Hedge Fund Boards[☆]

Christopher P. Clifford[a], Jesse A. Ellis[b], William C. Gerken[a,*]

[a] *Department of Finance & Quantitative Methods, University of Kentucky, Lexington, KY 40506*
[b] *Department of Business Management, North Carolina State University, Raleigh, NC 27695*

Abstract

The majority of hedge fund directorships are held by a relatively small group of professional, outside directors who serve on the boards of twenty or more funds at one time. Critics of hedge fund governance point to the "busyness" of these directors as evidence that hedge fund boards are merely a vestige of regulatory compliance. In this paper, we provide an alternative explanation of the labor market for hedge fund directors based on the importance of director reputation and independent certification. Hedge fund directors that hold more directorships are more likely to be appointed to additional boards. Busy professional directors are more common among funds that derive higher benefits from external certification and monitoring, and their departure from the board is associated with outflows of investor capital. Collectively, our results suggest that by being busier, professional directors have more reputational capital at stake and are more independent of fund management, increasing their credibility as monitors and ability to certify fund quality to investors.

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[*]Corresponding Author. Tel: +1 (859) 257-2774 Fax: +1 (859) 257-9688

Email addresses: chris.clifford@uky.edu (Christopher P. Clifford), jaellis5@ncsu.edu (Jesse A. Ellis), will.gerken@uky.edu (William C. Gerken)

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Hedge funds are opaque, complex, and lightly regulated. These characteristics increase monitoring costs and provide opportunity for agency conflicts to emerge between a fund's manager and its investors. In this paper, we study the role that hedge fund boards play in mitigating these conflicts. At the end of 2013, 72% of hedge fund assets were held offshore. Funds create offshore entities for both privacy concerns and favorable tax treatment for both non-U.S. investors and U.S. tax-exempt investors. In doing so, funds must comply with securities laws in these offshore jurisdictions, including the requirement that the offshore entity must have a board of directors. The board of directors of a hedge fund is tasked with the duty to monitor the manager and serve as an advocate for investor rights.

In practice, whether hedge fund directors have the incentives or authority to adequately monitor the manager is debatable. Hedge fund directors are typically hired by fund management, rather than selected by fund investors. Further, the majority of directorships are held by a relatively small group of professional, outside directors. Compared to directors of public corporations, these directors are very "busy", typically serving on the boards of twenty or more different funds across multiple advisers at one time. These institutional features appear unique to the hedge fund director market and have spurred several media reports arguing that professional directors must be too busy to provide the appropriate level of monitoring for their clients.[1] As such, some critics of hedge fund governance claim that hedge fund boards are merely a vestige of regulatory compliance - the majority of funds organize as offshore corporations for tax reasons, they are required to form boards, and they do the bare minimum to fulfill that requirement.

In this paper, we provide the first empirical examination of the market for hedge fund directors in order to understand their role in fund governance. A closer examination of hedge

[1] http://nymag.com/daily/intelligencer/2012/07/hedge-funds-are-not-like-banks.html
http://dealbook.nytimes.com/2012/07/01/in-caymans-its-simple-to-fill-a-hedge-fund-board/?_r=0
http://www.ft.com/cms/s/0/a6164788-111b-11e1-ad22-00144feabdc0.html#axzz2g6l6A0mf

fund boards suggests the regulatory compliance theory proves insufficient in explaining board structure and the organization of the director labor market. Unlike U.S. public corporations and mutual funds, hedge funds face few regulations governing the structure of their boards, and most funds can satisfy domicile regulations with a board comprised of a handful of inside directors. If hedge fund boards were merely a vestige of regulatory compliance, then we would expect to see limited variation in board structure and significant clustering around regulatory minima. We find, however, that few boards meet only the minimum requirement. For example, funds domiciled in the Cayman Islands (78% of the funds in our sample), are only required to have two directors, both of which could be insiders. Yet, less than 10% of Cayman boards are structured in this way. This implies the market for hedge fund directors is shaped by forces beyond regulatory compliance.

In what follows, we provide evidence that director reputation plays a central role in this market, suggesting that funds hire busy, yet reputable, professional directors to improve their ability to attract outside capital. We argue that by being busier, professional directors have more reputational capital at stake and are more independent of fund management, enabling them to credibly mitigate conflicts of interest and certify fund quality to investors.

Because the value of their human capital is dependent on their ability to obtain future directorships, hedge fund directors have especially strong incentives to develop and preserve their reputation as monitors and stewards for investors' rights (Fama and Jensen, 1983; Fama, 1980; Del Guercio and Woidtke, 2012). Similar to the argument raised by DeAngelo (1981), that auditors who serve many clients have more to lose by failing to detect an audit breach at any one client, directors who sit on many hedge fund boards have more reputational capital to lose if they neglect their fiduciary duties. Thus, having greater reputational capital at stake serves as a bonding mechanism which can induce higher quality monitoring.

A director's reputational capital can also be a source of independence and bargaining power with management. Coles, Daniel, and Naveen (2014) argue that directors that are

appointed by management are likely to be captured by the very managers they are supposed to be monitoring. We argue that the reputational bonding mechanism of holding multiple directorships can mitigate this conflict by reducing the likelihood a director is captured by the management of any one fund. This is particularly important for hedge fund directors, who are appointed by management and lack many of the *de jure* authorities conferred to directors of public corporations or mutual funds. If a director disapproves of the manager's decisions (e.g. directors must approve transactions where the counterparty is the fund's adviser) and is unable to persuade him to change his mind, the director's primary recourse is to leave the board. A director who sits on the boards of many funds has a strong incentive to leave a misbehaving fund in order to protect his reputational capital, which should increase his bargaining power with the hedge fund manager. Moreover, a reputable director has an incentive to avoid joining the board if he perceives a higher risk of managerial misconduct that could end up damaging his reputation. Thus, when a professional director risks his reputational capital by choosing to join and remain on a fund's board, he is effectively certifying that the fund is behaving appropriately.

We begin our analysis of the market for hedge fund directors by investigating the relationship between a director's reputation and his future job prospects. We find that directors are more likely to be hired if they have served on the boards of better performing funds and are less likely to be hired if they served on the board of a failed fund. We also find that directors are more likely to be hired if they hold more directorships with other funds. For example, a one standard deviation increase in the number of board seats held by a director more than doubles a director's probability of being hired by a new fund. If funds hired professional directors because of their reputation as being rubber stamps that are too busy to monitor, then this effect should be strongest for the busiest directors. On the contrary, the marginal benefit of holding additional directorships decreases as busyness increases, consistent with a reputational bonding story with diminishing returns to busyness.

Our results also point to an obvious countervailing cost of busyness, which is the increased workload associated with serving on many boards at once. How can a director physically handle the duties of monitoring more than twenty hedge funds at one time? We find evidence that funds and directors work toward reducing the capacity costs of director busyness, which is inconsistent with the theory that funds prefer rubber-stamp directors who face more time constraints, making them too busy to monitor the manager. Specifically, funds are more likely to hire directors who have a greater degree of fund-specific experience, i.e., experience with the fund's adviser, service providers, or with funds that operate similar investment strategies. Fund-specific experience should reduce the director's costs of gathering and processing information, enabling him to provide better monitoring service at a lower cost to his time.

Furthermore, many directors hail from professional directorship firms, whereby the firm employs several directors. By being part of a firm, directors have access to shared resources and technologies that create economies of scale and reduce the marginal cost of monitoring each fund. Consistent with capacity cost-management, we find that busier directors are substantially more likely to work for a directorship firm and are also more likely to concurrently serve on the same board with a "teammate" from the same directorship firm, which reduces the joint workloads for both directors.

In addition to helping directors manage heavy workloads, we argue that another benefit of the directorship firm structure is that, like the director, the firm also has valuable reputational capital to protect. By associating with the collective reputation of the firm, the director has an additional layer of reputational capital at risk, which should increase his value in the labor market (Tirole, 1996). We find that after controlling for the individual reputation of the director, directors who work for a firm are more than twice as likely to gain an additional directorship than directors who are not affiliated with firms. Further, this effect is stronger for the more reputable directorship firms, as measured by the size of the firm's clientele.

Finally, we examine the impact of director reputation from the fund's perspective. Fahlenbrach, Low, and Stulz (2010) argue that a high-profile director with especially reputation-sensitive human capital can certify a firm's quality to investors by choosing to serve on its board. Consistent with this idea, we find that funds that have a busy, professional director on their board tend to attract more outside capital and charge higher fees. Further, funds that lose a professional director and are unable to replace them experience a 4.6% outflow of capital in the quarter of the director's exit. We find no such loss of capital when a non-professional director exits the board or when a fund is able to replace a departing professional with another busy professional director.

Also, contrary to the notion that director monitoring is irrelevant for hedge funds, our evidence suggests that funds are more likely to employ professional directors when they should derive a higher net benefit from additional monitoring. In particular, funds with more managerial discretion over asset valuation and fewer alternative governance mechanisms, such as managerial ownership and liquid investor redemptions are more likely to have professional directors on their board.

Several studies have examined the role of board governance in the asset management industry, though the focus has primarily centered on the boards of mutual funds.[2] We contribute to the literature by being the first (to our knowledge) to specifically examine hedge fund boards and the market for their directors.[3] In addition, we contribute to the growing literature which examines the various governance mechanisms hedge funds use to manage

[2]See, for example, Tufano and Sevick (1997); Del Guercio, Dann, and Partch (2003); Khorana, Tufano, and Wedge (2007); Chen, Goldstein, and Jiang (2008) and Ding and Wermers (2012).

[3]Brown, Goetzmann, Liang, and Schwarz (2012) use a sample of due diligence reports on 444 hedge funds to study the relation between a fund's internal governance and controls and its operational risk. One of the variables in their study is the percentage of independent directors on the fund's board, which they find to be unrelated to the probability that a legal or regulatory issue is uncovered in the due diligence process. However, their study does not focus on hedge fund boards or the director labor market, and contains no director-level analysis or analysis that distinguishes fund boards based on the reputation or professional status of their directors.

agency conflicts.[4] One particularly related study is Cassar and Gerakos (2010), which finds that hedge funds tend to have stronger internal controls and employ more reputable service providers when funds have a higher potential for agency costs. Cassar and Gerakos (2010) also finds that internal controls are positively associated with fees, suggesting investors need to be compensated for the risks of investing in funds with fewer controls on managerial behavior. Similarly, we find that funds with higher fees and a greater scope for agency conflicts are more likely to employ professional directors on their board, consistent with professional director oversight acting as an additional layer of internal controls.

This paper proceeds as follows. The next section discusses how our findings relate to the literature on mutual fund and corporate boards. Section 2 describes our data sources. Section 3 explains the institutional details of hedge fund directors and summarizes the director labor market. Section 4 examines the relation between director reputation and future job prospects. Section 5 examines the role of fund-specific experience in the matching process between funds and directors. Section 6 analyzes the phenomena of hedge fund directors affiliating with professional directorship firms. Section 7 studies the role of professional directors as a certification mechanism, and Section 8 concludes.

1. Related Board Literature

Our paper is related to, but distinct from, the large literature studying the board structure and director characteristics of mutual funds. For instance, Kuhnen (2009) finds that directors that have more connections to a mutual fund adviser are more likely to be hired by that adviser to sit on the boards of its new funds, but that director-adviser connections are not significantly related to investor outcomes such as fees or returns. Her findings are in line with

[4]See for example, Brown, Goetzmann, Liang, and Schwarz (2008, 2012), Agarwal, Daniel, and Naik (2009), Cumming and Dai (2010), Dimmock and Gerken (2012), Cumming, Dai, and Johan (2013), Ozik and Sadka (2014), and Aiken, Clifford, and Ellis (2014).

other papers in the mutual fund board literature which have found mixed evidence as to whether investors can identify fund quality using director characteristics (e.g., see (Kong and Tang, 2008) and (Ferris and Yan, 2007))). Although hedge funds also operate investment companies that offer investors redeemable claims, they operate in a regulatory and contracting environment that vastly differs from that of mutual funds. Compared to mutual funds, hedge funds are less transparent, less regulated, and their investors' shares are more illiquid. These factors increase the opportunity for agency problems in hedge funds, which should increase the importance of board governance. Moreover, mutual funds are subject to a series of state and federal regulations that govern the structure of their boards and duties of their directors. In contrast, hedge fund boards are relatively unregulated. Thus, examining the boards of hedge funds provides insight into how market forces (as opposed to regulation) shape the structure of fund boards and the role of their directors.

In addition, our study is related to the corporate board literature debating the costs and benefits of director busyness. Fama and Jensen (1983) contend that directors have an incentive to create a reputation as being a decision control expert in order to acquire future directorships. Consistent with this reasoning, some studies have used the number of directorships held by a director as a proxy for the reputational capital of the director, suggesting busy directors may be of higher quality (e.g., Kaplan and Reishus, 1990; Vafeas, 1999; Masulis and Mobbs, 2011; Field, Lowry, and Mkrtchyan, 2013). However, some have argued that the capacity costs inherent in spreading one's time across many boards could outweigh the reputational benefits of director busyness. Fich and Shivdasani (2006) find that firms with a high proportion of busy directors have weaker corporate governance and lower market to book ratios, and Yermack (2004) finds that the probability a director obtains a new directorship is negatively associated with the number of other board seats he holds. In contrast, we find that hedge fund directors are more likely to be hired when they hold more board seats and that funds with busy professional directors manage more assets and charge

higher fees, suggesting the reputational benefits of busyness may outweigh the capacity costs in the hedge fund industry.

The discrepancy between our findings and those in Yermack (2004) and Fich and Shivdasani (2006) may be due to the fact that the latter studies focus on large industrial firms, which, due to their size and complexity, require a considerable amount of director time and effort (Masulis and Mobbs, 2014). Compared to industrial firms, hedge funds are relatively homogenous, and the duties of their directors are relatively limited and standardized. These factors should reduce the required time investment and increase the scalability of the director's human capital such that it can be employed efficiently across many funds. Moreover, our evidence is consistent with the idea that multiple directorships convey both reputational benefits and capacity costs, implying that firms and busy directors would benefit by matching in such a way as to reduce the director's capacity costs (Knyazeva, Knyazeva, and Masulis, 2013; Field, Lowry, and Mkrtchyan, 2013). Our findings that hedge funds hire directors with fund-specific experience and those that work for professional directorship firms suggest they do so to reduce the capacity costs of director busyness, thereby increasing the net reputational benefit of holding multiple directorships. This is particularly important for hedge fund directors, who, because they lack explicit authority, must rely on staking reputational capital in order to credibly monitor the hedge fund manager. Our results also point to another benefit of multiple directorships, which is that it can increase the *de facto* independence of a director who might otherwise be captured by the managers that hired him (Coles, Daniel, and Naveen, 2014).

2. Data

The board data in our paper are hand collected from SEC Form D filings from EDGAR over the period of 2009 to 2013. Private funds seeking to raise capital from U.S. investors must file a Form D disclosing limited information about the fund's details and the amount

of capital the fund is seeking to raise from outside investors. Our sample of Form D filers contains all hedge funds that seek to raise capital from U.S. based investors via Regulation D over our sample period. We restrict the analysis to funds domiciled in offshore locations which require the fund to have a board of directors. In the Appendix we provide greater detail on the Form D filing requirements and the board requirements of offshore hedge funds.

From each Form D and Form D/A (Form D amended) filed, we collect the names and addresses of the fund's board members. We define a director as being an insider if the director also lists himself as an executive of the fund, the director discloses a relationship with the fund (e.g., employed by the adviser), or the director's address matches to other regulatory filings for the fund (e.g. Form ADV). Otherwise, we classify the director as an outsider. The majority of our study focuses on the sample of outside directors. To identify whether the director is affiliated with a directorship firm, we search the employment history of each outside director using information available in the Form D, web searches, and FundGov, a commercial database that includes biographical information of hedge fund directors.

We combine our director data with two other datasets: a dataset derived from Form ADV filings and a merged hedge fund database consisting of the five most widely used hedge fund databases: TASS, HFR, Morningstar, BarclayHedge, and Eureka. Under the Investment Advisers Act of 1940, an investment adviser with a certain level of assets under management is required to register with the SEC unless it qualifies for an exemption.[5] We merge Form D and Form ADV using the Form D file number for the private fund. We match any remaining funds by hand using data available in both datasets: name, address, phone number, and assets under management (AUM). We merge Form D to the commercial datasets using a

[5]Advisers managing over $100MM in regulatory assets or failing to meet the requirements of state registration are required to register. The Dodd-Frank Act eliminated the private adviser exemption that many hedge fund managers relied on to avoid registering with the SEC. Advisers were required to file a Form ADV with the SEC by March 30, 2012. As data is not available prior to the deadline, we backfill the fund characteristics obtained from Form ADV, which are used in Table 6.

name-matching approach. We first process the fund names in each dataset by standardizing text about legal structure, currency, share class, leverage, and domicile. We then combine the five commercial databases and eliminate duplicate funds following the algorithm of Joenväärä, Kosowski, and Tolonen (2014). Finally, we merge Form D to the combined commercial database using the standardized names.

In Table 1, we present summary statistics of board structures and the distribution of directorships in our sample. In Panels A and B, we report the distributions at the board level. From Panel A, we see that the median board has 3 directors, 1 of which is an insider and 2 of which are outsiders. Not surprisingly in Panel B, we find this two outsider, one insider structure is most common. Unlike U.S. public corporations and mutual funds, offshore hedge funds face few regulations governing the structure of their boards, and are not typically required to have any outside directors. If boards were designed simply to meet the regulatory minimum of their respective domicile, then we would expect to see limited variation in board structure and significant clustering around regulatory minima. For example, in the Cayman Islands (which accounts for 78% of the funds in our sample), the only legal requirement is that funds have two directors serve on the board. A fund seeking to minimize outside monitoring could simply place two employees of the adviser on the board and meet its regulatory minimum. We find, however, that few boards meet only these minima (e.g. only 9.0% of hedge fund boards in the Cayman Islands have only two insiders).

3. Hedge Fund Directors

Although hedge fund board structures are relatively unregulated, hedge fund directors face fiduciary duties and responsibilities that are shaped by industry standards and domicile common law. In general, hedge fund directors have a duty to supervise certain matters where the interests of the manager and investors may differ. Directors review and approve the investment advisers' contracts and fees, appoint the fund's auditor, custodian, and other third

party administrators, and review the fund's risk management system. They also approve certain actions taken by the fund, such as the valuation of illiquid assets, in-house trades with the investment adviser, certification of the accuracy of fund information, the granting of side letters for preferential treatment of certain investors, and approval of discretionary powers, such as discretionary liquidity restrictions (i.e., gates or side pockets). Although directors are hired by the manager, as opposed to the investors they represent, they can be held personally liable for a breach of fiduciary duties.[6]

In Panel C of Table 1, we report the number of unique directors in our sample and their distribution of directorships. There are 3,827 individuals that are classified as inside board members due to their association with the investment adviser. Insiders hold 44% of board seats. The other 1,573 individuals are classified as outside board members. The majority of these outsiders (1,089) serve as an outside director on three or fewer funds, which resembles the typical workload of corporate directors. However, these directors account for only 9.1% of all board seats and only 16.3% of all outside board seats in our sample. The remaining 484 outsiders who hold more than three directorships hold 46.9% of all board seats and 81.9% of all outside board seats in our sample. The 119 directors that sit on more than 20 boards collectively hold 31.6% of all board seats and 56.4% of all outside boards seats in our sample.

Panel C of Table 1 highlights the skewness in the distribution of directorships across directors: the majority of directorships are held by a concentrated group of professional directors. Considering that corporate directors are considered "busy" if they holds more than three directorships (Fich and Shivdasani, 2006), how can these hedge fund directors be so busy?[7]

[6] In the case of *Weavering Macro Fixed Income Fund Limited (In Liquidation) vs. Stefan Peterson and Hans Ekstrom* highlights, two directors were found guilty of being negligent in carrying out their fiduciary duties, and were held liable for US $111MM in damages.

[7] For ease of exposition, we use the term, "corporate directors" to refer to directors of industrial firms and "hedge fund directors" to refer to directors of hedge funds.

Although hedge funds operate varied investment strategies, from a director's perspective, hedge funds are far more homogenous than industrial corporations. Compared to corporate directors, hedge fund directors have a relatively limited set of duties (such as monitoring valuation and trading practices) which require similar knowledge to execute across different hedge funds. Moreover, the majority of agency and regulatory issues facing hedge funds are common across funds, which allow for economies of scale in monitoring several hedge funds at once. Directors rely on the information from fund service providers such as auditors and administrators to evaluate fund management. Repeated interactions with these providers across different funds may reduce their information acquisition costs due to familiarity.[8] Thus, once a director acquires the general knowledge required to monitor hedge funds effectively, it can be applied broadly across multiple directorships more easily than if he were the director of a public corporation.

In contrast, consider a director who sits on the board of several large public corporations. Corporate directors have more authority and a more complex set of duties to execute, such as approving major corporate investment and financial policies, monitoring diverse accounting systems, and selecting and terminating top corporate executives. Compared to hedge funds, the regulatory and competitive issues facing each company are highly idiosyncratic. Thus, properly executing these duties requires a great deal of firm-specific knowledge, significantly increasing the required time investment per board seat.

In summary, we argue that relative to corporate directors, hedge fund directors face a limited set of duties that require skills that are more general to execute, significantly reducing the time investment and increasing their capacity to appear extremely busy.[9] In what follows,

[8] We note that, based on an examination of self-reported biographies available on the professional networking website, LinkedIn, the majority of professional directors in our sample also have experience working for fund service providers prior to their full-time directorship career.

[9] Though their skills are relatively general, we do find evidence that fund-specific experience plays a role in the match between funds and directors. We consider this and other methods for how hedge fund directors manage their capacity burden in Sections 5 and 6 below.

we examine the consequences of this busyness for the director's future labor market prospects.

4. Reputation and the Labor Market for Hedge Fund Directors

Fama (1980) and Fama and Jensen (1983) argue that a major source of director incentives comes from the expectation of settling up with the labor market in the future, which will reward those who have performed well and punish those who have performed poorly in their past positions. Professional hedge fund directors' primary income comes from serving as a director on many boards. Because the fees of each directorship are relatively small ($10,000 to $30,000 per board compared to $227,000 per board for directors of the typical Fortune 500 company (Tower Watson Survey, 2013)), a professional director has a large incentive to improve his reputation in order to obtain additional directorships. Once a professional director serves on many boards, he has a strong incentive to maintain his reputation. If the director fails to properly monitor a fund, this may cause investors and fund managers to update their beliefs about his abilities, thereby diminishing his labor market prospects (Fama and Jensen, 1983). The concern about future employment is particularly relevant for hedge fund directors, as they are typically mid-career (the average age of the hedge fund directors in our sample is only 50 years old compared to the average age of a corporate board member of 63 years old according to a report by executive search firm, (Spencer Stuart, 2013)).

Although directors are appointed by fund management, by serving on many boards, a director is less beholden to any single fund. Coles, Daniel, and Naveen (2014) argue that outside directors that are appointed by management are likely to be captured by the very managers they are supposed to be monitoring. Because corporate directors sit on few boards and earn relatively high fees from each directorship, they have a stronger incentive to side with the CEO that hired them in order to protect their job and compensation. In contrast, hedge fund directorship fees are relatively small, and directors that serve on many boards have little incentive to favor a particular manager's interests over those of the fund's investors,

if in doing so it would tarnish his reputation as a director and curtail his ability to retain and earn other boards seats in the future. In this way, the number of funds that a director works could be a proxy for his independence from management. If investors view the presence of a professional director on the board as evidence that the fund is being appropriately and independently monitored, they may be more willing to allocate capital to the fund. Thus, hiring a director who can be credibly perceived as being more independent could provide valuable certification for the fund, which should improve the job prospects for directors with more directorships.

Consistent with the importance of reputation in the director labor market, there is evidence that directors are more likely to obtain additional directorships following good performance in their previous directorships (e.g., Ferris, Jagannathan, and Pritchard, 2003; Fich, 2005) and are less likely to acquire directorships if associated with poorly performing firms (Yermack, 2004) or firms associated with financial misconduct (Fich and Shivdasani, 2007). Because directors have an incentive to build and protect their reputation in order to acquire more directorships, some studies have used the number of directorships held by a director as a proxy for the reputational capital of the director (e.g., Kaplan and Reishus, 1990; Vafeas, 1999; Masulis and Mobbs, 2011; Field, Lowry, and Mkrtchyan, 2013). We argue that reputational incentives are particularly pronounced for professional hedge fund director. Directors who sit on more boards and the boards of better performing funds should be of higher quality, and thus obtain more future board seats than those who sit on few boards or have been associated with a failed fund in the past. Similarly, by serving on many boards across multiple advisers, directors are more independent increasing their credibility as monitors.

To understand the role of reputation in the market for directors, in Table 2 we examine the universe of outside hedge fund directors to identify director specific attributes that are related to their propensity to obtain an additional directorship in the following quarter. We

employ a logit model, where the dependent variable is equal to one if the director joins at least one additional board (of a new or existing fund) in the subsequent quarter, and zero otherwise. Our results are qualitatively similar if we model the number of boards joined using a count model (omitted). The unit of observation is the director-quarter. In all models, we control for time fixed-effects, and cluster the standard errors by director.

In Model 1 of Table 2, we include the number of different fund board seats the director currently holds. Further, to control for the possibility that a director may serve on many boards for the same adviser and face different reputational incentives, we also include the number of unique advisers for which the director serves.[10] We find that both measures are positively related to the likelihood that a director will be added to an additional board in the subsequent period. For example, an increase of one board seat is associated with a roughly 5% increase in the odds the director is selected by a new fund in the next quarter. A director with a single board seat has only a 10.8% probability of adding at least one additional board seat in the next quarter, while a director with 20 seats has over a 50% probability of joining additional boards. This is consistent with the idea that the size of a director's portfolio of directorships is a proxy for the director's reputational capital and quality.

In Models 2-4, we explore the relation between the past performance of the funds in the director's portfolio and the propensity that the director will be hired by additional funds. If directors are perfunctory, then we should not see a relation between past performance and future job prospects. On the contrary, if hedge funds care about hiring quality directors, then we should see evidence that the labor market rewards directors for their performance track record. (Fama and Jensen, 1983). Specifically, we would expect funds to seek out directors that have worked for better performing funds. Moreover, Fama and Jensen (1983) predict

[10] A director who serves on many boards but only one adviser may be more likely to be co-opted by that adviser. The "unitary" board model common in mutual fund complexes in which the same directors serve on all of the adviser's funds has been criticized for creating incentives to engage in favoritism for higher revenue producing funds at the expense other funds' investors.

that there can be a substantial devaluation of human capital if a director develops a poor reputation. Thus, we also examine the reputational consequences of having worked for a failed fund in the past. Fund failure is a particularly important risk for hedge fund investors, and hedge fund databases can be missing the worst returns of hedge funds that fail and stop reporting (Aiken, Clifford, and Ellis, 2013; Agarwal, Fos, and Jiang, 2013).

In Model 2, we include the variable *Director Return*, which is the director's equal-weight "portfolio" return over the past three years across all funds for which the director serves (we find similar results using alternative estimation windows). We find a positive and significant relation between past director portfolio performance and the likelihood of being added to additional boards in the future. In Model 3, we add to the model an indicator variable *Any Past Failure*, which is equal to one if the director served on a fund that failed (defined as exit from the commercial database), and zero otherwise. A director who sat on the board of a failed fund is 36% less likely to be added to a board than a director who has no failures in his track record. Interestingly, the addition of *Any Past Failure* does not alter the coefficient of *Director Return*, suggesting the director market cares about both average and worst-case performance when evaluating director track records.

Finally, in Model 4 we explore the potential for a non-linear relationship between the size of a director's portfolio of directorships and his likelihood of being added to an additional board. While arguments based on reputation suggest more board seats create higher benefits, there may be offsetting costs. Directors have a finite amount of time to devote to each fund, and taking on too many directorships may limit the director's monitoring capacity. Survey evidence[11] (e.g., Carne Global Financial Services, 2011) suggests that fund managers and investors have such concerns. The majority of respondents replied that the optimal director should have no more than 20-30 board seats. Interestingly, few (<5%) respondents replied

[11] `http://www.carnegroup.com/wp-content/uploads/2012/06/Carne-Hedge-Fund-Governance-Survey.pdf`

that directors should have less than 20 seats, and a similar proportion replied that more than 50 is optimal. We test for a non-linearity using a piecewise linear specification estimated over two regions of current directorships (1-20, 21+).

We find that the relationship between propensity to be added to an additional board and current board seats is strongest in the low region (1-20), while the slope in the upper region is significantly flatter (a comparison of the two coefficients shows the difference is significant with a p-value < 0.001). That is, an increase in reputational capital (serving on more boards) has a strong, positive impact on the director's likelihood of gaining an additional seat when the director has less reputational capital (sits on fewer than 20 boards). Directors that already have more established reputations (sit on more than 20 boards) realize little additional reputational benefits by serving on additional boards. This implies the *net* benefit of reputational capital is diminishing in the number of board seats. It could be that extremely busy directors have more reputational capital than less busy directors, but the additional capacity costs of extra seats may offset some of the reputational benefits.

Collectively, the results in this section highlight the importance of director reputation in the labor market, and are inconsistent with the argument that funds hire busy directors because they are known for being rubber stamps that are too busy to monitor. If this were the case, we would expect this effect to be strongest for the busiest directors. On the contrary, the marginal benefit of holding additional directorships is significantly lower for the busiest directors, consistent with diminishing marginal returns to reputational capital combined with increasing capacity costs associated with busyness. In addition, funds are more likely to hire directors that have worked for better performing funds, and avoid directors that have worked for funds that have failed in the past. These patterns are also at odds with the notion that funds seek directors who are known for being lower quality monitors.

5. Role of Fund-Specific Experience in the Hiring Decision

In the previous section, we examined director characteristics that led funds to hire professional directors, implicitly characterizing the human capital of directors as relatively general. However, a fund may prefer hiring one director over another because his skills and experience make him a better fit for that fund's specific needs (Denis, Denis, and Walker, 2014). In this section, we examine how director hiring decisions are influenced by the interaction between the characteristics of funds and directors. We expect that funds will seek to hire directors with more fund-specific experience, i.e. experience that complements the specific operating landscape of the fund. Moreover, directors with more fund-specific experience may bear a lower marginal cost in accepting the position, allowing them to serve on more funds. We examine fund-specific experience along three dimensions.

First, we predict that directors are more likely to be hired if they have experience working with the fund's adviser in the past. A director with adviser-specific knowledge does not need to invest as much effort in order to understand the idiosyncratic characteristics of the fund, since many of those characteristics are likely shared by other funds in the advisory complex. This should reduce the director's costs and improve his efficacy as a monitor. Further, the director's quality is less uncertain from the adviser's perspective, which should reduce the risk of adding him to the fund's board.

Second, we predict that directors are more likely to be hired if they have experience working with the fund's administrator or other key service providers. In order to monitor the fund's actions, the director must frequently engage with and monitor the fund's service providers. For instance, fund administrators generate comprehensive reports about fund trading and valuation practices, and the director must read and interpret the administrator's findings to understand whether the fund is operating in the interests of its investors. A director who has worked with the administrator in the past can read their reports within the context of the other reports he has received, improving his ability to make an informed

evaluation of the administrator's findings. Further, a director who has a relationship with a service provider may be able to extract critical soft information about fund actions, improving his ability to monitor. However, most professional directors do not appear to be linked to a single service provider. For example, a director who serves on 20 or more boards has experience with a median of 7 administrators.

Third, we predict that directors are more likely to be hired if they have more experience with funds that operate similar investment strategies. Many hedge funds concentrate their operations in highly specialized trading strategies. The valuation and reporting issues that are relevant to merger arbitrage funds may differ from the issues relevant to funds trading illiquid debt instruments. Dass, Kini, Nanda, Onal, and Wang (2014) argue that directors with related industry experience can better process firm-specific information, improving their monitoring ability. Similarly, a director whose past experience is more closely aligned with the fund's investment strategy (measured using return correlations) should be in a better position to evaluate the fund's actions.

In Table 3, we test these hypotheses with a director selection model that uses a conditional logit regression to estimate the probability a fund hires a specific director as a function of the interaction between fund and director characteristics. This approach is similar to the one employed in Kuhnen (2009) to estimate the likelihood a mutual fund adviser hires a specific sub-adviser from the set of all sub-adviser candidates. The unit of observation is the fund-director pair (directorship). For each director that is hired by a fund, we select 100 random control directors that were not hired by the fund. The fixed effects in the conditional logit regression are at the hire-level (fund-date pair), which allows us to control for all fund and time characteristics involved in the hiring decision. Thus, the only effects that can be estimated in this approach are at the director and director-fund pair level. In each model, we include a measure of fund-specific experience and control for the number of directorships held the by the director (i.e., general reputational capital).

In Model 1, *Experiences with Adviser* is a count variable of the number of times the director has previously worked with the fund's adviser. In Model 2, *Experience with Administrator (Experience with Other Service Providers)* is an indicator variable equal to one if the director has experience with the fund's administrator (custodian, auditing firm, law firm, or prime broker), and zero otherwise. In Model 3, *Director Portfolio Correlation* is defined as the correlation of the fund's returns with the returns of the other fund's in the director's portfolio. The idea being that funds operating with similar strategies should have more correlated returns (Sun, Wang, and Zheng, 2012). Correlations are estimated on a rolling basis over the previous 36 months for both the treatment and control directors.

In each model, we find a significant and positive relation between fund-specific experience and the probability the director is hired by a fund. In Model 4, we include all variables together in the regression, and the results remain significant for each experience measure. For example, a director is 7.7 times more likely to be hired by a fund if they have previously worked for another one of the adviser's funds. Similarly, directors that have experience with the fund's administrator (other service providers), are 2.7 (1.5) times more likely to be hired. This supports the notion that interacting with fund service providers is one of the most important parts of the director's job. We note that when controlling for service provider experience, the number of directorships is still positive and significant. This is contrary to the idea that funds hire directors with more experience simply because they are the preferred choice of their service provider.

Finally, we find evidence that higher returns correlations between the fund the director's portfolio of other directorships increases the director's odds of being hire. A one standard deviation increase in *Director Portfolio Correlation* increases the chances the director is hired by 4.0 times. Taken together, the results in Table 3 indicate that fund-specific experience plays an important role in the labor market for hedge fund directors, suggesting that directors and funds match in such a way as to reduce the time constraints associated with performing

the director's duties. These findings are inconsistent with the theory that funds would prefer directors who face more time constraints, making them too busy to monitor the manager.

6. Directorship firms

Arguably, one of the most striking features of the hedge fund director market is that many of the directors hail from professional directorship firms, whereby the firm employs several directors, and the fund contracts with the firm to provide director representation on the board. To our knowledge, this institutional feature is unique to the hedge fund director market. Our aim in this section is to explore this arrangement and how it may complement other unique forces at work in this market. We put forth two, non-mutually exclusive explanations for the existence of directorship firms. First, directorship firms can help solve the capacity problem that stems from professional directors sitting on many boards at once. Second, directorship firms may enable directors to create a collective reputation, which increases their reputational capital at risk, thereby increasing their value in the directorship market.

6.1. Directorship firms as a solution to capacity problem

As we document in Table 1, over 56% of outside directorships are held by a director who sits on the board of more than 20 different funds. Throughout the paper, we have argued that this observed pattern of directorship employment is consistent with a reputation model whereby a larger portfolio of directorships can serve as a bonding mechanism that will encourage directors to act as good monitors, since they have more reputational capital at stake. However, the question still remains as to how a director can physically manage the labor burden that must accompany the oversight of so many funds at once. As we argue in Section 5, one method of reducing the director's effective labor burden is by matching with funds that complement the director's experience. In this section, we argue that another way hedge fund directors can mitigate capacity problems is by organizing themselves into professional service firms (like auditors or lawyers).

By being part of a firm, directors have access to shared resources and technologies that create economies of scale and reduce the marginal cost of monitoring each fund. Take for example the directorship firm, DMS, which is the largest directorship firm headquartered in the Cayman Islands. DMS has over 200 employees, and services 800 different funds whose assets total $330 billion. The directors at DMS share a common support staff which reduces the administrative burden related to servicing each fund. In addition, DMS employs a variety of technological solutions that the directors use to track and evaluate hedge fund trading and valuation practices, which they use to make judgments about fund operations. The costs of technological assets (like a custom software program) are mainly fixed, and can be spread across the firm's client base. Further, DMS operates a team-based model, whereby each director is supported by associates working behind the scenes, and sometimes by another DMS director on the board. It is not uncommon for multiple DMS directors to sit on the same board, which allows them to work as a team, split up tasks, and reduce the per-person effort required to monitor the fund.

We examine the role directorship firms play in managing director capacity issues in Table 4. The table presents the frequency distribution of directorships held by directors of varying workloads and the proportion held by members of a directorship firm. The counts and proportions are measured at the directorship (director-fund-quarter) level. If directorship firms help directors manage capacity issues, then we should expect to see a positive relationship between the busyness of a director and his propensity to be employed by a directorship firm. We also examine the proportion of directors that serve with a "teammate", which we define to be the cases where a director sits on a board concurrently with one or more colleagues from the same directorship firm. If one of the benefits of organizing in firms comes from shared workloads, then the probability a director serves with a teammate should be higher for busier directors. Having two (or more) directors from the same firm also creates a voting block. If a single director fears his vote will not be marginal, he may (rationally)

underinvest in monitoring. Given the typical board structure, director teams will be pivotal voters ensuring that the directors' efforts in monitoring will be acted upon.

The table reveals several interesting patterns. As we showed in Table 1, the majority of directors are not busy, while the majority of directorships are held by busy directors: 69% of outside directors hold 3 or fewer directorships, yet these directors hold only 16% of the outside directorships in our sample. From Table 4, we see that while 61% of directorships are held by directors from firms, this proportion is dominated by busy directors. Only 19% of directors with 3 or fewer directorships work for a firm, whereas 70% of directors with 4 or more directorships work for a firm. In fact, 79% of the busiest directors (directors with over 20 directorships), work for a directorship firm. This is consistent with the idea that directorship firms are a means by which busy directors can manage a seemingly insurmountable workload.

Additionally, busier directors are much more likely to serve with a teammate. Directors who manage over 20 funds serve with a teammate 40% of the time, compared to only 7% of the time for directors with 3 or fewer funds. Because the odds of serving with a teammate is a function of whether a director works for a firm, we also present the proportion of team directorships conditional on the director working for a firm. We continue to find an increasing relationship between busyness and team presence, suggesting that the team-model is one way in which membership in a directorship firm enables directors to manage heavy workloads.

6.2. Directorship firms and collective reputation

Tirole (1996) develops a theory of the collective reputation of a group arising from the aggregate of each group member's individual reputation. If the certification value of hedge fund directors is tied to reputation, then another potential benefit of aligning with a directorship firm is that the firm also has a reputation to protect. In Tirole's model, a group member's reputation and incentives are affected by his own past behavior, as well as by the behavior of the group, and vice-versa. Because the reputation of the group (directorship

firm) is influenced by the behavior of the members (directors), the group has an incentive to monitor each member to ensure that he provides appropriate product quality (monitoring) and does not adversely impact the group's collective reputation. In other words, a director from a firm will not only worry about protecting his own reputation when carrying out his duties, but will also worry that the firm may fire him if he drops the ball. Thus, a hedge fund and its investors can utilize the reputation of the directorship firm to infer the expected quality of the director services that they expect to receive. Moreover, just as the director's own reputation is the bonding mechanism that incentivizes his monitoring effort, the firm's reputation can act as an additional layer of "skin in the game" that will encourage the director to provide quality monitoring.

We posit that the theory of collective reputation as applied to directorship firms predicts that directors should be more likely to be hired if they are affiliated with a firm, controlling for the director's individual reputational capital (i.e., number of directorships). Further, this effect should be stronger when the firm has more reputational capital to lose, i.e. has a larger client base. We test these predictions in Table 5, where we estimate a director hiring logit similar to the one in Table 2. As before, we control for the number of directorships, number of advisers, and whether or not a director has worked for a failed fund. We also include variables related to the director's affiliation with a directorship firm.

In Model 1, we include *Directorship Firm*, which is an indicator variable equal to one if the director works for a directorship firm, and zero otherwise. We find that directors who work for a firm are more than twice as likely to gain an additional directorship as are directors without a firm affiliation. Including the firm indicator does not reduce the significance or magnitude of the number of directorships variable, suggesting that the director is still more likely to be hired the more popular he is, regardless of whether or not he works for a firm. In Model 2, we keep *Directorship Firm* in the model, and add *Firm Funds*, which is the number of funds serviced by the firm. The coefficient on *Firm Funds* is also positive and significant

(*Directorship Firm* remains positive and significant). We find a similar result in Model 3 where we replace *Firm Funds* with *Top Ten Firm*, which is an indicator equal to one if the firm is one of the ten largest in terms of hedge fund clients. Directors from a top ten firm are almost twice as likely as directors from smaller firms to obtain a new directorship. This implies that directors are even more likely to be hired when their firm has a larger client base, and thus more reputational capital to protect. Together, these results support the idea that part of the value of joining a directorship firm comes from directors bonding themselves to the collective reputation of the firm, thereby enhancing their own reputation and job prospects.

7. Certification of Fund Quality

Fahlenbrach, Low, and Stulz (2010) argue that when a high-profile director with especially reputation-sensitive human capital decides to join a board, it can convey a certification benefit to the firm, even if the director does not play a direct role in major firm decisions. This is because the director has an incentive to avoid being associated with poor firm performance that could tarnish his reputation. Consistent with a certification story, Fahlenbrach, Low, and Stulz (2013) find that outside directors tend to exit boards before before company performance declines, and investors react to their departures as a sign of negative news about firm quality.

In this section, we examine fund and adviser level characteristics that are associated with the fund's propensity to employ a professional director on their board. Because observed board structures are the endogenous outcomes of fund and director choices, we cannot identify the effect of adding a professional director to the board. Instead, we theorize how fund characteristics will shape the tradeoffs that funds face when implementing internal governance, and predict how these characteristics are likely to be related to the presence of a busy, professional director in equilibrium. In particular, we argue that professional directors should be more common among funds that derive higher benefits from external certification

and monitoring. We then examine investor flows surrounding director exits to understand what happens when a professional director removes his certification from the fund.

7.1. Presence of a Professional Director

We begin with the assumption that all else equal, a fund manager prefers not to be monitored, allowing him the autonomy and flexibility to behave as he chooses. However, investors may fear that an unsupervised manager will expropriate from them, and demand the fund establish governance mechanisms that restrain the manager's behavior before they would invest in the fund. Thus, a fund manager may be willing to give up some autonomy and submit to be monitored by credible independent directors in order to attract outside capital.

Professional directors potentially provide two, non-mutually exclusive benefits for a fund. The first potential benefit is certification of fund quality. Professional directors have an incentive to join and remain on the boards of funds that are higher quality, such that by affiliating with the fund the director improves the value of his reputational capital in the labor market. Because the professional director is willing to sit on the board, it serves as a signal to investors that he believes the fund is a "good type" and is less likely to expropriate from investors. If after joining, the fund turns out to be the "bad type" (i.e., the manager expropriates), the reputable professional director has a strong incentive to leave the fund in order to protect his reputation. By removing his certification, his exit should help reveal the fund's type to investors. Further, if their presence on and exit from the board can reveal fund type, good-type funds will benefit more than bad-type funds from hiring a professional director. A bad-type fund that plans to steal from its investors may prefer to have his type remain ambiguous (and attract less capital) then hire a monitor that has an incentive to reveal its plans to the market (and attract no capital). If hiring a professional director serves as a certification mechanism of fund quality, then we expect the presence of professional

directors to be associated with higher quality funds that demonstrated an advantage in attracting outside capital, such as funds that are larger, have higher minimum investments, target institutional investors, and charge higher fees. Younger funds should also benefit more from certification than older funds, but reputation-sensitive directors may wish to avoid young funds to protect their reputation. Thus the prediction for fund age is ambiguous.

The second potential benefit of a professional director comes from their ability to monitor the manager. Classical agency theory predicts that fund managers with more discretion and fewer alternative governance mechanisms would require stronger board monitoring in order to attract outside capital (Almazan, Brown, Carlson, and Chapman, 2004). We assume fund managers have greater managerial discretion when they value their assets internally, have longer withdrawal frequencies, and have greater incentive fees. Many hedge funds invest in illiquid assets, and accordingly rely on valuation models, rather than market prices to value their portfolio. Though internal valuation is not inherently nefarious, it does afford the manager greater opportunity to manage their stated performance. Moreover, infrequent withdrawals increase managerial discretion by limiting their investors' ability to "vote with their feet" (Agarwal, Daniel, and Naik, 2009). Additionally, the non-linear structure of hedge fund incentive fees could induce managers to manipulate performance disclosures or take excessive risk (Agarwal, Daniel, and Naik, 2011). On the other hand, incentive fees could act as an alternative governance mechanism that aligns managerial incentives with investor interests and reduces the need for external monitoring, thus making the prediction for incentive fees ambiguous. Similarly, we expect that funds with greater managerial ownership should also have fewer agency problems, reducing their need for the monitoring benefits of a professional director.

We examine these hypotheses in Table 6, by estimating a logit regression predicting the presence of a professional director as a function of fund characteristics. Our unit of observation is a fund - year. We rely on the CIMA designation of a busy professional hedge fund director

and define *Professional Director*$_{i,t}$ equal one if hedge fund$_i$ has at least one director that holds 20 or more directorships in year$_t$ and zero otherwise. Our fund characteristics come from several data sources. *Log Fund Age*, *Log AUM*, and *Log Minimum Investment* are gathered from the Form D. To assess the role of institutional investors, we rely on the fund's Section 3(c)(7) exclusion to the Investment Company Act of 1940 from the Form D filing. Institutional Clientele is an indicator variable equal to one if the fund is a 3(c)7 fund, and zero otherwise. From the data reported in the fund's Form ADV, we define *Value Internal* equal to one if the fund values any of its assets internally, and zero otherwise. We define *Manager Co-Investment* equal to one if the manager invests any of his own capital in the fund, and zero otherwise. Finally, we gather *Log Withdrawal Frequency*, *Management Fee*, and *Incentive Fee* from the commercial hedge fund databases. We include time and style fixed effects throughout to control for unobservable heterogeneity. We cluster the standard errors at the fund level and report the coefficients as odds ratios.

In Model 1, of Table 6, the evidence suggests that professional directors are more likely to sit on the boards of higher quality funds. Fund size (*Log AUM*) is positively and significantly related to the fund's propensity to employ a professional director.[12] Not only are funds with professional directors larger, but they are also significantly more likely to target institutional clientele, suggesting institutions, perhaps because of their own fiduciary responsibilities, place a higher emphasis on fund governance when making their investment allocation decisions. Additionally, funds with higher management fees are also significantly more likely to have a professional director, though we find no relationship for incentive fee. The relationship between fund age and fund minimum investment are insignificant.

Because board structure is endogenous, the results merely reflects correlations in the data. We are not claiming that if a fund decided to hire a professional director it would

[12]In unreported analysis, we also find that brand new funds with a professional director on their board raise more initial capital than new funds without professional directors.

dramatically increase in size and could charge higher fees. Although this is certainly possible, it would be puzzling why some funds would elect to forego this massive benefit given the inconsequential fees the directors charge. Another, perhaps more conservative, interpretation of these results is that there is is assortative matching between hedge funds and directors, similar to the market for marriages (Greenwood, Guner, Kocharkov, and Santos, 2014), or the market matching underwriters to firms issuing public equity (Fernando, Gatchev, and Spindt, 2005). That is to say, that funds that are of higher quality on unobservable dimensions are more likely to hire higher quality directors (i.e., busy professionals) to help convey this quality to outside investors. Similarly, high quality directors would be drawn to higher quality firms to help convey their quality to the labor market. Low quality funds would not be able to mimic this strategy if directors screened out employers based on their own reputational considerations. The former interpretation suggests that professional directors increase fund quality, while the latter interpretation suggests they certify it. In either case, hiring professional directors would be valuable, though perhaps only to a high quality fund.

We also find some evidence that funds that may derive higher benefits from monitoring, such as funds with more managerial discretion and fewer alternative governance mechanisms, are also more likely to employ a professional director on the board. *Value Internal* and *Log Withdrawal* are both positive and significant, meaning that funds who value their assets internally or offer illiquid redemption terms to their investors are more likely to have a professional director on the board, perhaps to mitigate any perceived conflicts that could arise from increased managerial discretion. Additionally, we find that *Manager Co-Investment* is negatively related to the presence of professional directors, consistent with the idea that credible board monitoring may serve as a substitute for alternative governance mechanisms. Incentive fees are not related to the presence of a professional director, perhaps because any increase in discretion associated with their non-linear structure is offset by the increased incentive alignment serving as an alternative governance mechanism.

In Model 2 we estimate a similar model, but also include *Jurisdiction* and *Jurisdiction*× *Time* fixed effects to control for levels and changes in offshore jurisdiction regulatory policy. Our results are strikingly similar, suggesting that our findings are not driven by variation in regulatory regimes across offshore domiciles. In fact, adding jurisdiction effects does not meaningfully change the coefficients of any variable in the model, which is further indication that regulatory compliance plays only a minor role in determining board structures.

Collectively, our results suggest that fund managers make trade-offs when choosing to structure their boards in an effort to attract capital from investors. One important implication of these results is that they are counter to the theory that hedge fund directors are perfunctory. If that were the case, then we would not expect to see a relation between fund and board characteristics, or, perhaps would see busier directors more frequently working with lower-quality funds. Conversely, our results are consistent with the theory that fund managers are more likely to submit to being monitored by a credible director when the benefits of external certification and monitoring are higher.

7.2. Director Exits and Fund Flows

If professional directors function as a certification mechanism, what happens when the director removes his certification from the fund? Certification predicts that, once on the board, a professional director has an incentive to monitor the fund and influence management to behave appropriately. However, if he is unable to stop the fund from engaging in misconduct that could tarnish his reputation, he has an incentive to leave the board. Given this incentive, the departure of a professional director from the board could cause investors to negatively update their opinion of fund quality Fahlenbrach, Low, and Stulz (2013). If the departure of a professional director is tantamount to a loss of certification, then we would expect to see their departures accompanied by outflows of investor capital.

To test this prediction, in Table 7, we model the relationship between director exits and

fund flows in a regression framework. The unit of observation is a hedge fund - quarter. The dependent variable, *Flow*, is the fund's quarterly, implied net flow. In each model, we control for observable hedge fund characteristics that have been shown to affect a fund's flows, including fund size, age, fees, share illiquidity, lagged flows, performance, and volatility. We also include jurisdiction, style and time fixed effects to control for unobservable heterogeneity that may explain fund flows. We cluster our standard errors at the fund level.

During our sample period, 17% of funds experience an exit of one of their outside board members. In nearly half of these cases, the fund loses a professional director and does not replace the professional director. We view these cases as the most likely to result in lost certification, since funds that can replace a professional with another reputable director most likely maintain continued certification. In Model 1 of Table 7, we examine a fund's flows during these cases. *Lose Professional Director* takes on a value of one if the the fund loses, and is unable to replace, at least one professional director, and zero otherwise. Controlling for both fund level characteristics and the lagged presence of a professional director, we find that upon losing a professional director a fund loses 4.60% of its capital. From an economic perspective, these results are large. In our sample, the average flow is -0.55% implying that in the quarter that a fund loses a professional director its outflows are approximately nine times larger, all else equal.

One concern may be that both investors and directors are simultaneously exiting based on observable fund characteristics and that our linear control variables are not fully capturing. In Models 2 and 3, we repeat our tests, but exclude fund's that were in the bottom quintile of lagged 12-month performance and lagged quarterly flows, respectively. After excluding the funds with the worst past performance and past flows, we find that funds that lose a professional director continue to have outflows of 4.88% and 5.47%, respectively.[13]

[13]We also consider the possibility that a change in service provider, such as administrator or auditor, could confound the analysis. In unreported tests, we run a specification similar to Model 1 and also include a

As we do not observed the true cause of director turnover and some director exits are likely benign turnovers. Certification may not be lost if a fund can replace a quality director with another reputable professional. In Model 4, *Replace Professional Director* takes on a value of one if the fund has a professional director turnover and they replace the director with another professional, and zero otherwise. We find that flows are statistically insignificant surrounding professional director replacements.This suggests that that the loss of a professional director sends a stronger negative signal if the fund does not (or cannot) replace the director.

If the value of director certification hinges on the reputational capital of the director, then we would expect investors to react less negatively to the loss of a director without significant reputational capital. In Model 5 of Table 7, *Lose Non-Professional Director* takes on a value of one if the fund loses a director that sits on fewer than 20 boards and does not replace him, and zero otherwise. Examining the loss of non-professional directors serves as a placebo test of whether investor withdrawals are associated with director departures in general, or whether investors distinguish the information content of departures based on the reputation of the director. Interestingly we find that the loss of a non-professional director is associated with a statistically insignificant *inflow*, suggesting investors do not react negatively to the loss of directors with limited reputational capital.

We have interpreted the professional director exits as being a signal that investors perceive which causes them to update their priors about fund quality. An alternative explanation, that we cannot rule out, is that the exit of busy professional directors may be related to some unobservable negative shock to the fund that directors and investors observe simultaneously, causing them both to leave the fund. However, this explanation does not contradict our main contention, which is that busier directors have more pronounced reputational incentives to exit the board when they perceive trouble at the fund, bolstering their ability to serve

change in service provider indicator. We find the results are qualitatively similar.

as a certification mechanism. Collectively, our results are consistent with the idea that the reputational capital of professional directors can serve a role in certifying fund quality to investors.

8. Conclusion

Following the recent wave of scandals and failures in the hedge fund industry, considerable debate has emerged as to how hedge funds should be governed in order to protect investors. Despite receiving considerable scrutiny by practitioners and the media, the role of the board of directors in hedge fund governance has garnered scant attention in the academic literature. This paper serves as a first step toward filling this gap. Hedge fund directors have fiduciary duties to protect investor interests by monitoring hedge fund managers, yet they are hired by the very managers they are meant to monitor. Thus, hedge directors could be co-opted by fund management in a way that is much stronger than the way in which a corporate director might be co-opted by the CEO. Corporate directors may be co-opted because the CEO has informal bargaining power with the board and influence over director selection decisions (Hermalin and Weisbach, 1998). However, common stockholders still have ultimate control over board composition through their voting power. In contrast, hedge fund investors cannot vote for their preferred directors and are left to vote with their feet. Our collective findings suggest that several unique institutional features have emerged in the market for hedge fund directors which could serve to ameliorate this inherent conflict.

Most hedge funds voluntarily elect outside directors to their board, and the majority of these outside directorships are held by a select group of professionals that serve on dozens of boards at once. Many of these professional directors are members of directorships firms which appear to be organized similarly to large law or accounting firms. Our results cast considerable doubt on the claim that these institutional features are symptoms of the irrelevancy of hedge fund boards. Rather, we contend that these features emerged to make boards relevant, and

can be explained by the forces of reputational bonding and certification. Funds desire outside certification of quality to attract investors, and professional directors put their own and their firm's reputational capital on the line to make that certification credible. Though the director may be very busy, the upshot is that investors know his prosperity does not depend on pleasing any particular manager that hired him.

One question that our results raise is why we do not observe a similar market for professional corporate directors. Clearly, corporate directors face a wider and more complex set of duties which significantly raises the time costs associated with holding directorships across several firms. Further, hedge funds are likely far more homogenous than corporations, which more easily allows for directors to scale their monitoring technologies and serve on more funds. However, many (e.g., Romano, 2005) have raised significant concerns about establishing true director independence, given that many "independent" directors have a personal interest in retaining their friendly relationship with management. We posit that by serving many masters at once, busy professional directors may be able to more closely represent investor interests in the true spirit of independence.

Appendix

A.1. Offshore jurisdictions and boards of directors

Hedge funds routinely create offshore vehicles for privacy and tax purposes.[1] Managers looking to attract U.S.-based investors will often choose to use a master/feeder structure. A typical structure will consist of three entities: an onshore feeder fund through which U.S. taxable investors can enter the fund; an offshore feeder fund, typically set up as an exempted corporation, through which non-U.S. and U.S. tax-exempt investors can enter the fund; and an offshore master fund through which all trading activity is carried out.

For U.S. tax-exempt investors, the advantage of this approach is avoidance of Unrelated Business Taxable Income (UBTI). Under U.S. tax law, a tax-exempt organization (such as an ERISA-type retirement plan or endowment) that adopts an investment strategy where leverage is used is liable for UBTI. In offshore locales, however, the fund is set up as an exempted corporation rather than pass-through entity, such as a limited partnership. As such, the tax does not pass through to the investor, thus removing the burden on U.S. tax-exempt investors. For non-U.S. based investors, benefits include both possible tax-advantages from the home country, as well as privacy from disclosure laws in the U.S.[2]

Among the hedge funds in our sample, the most common domicile for offshore hedge funds is the Cayman Islands, which accounts for 78% of the sample. The next two largest domiciles are the British Virgin Islands and Bermuda, respectively. Collectively, these three locales account for 89% of the offshore funds in our sample.

[1] Aragon, Liang, and Park (2014) study the differences in regulatory environment and investor clienteles between onshore and offshore funds.

[2] For example, if offshore investors make any investments in U.S. securities, then U.S. withholding tax rules will apply and U.S. paperwork will have to be filled out to claim exemption from U.S. withholding taxes. The investors will have to submit this form, which declares their participation, to U.S. tax authorities. However, if the offshore fund is structured as a corporation, then only the corporate entity will have to submit the paperwork, thus allowing its individual non-U.S. investors to remain anonymous to U.S. tax authorities.

In the Cayman Islands, a fund typically creates a registered mutual fund and is subject to the requirements of the Cayman Islands Mutual Fund Law.[3] These requirements include that the fund appoint at least two directors (in the Cayman Islands the two directors must be natural persons i.e. not a corporate entity) that the Cayman Islands Monetary Authority (CIMA) deems are fit and proper to be directors. Managers or officers of the fund are not precluded from serving as a director. Upon review of CIMA, any director not believed capable of fulfilling her duties may be forced to be replaced or the fund's registration with CIMA may be canceled. Non-CIMA registered funds in the Cayman Islands require only a single director.

Other jurisdictions have similar but not identical regulations regarding directors. In the British Virgin Islands, funds are only required to have one director, and the director does not have to be a natural person. In Bermuda, one director must be a resident of Bermuda.

A.2. Regulation D of the Securities Act of 1933

The Securities Act of 1933 ('33 Act) requires any offer to sell securities to U.S. investors be registered with the SEC. Regulation D of the '33 Act contains exemptions from the registration requirements, allowing companies to offer and sell their securities without having to register with the SEC. Of these exemptions, hedge funds typically rely on Rule 506, which prohibits solicitation or advertising of the securities and requires the securities be offered to accredited investors.[4] In doing so, funds are able to offer an unlimited amount of securities to investors by filing a Form D indicating the sale. In filing the Form D, funds must disclose their

[3]Note that the term mutual fund is generic and is distinct from the typical U.S.-based interpretation of a mutual fund. Further, while funds can avoid registration with CIMA by maintaining 15 or fewer accounts, the majority of whom are capable of appointing or removing the fund's operator, most funds fail to meet this requirement and choose to register. See the 2012 Mutual Fund Law: `http://www.cimoney.com.ky/WorkArea/DownloadAsset.aspx?id=2147483702`

[4]The recently passed 2012 Jobs Act is likely to reduce the limits on advertising and solicitation, although final rules have not been approved by the SEC. For a more complete description of Rule 506, see: `http://www.sec.gov/answers/rule506.htm`.

exemptions that enable them to avoid being defined as an "investment company" under the Investment Company Act of 1940 ('40 Act). Hedge funds primarily rely on two exemptions: Section 3(c)(1) and Section 3(c)(7). Under Section 3(c)(1), the issuer must not have more than 100 investors and must only sell securities to accredited investors.[5] Funds with more than 100 investors must rely on the Section 3(c)(7) exemption which limits the fund to no more than 500 investors and requires the more rigorous qualified purchaser standard.

In March of 2009, the SEC implemented amendments to Reg D, requiring an electronic filing of the form.[6]

For example, the initial Form D filing for Longacre Credit Event Offshore Fund (Longacre) was filed January 8, 2010.[7] From Section 3 of the filing, we identify the three directors of the company David Bree, Ronan Guilfoyle, and Steven Weissman. Bree and Guilfoyle are both employed full-time by DMS Management Ltd, a large, directorship firm located in the Cayman Islands and serve on many boards (we separately examine the role of directorship firms in Section 5). Given that these two directors are employed by an independent third party, we classify them as outside directors. The third director of the fund is Steven Weissman, the co-founder of the adviser, Longacre Management LLC, and thus classified as an inside director.

[5]The accredited investor standard requires natural persons to have a liquid net worth of more than $1 million or income of $200,000 or more in each of the two most recent years or joint income with a spouse of $300,000 over each of the previous two years. The qualified purchaser standard requires a natural person to have more than $5 million in investments or an investment manager to have more than $25 million in assets under management.

[6]More complete analysis of the amended Reg D filing can be found at: `http://www.sec.gov/rules/final/2008/33-8891fr.pdf`) The fund is required to file the notice within 15 days after the first sale of securities, is required to amend the filing when a material change has occurred, and annually thereafter.

[7]`http://www.sec.gov/Archives/edgar/data/1479222/000147922210000001/xslFormDX01/primary_doc.xml`

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Table 1
Hedge Fund Board Structure

We present summary statistics for board structures (Panels A and B) and individual directorships (Panel C) over our sample period of 2009-2013. In Panel A, we report the distribution of board structures. *# Directors* is a count variable for the number of directors on the board. *# Insider* is a count variable for the number of inside directors on the board. *# Outsider* is a count variable for the number of outside directors on the board. In Panel B, we tabulate the frequency of board structures by number of inside and outside directors. In Panel C, we report the number of unique directors and a breakdown of directorships according to affiliation with the adviser (inside versus outside). Within the outside director samples, we separately break down our results for different breakpoints based on the number of funds on which the director serves.

Panel A: Board Structure

	Mean	10^{th}	25^{th}	Median	75^{th}	90^{th}
# Directors	3.1	2.0	2.0	3.0	3.0	5.0
# Insider	1.3	0.0	0.0	1.0	2.0	3.0
# Outsider	1.7	0.0	0.0	2.0	2.0	3.0
Any Outsider	77.8%	0.0%	100.0%	100.0%	100.0%	100.0%

Panel B: Distribution of Board Structures

	Inside Directors				
Outside Directors	0	1	2	3+	All
0	0.0%	6.1%	8.1%	8.0%	22.2%
1	0.7%	4.5%	4.6%	1.7%	11.5%
2	14.2%	25.3%	2.5%	2.6%	44.6%
3+	12.7%	3.9%	3.3%	1.8%	21.7%
All	27.5%	39.8%	18.5%	14.1%	100.0%

Panel C: Director Summary

Inside Director	3,827	44.0%	-
Outside Director	1,573	56.0%	-
– Outside Director serving on [1-3] Funds	1,089	9.1%	16.3%
– Outside Director serving on [4-20] Funds	365	15.3%	27.3%
– Outside Director serving on [21+] Funds	119	31.6%	56.4%

Table 2
Director Level Hiring Determinants

We use a logit model to predict the probability that a hedge fund director is hired in the subsequent quarter. The unit of observation is a director-quarter. The coefficients are presented as odds ratios. *# of Funds* is the number of unique fund boards on which the the director currently serves. *# of Advisers* is the number of unique advisers among fund boards on which the the director currently serves. *Director Return* is the 36 month equal-weighted return of the portfolio of hedge funds for which the director serves on the board. *Any Past Failures* is an indicator variable equal to one if the director sat on a fund that failed, and zero otherwise. To allow for non-linearity in the role that the number of board seats plays in the probability of being hired, we use a piece-wise linear specification in Model 5. *# of Funds–Low (1-20)* is the min(# of Funds, 20). *# of Funds–High (21+)* is the *# of Funds* minus *# of Funds–Low (1-20)*. We include time fixed effects and cluster our standard errors at the director level. ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

	(1) Hired	(2) Hired	(3) Hired	(4) Hired
# of Funds	1.0529***	1.0534***	1.0605***	
	[6.620]	[6.807]	[6.931]	
# of Advisers	1.0602***	1.0564***	1.0594***	
	[2.845]	[2.724]	[2.628]	
Director Return		1.0044***	1.0044***	1.0040***
		[3.487]	[3.459]	[3.357]
Any Past Failure			0.6374***	0.4442***
			[-3.447]	[-6.743]
# of Funds – Low(1-20)				1.1784***
				[20.324]
# of Funds – High(21+)				1.0200***
				[4.779]
Time FE	Yes	Yes	Yes	Yes
Observations	17,340	17,340	17,340	17,340

Table 3
Director Selection and Fund Specific Experience

This table reports coefficient estimates from conditional logit models. The dependent variable is equal to one for the actual director that was hired and zero for the randomly drawn directors that form the control group. To form the random control group, for each hiring decision, we randomly draw 100 (with replacement) directors from the set of all outside directors that were available to be hired at that time. The conditional logit is grouped by hiring decision. *# of Funds* is the number of unique fund boards on which the the director currently serves. *Previous Adviser Relationships* is a count variable of the number of times the director had previously worked for a fund run by the hedge fund adviser. *Experience with Administrator* is an indicator variable equal to one if the director had previously worked for a fund that uses the same administrator as the hiring fund, and zero otherwise. *Experience with Other Service Providers* is an indicator variable equal to one if the director had previously worked for a fund that uses the same law firm, accounting firm, prime broker, or custodian as the hiring fund, and zero otherwise. Our standard errors are clustered at the hiring level. ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)
	Hire	Hire	Hire	Hire
# of Funds	1.1054***	1.0814***	1.1004***	1.0773***
	[46.033]	[33.077]	[45.921]	[28.503]
Previous Adviser Relationships	13.1080***			7.6969***
	[10.545]			[8.203]
Experience with Administrator		4.9207***		2.7089***
		[21.602]		[11.709]
Experience with Other Service Provider		1.9312***		1.4818***
		[11.356]		[6.231]
Director Portfolio Correlation			3.9793***	3.5618***
			[20.329]	[18.295]
Observations	264,216	264,216	264,216	264,216

Table 4
Summary Statistics for Directorship Firms

We present summary statistics for directorship firms over our sample period of 2009-2013. We report the instances of directors working for professional directorship firms and how frequently that director simultaneously works with another director from the same directorship firm on the same hedge fund board. We report our results for the full sample of outside directorships in our sample, as well as for different breakpoints based on the number of funds the director sits on.

	Total seats	# on Directorship Firm	% on Directorship Firm	# with a Teammate	% with a Teammate	% with a Teammate | Directorship Firm = 1
Outside Directorships	114,554	69,532	61%	32,654	29%	47%
– Outside Dir. serving on [1-3] Funds	20,458	3,933	19%	1,361	7%	35%
– Outside Dir. serving on [4-20] Funds	33,889	17,989	53%	6,912	20%	38%
– Outside Dir. serving on [21+] Funds	60,207	47,610	79%	24,381	40%	51%

Table 5
Directorship Firm Hiring Determinants

We use a logit model to predict the probability that a hedge fund director is hired. The unit of observation is a director-quarter. The coefficients are presented as odds ratios. *Directorship Firm* is an indicator variable equal to one if the director works for a directorship firm, and zero otherwise. *# of Funds in Directorship Firm* is a count variable based on the number of directorships held by the directors in the directorship firm. *Top 10 Directorship Firm* is an indicator variable if the directorship firm is ranked in the top 10 based on the number directorships held by the firm. All other variables are defined in Table 2. We include time fixed effects and cluster our standard errors at the director level. ***, **, and *** represent statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)
	Hire	Hire	Hire
Directorship Firm	2.0679***	1.7943***	3.4714***
	[8.985]	[6.754]	[9.240]
# of Funds in Directorship Firm		1.0018***	
		[3.401]	
Top 10 Directorship Firm			1.9248***
			[4.861]
# of Funds	1.0594***	1.0615***	1.0587***
	[7.180]	[7.489]	[7.156]
# of Advisers	1.0385*	1.0289	1.0347*
	[1.847]	[1.401]	[1.698]
Past Failures	0.6186***	0.6171***	0.6301***
	[-3.945]	[-3.985]	[-3.841]
Time Fixed Effects	Yes	Yes	Yes
Observations	17,340	17,340	17,340

Table 6
Professional Directors and Fund Characteristics

We model offshore hedge funds' use of professional directors over the period 2009-2013. The unit of observation is a hedge fund - year. We use a logit model where the dependent variable, Professional Director, takes on a value of one if the fund employs at least one professional director, and zero otherwise. Log Fund Size, Log Fund Age, and Log Minimum Investment are gathered from the Form D. To assess the role of institutional investors, we rely on the fund's Section 3(c)(7) exclusion to the Investment Company Act of 1940 from the Form D filing. *Institutional Clientele* is an indicator variable equal to one if the fund is a 3(c)7 fund, and zero otherwise. From the data reported in the fund's Form ADV, we define *Value Internal* equal to one if the fund values any of its assets internally, and zero otherwise. We define *Manager Co-Investment* equal to one if the manager co-invests any capital in the fund, and zero otherwise. Finally, we gather *Log Withdrawal Frequency*, *Management Fee*, and *Incentive Fee* from the commercial hedge fund databases. Our coefficients are presented as odds ratios, and we include fixed effects for time and style. Further, in Model 2, we include Jurisdiction and Jurisdiction×Time fixed effects to control for levels and changes in offshore jurisdiction regulatory policy, respectively. Our standard errors are clustered at the fund level. ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)
	Professional Director	Professional Director
Log AUM	1.0858***	1.0942***
	[3.159]	[3.373]
Log Age	0.9673	0.9688
	[-0.352]	[-0.330]
Management Fee	1.3912**	1.4575**
	[2.222]	[2.511]
Incentive Fee	1.0179	1.0167
	[1.289]	[1.186]
Institutional Clientele	1.3479**	1.3135**
	[2.266]	[2.045]
Log Minimum Investment	1.0219	1.0224
	[1.533]	[1.532]
Value Internal	1.3308**	1.3491**
	[2.146]	[2.237]
Manager Co-Investment	0.7941*	0.8009*
	[-1.854]	[-1.774]
Log Withdrawal	1.1613*	1.1607*
	[1.861]	[1.814]
Style Fixed Effects	Yes	Yes
Time Fixed Effects	Yes	Yes
Jurisdiction Fixed Effects	-	Yes
Jurisdiction × Time Fixed Effects	-	Yes
Observations	4,061	4,061

Table 7
Flows Around Director Exits

We model the relationship between funds flows and the loss of an outside director over the period 2009-2013. The unit of observation is a hedge fund - quarter. The dependent variable is the funds' quarterly, implied net flow. *Lose Professional Director* takes on a value of one if the fund loses, and is unable to replace, at least one professional director, and zero otherwise. To control for non-linearity in the fund's past performance and flows that may predict future fund outflows, in Model 2 (Model 3), we exclude funds in the bottom quintile of performance (flows) over the previous 12 (3) months. In Model 4, *Replace Professional Director* takes on a value of one if the fund loses, but replaces the professional director, and zero otherwise. We include time, style, and jurisdiction fixed effects. In Model 5, *Lose Non-Professional Director* takes on a value of one if the fund loses and does not replace a director that sits on fewer than 20 boards, and zero otherwise. Our standard errors are clustered at the fund level. ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

	(1)	(2)	(3)	(4)	(5)
	All Funds	Exclude Low Lag Returns	Exclude Low Lag Flows	All Funds	All Funds
Lose Professional Director	-0.0460**	-0.0488**	-0.0547**	-0.0460**	-0.0456**
	[-2.192]	[-2.246]	[-2.332]	[-2.192]	[-2.176]
Lose and Replace Professional				0.0025	
				[0.151]	
Lose Non-Professional					0.0245
					[1.191]
Professional Director	0.0040	0.0021	0.0034	0.0040	-0.0044
	[1.093]	[0.506]	[0.890]	[1.089]	[-0.920]
Performance Rank	0.0059***	0.0062***	0.0062***	0.0059***	0.0059***
	[16.746]	[13.191]	[15.758]	[16.743]	[16.731]
Standard Deviation	-0.0056**	-0.0103***	-0.0071***	-0.0056**	-0.0058**
	[-2.425]	[-3.727]	[-2.956]	[-2.424]	[-2.484]
Flow (lag)	0.0436***	0.0470***	0.0416***	0.0436***	0.0435***
	[13.387]	[13.039]	[10.522]	[13.387]	[13.348]
Log Age	-0.0155***	-0.0165***	-0.0148***	-0.0155***	-0.0156***
	[-5.808]	[-5.368]	[-5.560]	[-5.809]	[-5.840]
Log AUM	-0.0137***	-0.0127***	-0.0114***	-0.0137***	-0.0136***
	[-6.278]	[-5.266]	[-5.240]	[-6.278]	[-6.221]
Log Lockup	0.0001	-0.0002	0.0006	0.0001	-0.0000
	[0.048]	[-0.116]	[0.293]	[0.048]	[-0.023]
Log Withdrawal	-0.0012	-0.0031	-0.0021	-0.0012	-0.0015
	[-0.486]	[-1.062]	[-0.823]	[-0.486]	[-0.608]
Management Fee	0.0032	0.0051**	0.0060***	0.0032	0.0034
	[1.541]	[2.246]	[2.878]	[1.541]	[1.625]
Incentive Fee	-0.0024	-0.0016	-0.0033	-0.0024	-0.0022
	[-0.650]	[-0.430]	[-0.827]	[-0.649]	[-0.588]
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Style Fixed Effects	Yes	Yes	Yes	Yes	Yes
Jurisdiction Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	12,751	10,310	10,373	12,751	12,751