ways in which the regulations are influencing advisers' behavior. I show that advisers take the cost of regulation into account when deciding on the amount and timing of fund raising events. I also show that the regulations induce advisers to adopt stronger internal controls than they would otherwise but that this effect is smaller than one might anticipate. Finally, I show that oversight has a more substantial effect on the internal controls of private equity fund advisers and advisers to various alternative funds than they do on the controls of "pure" hedge fund advisers, suggesting that investors may have more leverage in negotiating with hedge funds advisers than other private fund advisers.

My findings point to some clear takeaways for regulators. First, my cost estimates suggest that the SEC should take confidence in its ability to estimate regulatory costs and should not be swayed by wildly different estimates from commenters. Second, the SEC should continue to acknowledge that regulations do come with a substantial cost and that private fund advisers are not able to pass on the entire cost to their clients. This is encouraging on the one hand because it means that the beneficiaries of private fund investments like pension plans and university endowments are not necessarily earning substantially lower returns because of the SEC's regulatory efforts. On the other hand, it means that the SEC needs to account for the fact that its regulations have a significant impact on the behavior of regulated advisers. Third, the SEC should consider tailoring its approach to regulations and examinations to the type of adviser being regulated based on evidence that market norms, such as for the strength of internal controls, are quite different for hedge fund advisers, private equity fund advisers, and other types of investment advisers. By accounting for these differences, the SEC can further calibrate its approach to provide the greatest amount of protection for investors with the lightest necessary regulatory intervention.

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Tables

Table 1: Fuzzy Bunching Estimates

	All Private Funds (1)		Private Equity Funds Only (2)		Hedge Funds Only (3)	
Panel A: Estimates						
Marginal Adviser (\$m)	167.492 (1.291)	178.830 (3.954)	172.042 (2.583)	182.077 (5.531)	165.255 (1.682)	172.361 (3.567)
Non-bunching Fraction	0	0.450 (0.068)	0	0.330 (0.101)	0	0.480 (0.084)
Regulatory Cost (%)	0.565 (0.076)	1.376 (0.328)	0.858 (0.175)	1.652 (0.467)	0.440 (0.088)	0.880 (0.247)
Regulatory Cost (\$m)	0.021	0.054	0.041	0.084	0.015	0.030
Panel B: Parameters						
Counterfactual Polynomial Degree	4	4	4	4	4	4
Expected Gross Return (%)	11	11	14	14	10	10
Performance Fee (%)	20	20	20	20	20	20
Panel C: Samples						
Number of Observations	6,115	6,115	1,971	1,971	2,754	2,754
Sample Range (\$m)	100–300	100–300	100–300	100–300	100–300	100–300
Years	2013–22	2013–22	2013–22	2013–22	2013–22	2013–22

Notes: Bootstrap standard errors using 1,000 resamples are reported in parentheses. Estimates that allow for optimization frictions were solved using an iterative process. To prevent the iterations from running off to extreme values, I restricted α to vary between 0 and 0.8.

Table 2: Hedge Fund Returns Regressions

Dependent Variable:	Monthly Net Return (%)		
	(1)	(2)	(3)
Registered	-0.374*** (0.121)	-0.018 (0.139)	0.049 (0.136)
log(AUM)		-0.266*** (0.044)	-0.313*** (0.046)
log(AUM) ²			0.015 (0.012)
Month Fixed Effects	Yes	Yes	Yes
Adviser Fixed Effects	Yes	Yes	Yes
Dep. Var. Winsorized?	99%	99%	99%
Number of Obs.	172,285	172,285	172,285
Mean of Dep. Var.	0.480	0.480	0.480
SD of Dep. Var.	3.554	3.554	3.554

Notes: Observations are at the fund-month level. $\log(AUM)$ is centered around the regulatory threshold, $\log(150,000,000)$. Standard errors are clustered by adviser, and *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Table 3: Internal Controls Regressions

Sample:	\$50–\$250 million AUM			
Dependent Variables:	Annual Audit (1)	GAAP (2)	FS Distributed (3)	Unqualified Opinion (4)
Registered	0.178*** (0.009)	0.132*** (0.009)	0.167*** (0.010)	0.160*** (0.009)
log(AUM)	0.012 (0.010)	0.016 (0.010)	0.021* (0.011)	0.021** (0.010)
PE	0.107*** (0.012)	0.099*** (0.013)	0.101*** (0.013)	0.098*** (0.012)
Hedge	0.239*** (0.011)	0.232*** (0.011)	0.251*** (0.012)	0.206*** (0.011)
Year Fixed Effects	Yes	Yes	Yes	Yes
Number of Obs.	9,490	9,490	9,490	9,490
Mean of Dep. Var.	0.803	0.806	0.756	0.810
SD of Dep. Var.	0.398	0.396	0.430	0.392

Notes: Observations are at the adviser-year level. $\log(AUM)$ is centered around the regulatory threshold, $\log(150,000,000)$. Heteroskedasticity-robust standard errors are reported in parentheses, and *, **, and *** denote significance at the 10%, 5%, and 1% levels.

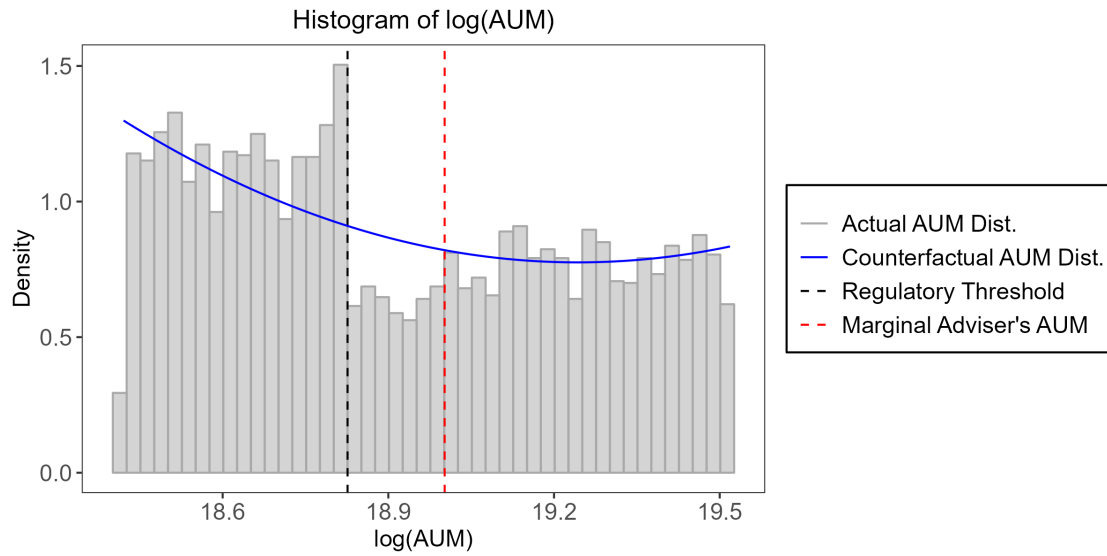
Table 4: Voluntary Registration Regressions

Dependent Variable:	$\mathbf{1}\{AUM > 175m\}$					
Sample:	All Years			Excluding 2012		
Dep. Var. Year:	t+1	t+3	t+5	t+1	t+3	t+5
	(1)	(2)	(3)	(4)	(5)	(6)
Registered	0.116*** (0.018)	0.111*** (0.020)	0.063*** (0.018)	0.141*** (0.024)	0.142*** (0.025)	0.089*** (0.021)
log(AUM)	0.163*** (0.012)	0.138*** (0.014)	0.075*** (0.012)	0.172*** (0.015)	0.130*** (0.016)	0.064*** (0.014)
PE	0.020 (0.016)	0.051*** (0.019)	0.068*** (0.018)	0.038** (0.019)	0.078*** (0.021)	0.087*** (0.018)
Hedge	0.026* (0.015)	0.008 (0.018)	-0.015 (0.017)	0.035* (0.018)	0.003 (0.020)	-0.016 (0.018)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Obs.	2,697	2,697	2,697	1,924	1,924	1,924
Mean of Dep. Var.	0.120	0.204	0.165	0.135	0.208	0.152
SD of Dep. Var.	0.325	0.403	0.372	0.341	0.406	0.359

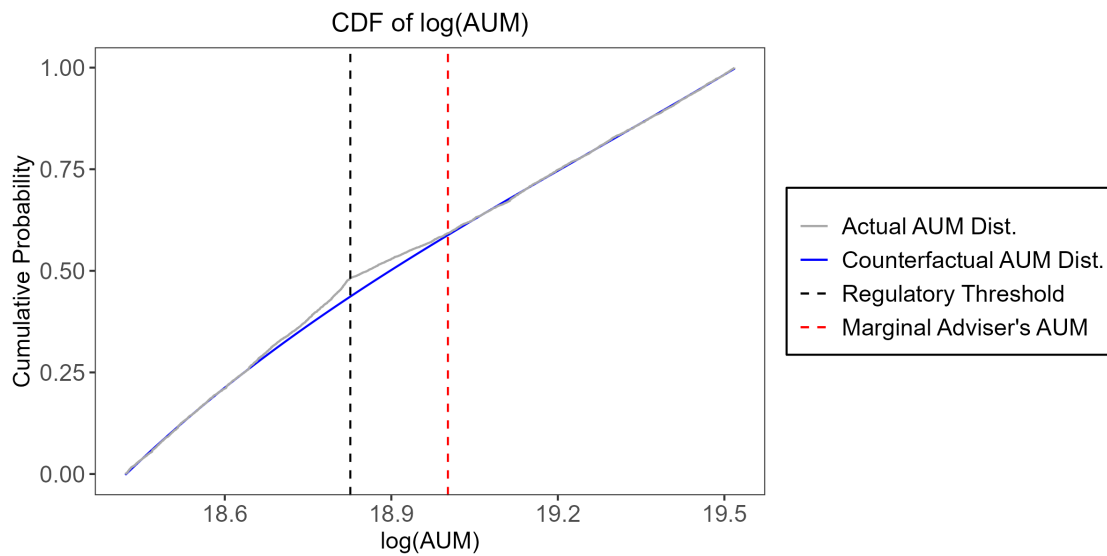
Notes: Observations are at the adviser-year level. $\log(AUM)$ is centered around the regulatory threshold, $\log(150,000,000)$. Heteroskedasticity-robust standard errors are reported in parentheses, and *, **, and *** denote significance at the 10%, 5%, and 1% levels.

Figures

Figure 1: $\log(\text{AUM})$ Distribution



(a) PDF of $\log(\text{AUM})$



(b) CDF of $\log(\text{AUM})$

Figure 2: Event Study of Monthly Hedge Fund Returns Around Registration

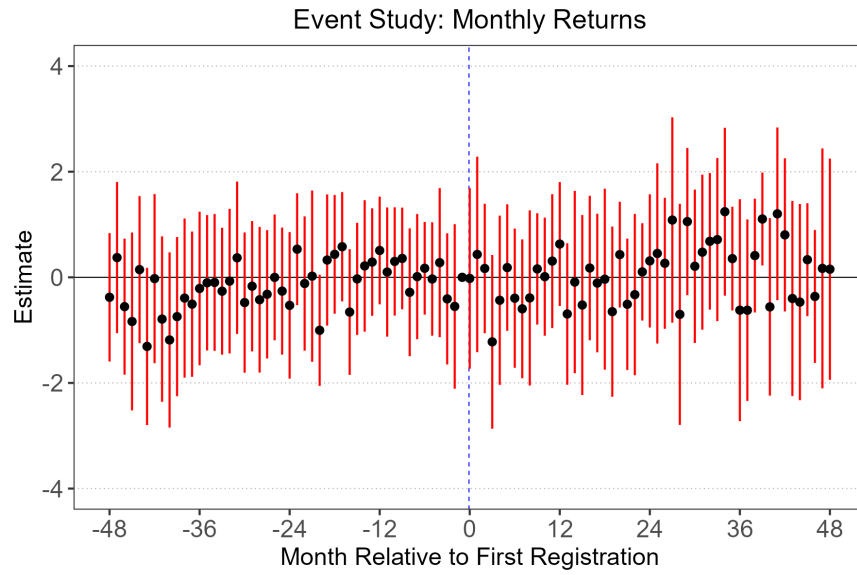


Figure 3: Reporting Status t Years After First Exempt Report

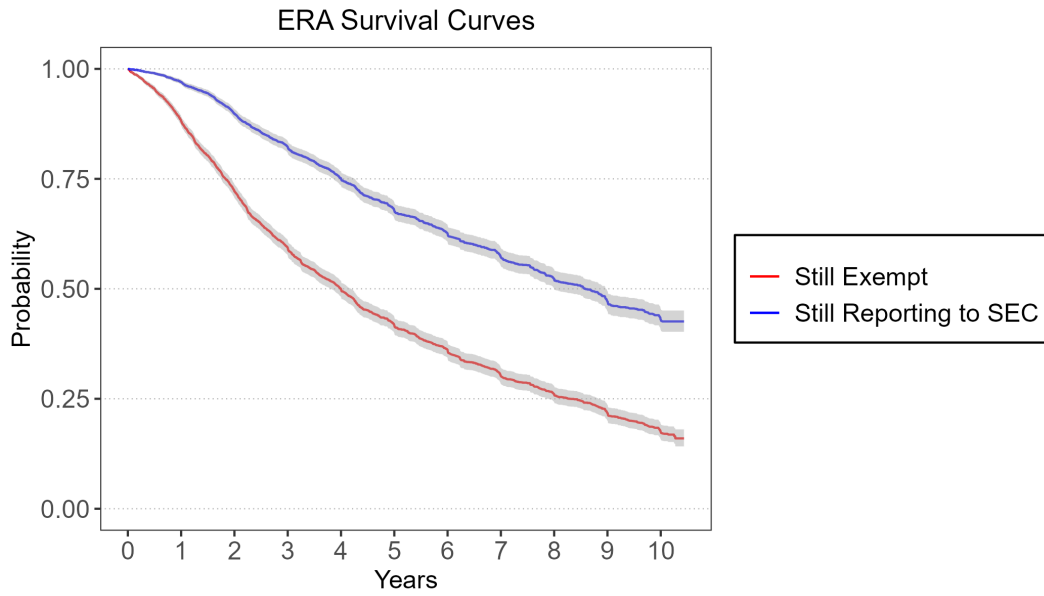
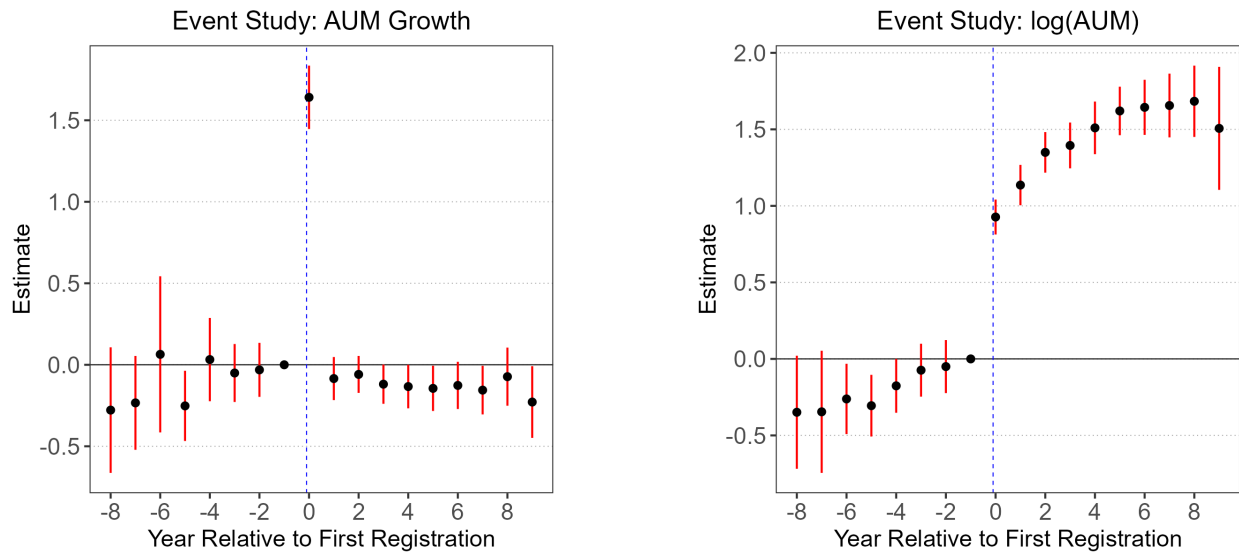
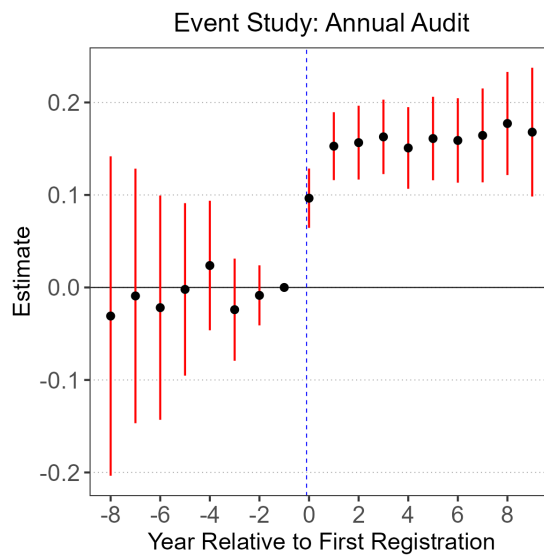


Figure 4: Event Studies of Growth, AUM, and Audit Frequency Around Registration



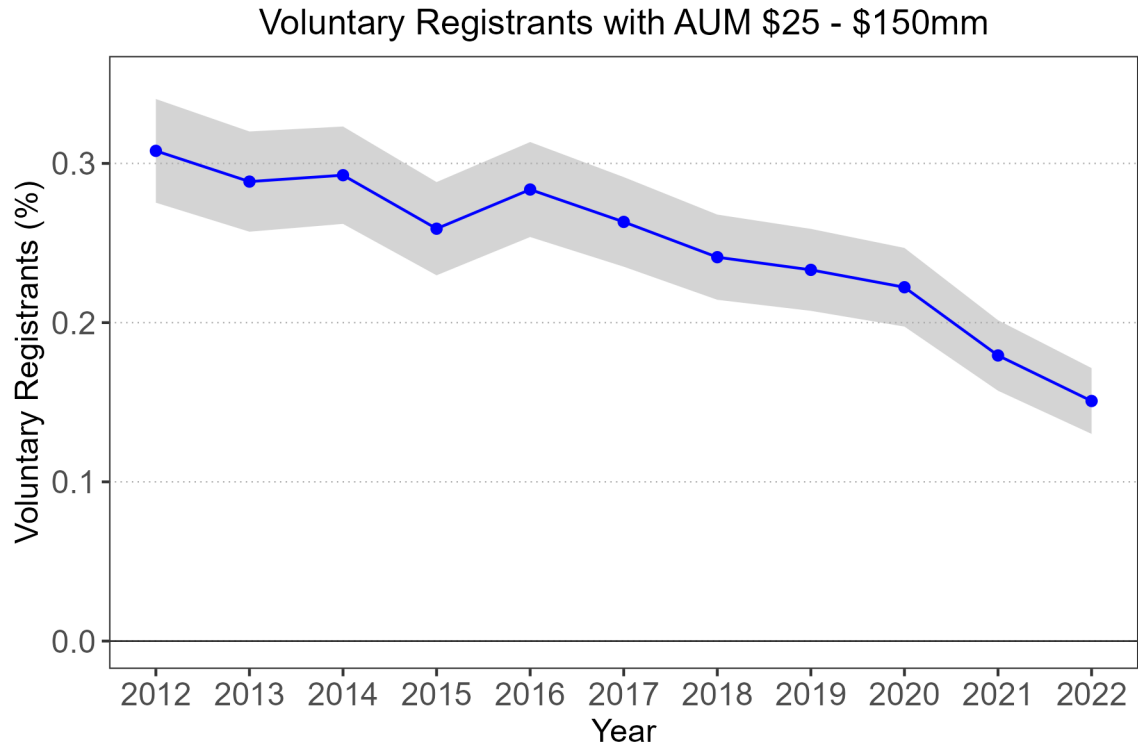
(a) AUM Growth

(b) AUM



(c) Annual Audit

Figure 5: Likelihood of Voluntary Registration Over Time



Appendix

A.1—Formal Model of Size Choice

This model is a simple adaptation of the model used by Alvero, Ando, and Xiao 2023 to model bunching by banks in response to regulatory costs imposed by different provisions of the Dodd-Frank Act. Following their model, I model the economy as being populated with private fund advisers indexed by a parameter z , which I refer to as “skill” rather than “productivity.” z represents all of the factors other than size that affect the fees an adviser can charge, including investing acumen, track record, relationships with institutional investors, and operational expertise. An adviser’s log AUM are represented by the variable q . For each dollar in assets an adviser manages, it charges a fee to its clients equal to $R(q|z)$. This fee increases as z increases and decreases as q increases. In other words, $\frac{\partial R}{\partial z} > 0$ and $\frac{\partial R}{\partial q} < 0$. A simple, linear example of a fee function that would meet these requirements is $R(q|z) = \frac{1}{\theta}(z - q)$, where θ is the (absolute value of the) semielasticity of demand for the adviser’s services. Additionally, for each additional dollar in AUM, an adviser incurs an incremental operating cost equal to C .³⁴ Each adviser seeks to maximize profits, which are equal to $\pi(q|z) = [R(q|z) - C] \cdot \exp(q)$ in the absence of regulation. $q_0(z)$ denotes the profit-maximizing size (in log AUM) for an adviser with productivity z .

Next, continuing to follow Alvero, Ando, and Xiao 2023, I introduce a regulation that imposes a fixed regulatory cost κ on all advisers with log AUM greater than a certain threshold \underline{q} . To avoid this cost, some advisers will find it optimal to shrink their AUM until they fall below the threshold. For these advisers, it will be optimal to manage exactly \underline{q} in log assets to avoid the regulatory cost while minimizing foregone profits. On the other hand, the regulatory cost does not affect the optimal size for advisers whose asset levels are far enough above the threshold (or below it).

Between the advisers who prefer to bunch beneath the threshold and those who prefer to remain at their optimal size, there is an adviser who is indifferent between the two choices. I refer to this adviser as the “marginal adviser,” and \bar{q} denotes the marginal adviser’s undistorted, optimal log AUM, and \bar{z} denotes the marginal adviser’s skill. The marginal adviser’s profit is the same whether its AUM is \bar{q} (and they bear the regulatory cost) or \underline{q} (and they avoid it). The marginal adviser’s indifference condition can be expressed as follows:

$$\pi(\underline{q}|\bar{z}) = \pi(\bar{q}|\bar{z}) - \kappa$$

³⁴To keep the model simple, I assume that advisers do not benefit from economies of scale as they grow, or that $\frac{\partial C}{\partial q} = 0$. I could obtain the same with results with a somewhat more relaxed assumption, however. The necessary condition is that an adviser’s net fee $R(q|z) - C$ decreases as q grows beyond a certain point. Without this condition, each adviser’s optimal size would be infinitely large.

$$[R(\underline{q}|\bar{z}) - C] \cdot \exp(\underline{q}) = [R(\bar{q}|\bar{z}) - C] \cdot \exp(\bar{q}) \cdot (1 - \tau) \quad (5)$$

The second expression uses the fact that κ can be expressed as a percentage of the marginal adviser's profits: $\kappa = [R(\underline{q}|\bar{z}) - C] \cdot \exp(\bar{q}) \cdot \tau$.

Solving this indifference condition for τ produces Equation 1, which can be used to back out the regulatory cost based on the log AUM of the marginal adviser. Equation 1 was first derived in Alvero, Ando, and Xiao 2023. Because my model is the same as as the model in Alvero, Ando, and Xiao 2023 with some minor adjustments, the derivation of Equation 1 from my model is nearly identical to theirs. I provide a sketch of the derivation below.

First, note that, to be profit maximizing, an adviser's log AUM must satisfy the following first-order condition:

$$\begin{aligned} \frac{\partial \pi(q|z)}{\partial q} &= \frac{\partial R(q|z)}{\partial q} \cdot \exp(q) + [R(q|z) - C] \cdot \exp(q) = 0 \\ -\frac{\partial R(q|z)}{\partial q} &= R(q|z) - C \end{aligned} \quad (6)$$

Next, beginning with the indifference condition in Equation 5, replace $R(\underline{q}|\bar{z})$ with a Taylor expansion around \bar{q} . Equation 5 becomes

$$\left[R(\bar{q}|\bar{z}) + \frac{\partial R(\bar{q}|\bar{z})}{\partial q} (\underline{q} - \bar{q}) + O(\underline{q} - \bar{q})^2 - C \right] \cdot \exp(\underline{q}) = [R(\bar{q}|\bar{z}) - C] \cdot \exp(\bar{q}) \cdot (1 - \tau)$$

Then, we can replace $\frac{\partial R(\bar{q}|\bar{z})}{\partial q}$ using the equality in Equation 6 and solve for τ to obtain the following expression:

$$\tau = 1 - (1 - \underline{q} + \bar{q}) \exp(\underline{q} - \bar{q}) + O((\underline{q} - \bar{q})^2 \exp(\underline{q} - \bar{q})) \quad (7)$$

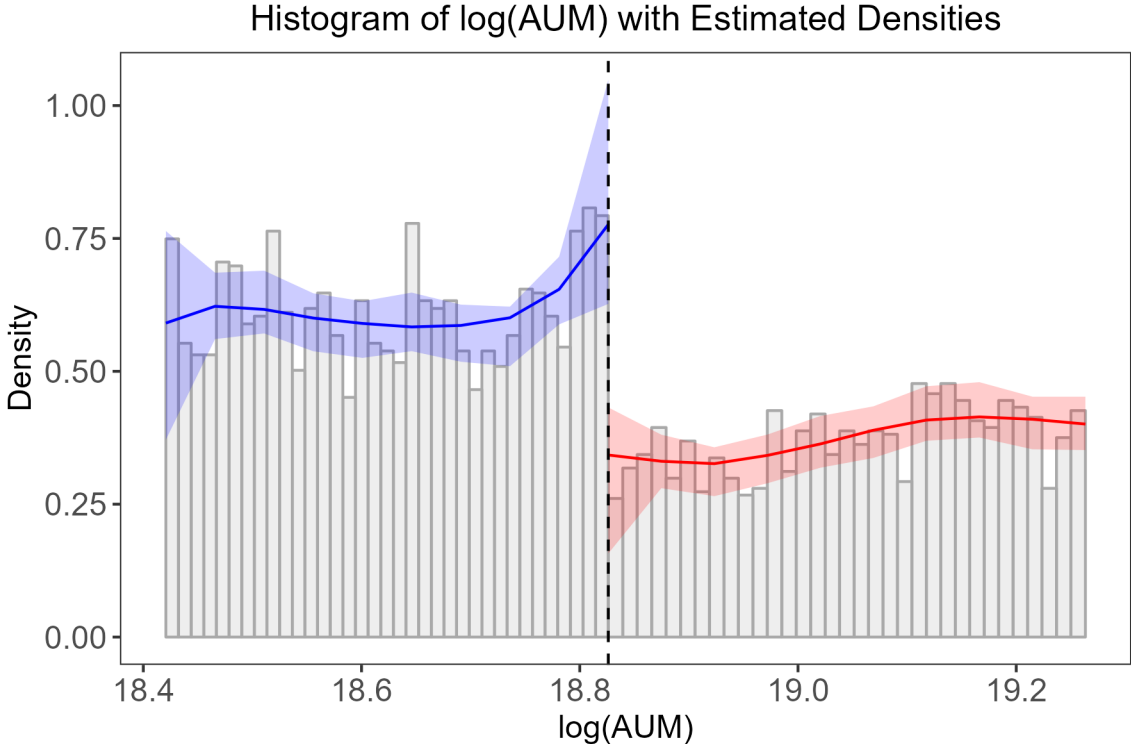
This expression suggests the approximation that is Equation 1.

A.2—Additional Discontinuity Tests

In this Appendix section, I use an alternate discontinuity test that has been developed in the economics literature starting with McCrary 2008 and continuing with Cattaneo, Jansson, and Ma 2020, 2022, 2023. The test grew up as a way to check identifying assumptions for regression discontinuity designs but is also useful here. In essence, the test uses local linear regression to estimate the density of a running variable (here, $\log(AUM)$) around a cutoff (here, \$150 million). If the density estimates from the left and right of the cutoff are significantly different, we can reject the null hypothesis that the distribution is continuous.

Figure 6 displays a histogram of $\log(AUM)$ in the neighborhood around the cutoff with local quadratic density estimates and robust, uniform confidence bands on either side. The graph shows a clear and statistically significant discontinuity around the cutoff. The test statistic is -5.797 when I use local quadratic density estimation, a triangular kernel, and the default, mean squared error (MSE)-based bandwidth selection procedure implemented in Cattaneo, Jansson, and Ma's `rddensity` package in R.³⁵

Figure 6: McCrary 2008 Discontinuity Test



³⁵For a good description of the package and thorough documentation, visit <https://rdpackages.github.io/rddensity/>.