Connections and Conflicts of Interest: Investment Consultants' Recommendations

Shikha Jaiswal[1]

Abstract

Plan sponsors rely on investment consultants' recommendations for hiring money managers to manage their plan funds. Often these investment consultants have their own investment management firms, or have business connections with investment managers, creating a conflict of interest. I find strong evidence that consultants bias hiring decisions towards their connected managers: a direct connection to a consultant increases a manager's odds of being hired by 631%, while an indirect connection increases the odds by 292%. The hiring decisions are less sensitive to past performance and management fee when connected managers are hired. I further find that, post hiring, the funds managed by the connected managers underperform significantly relative to the funds managed by the unconnected managers.

JEL classification: G11, G23

Keywords: Investment managers; Plan sponsor; Investment consultant; Manager selection; Connections; Conflicts of interest

[1]Department of Finance, Goizueta Business School, Emory University, 1300 Clifton Road NE, Atlanta, GA 30322, email: *sjaisw2@emory.edu*.

1. Introduction

In the recent past, there has been a significant increase in the number of plan sponsors and total assets under these plans. These plans include pension plans, endowments, foundations, etc. At the end of 2015, the assets held by US pension plans alone totaled $24 trillion.[1] Past studies have suggested that these plans perform poorly, and various reasons have been offered to explain the underperformance of these funds (Lakonishok, Shleifer, Thaler, and Vishny [1991], Lakonishok, Shleifer, Vishny, Hart, and Perry [1992], Stewart, Neumann, Knittel, and Heisler [2009]). Lakonishok, Shleifer, Thaler, and Vishny [1991] find evidence of window dressing by pension fund managers. Lakonishok, Shleifer, Vishny, Hart, and Perry [1992] find underperformance of pension plans and attribute it to agency issues. Stewart, Neumann, Knittel, and Heisler [2009] find underperformance in the products to which sponsors allocate money. Prior researchers have focused on manager skill and agency issues to explain plan underperformance. To the best of my knowledge, prior researchers have not studied agency issues in manager selection which might affect plan performance. In this paper, I study whether investment consultants, hired by plan sponsors for impartial advice on selection of managers for these plans, bias hiring decisions to favor their connected managers and whether this leads to underperformance in these plans.

There has been limited research on the manager selection process. Parwada and Faff [2005] find that managers are selected from the top-quartile 5-year performance group and that the fees charged by managers negatively affect hiring probability. Consistent with these results, Goyal and Wahal [2008] also find that plan sponsors chase returns. Managers are hired after good performance, but they do not perform well post hiring. The authors also study termination decisions and do not find significant difference in returns for the new

[1] Investment Company Institute 2016 factbook

manager compared to the fired manager, had the plans stayed with the fired manager. My paper adds a new dimension to this area of research: bias in the selection process of managers due to connections.

The process of investment begins with the formation of an investment committee that has the responsibility to invest the plan money efficiently and profitably. The committee decides on the objectives of the plan and the investment strategy to be followed and hires investment managers to manage the fund in accordance with the objectives of the plan. Most committees rely on the expertise of investment consultants not only in forming the objectives and investment strategies of the plan, but also in hiring investment managers to pursue those strategies. Around 70% of public plans and 46% of corporate plans rely on consultants when hiring plan managers.[2] Plan sponsors employ consultants for their expertise in the investment industry as well as to avoid being blamed in case the plan underperforms in the future. Goyal and Wahal [2008] find that headline risk sensitive sponsors are more likely to use consultants.

These investment consultants may be standalone consultants or may have other lines of business such as money management, brokerage and so on. According to the SEC [2005] report, many consultants serve on both sides of the business. For example, an investment consultant who serves a plan sponsor may also have a brokerage business which deals with money managers. Many investment consultants have affiliated broker dealers and hence earn brokerage commissions from money managers. These affiliations and business connections with money managers create a conflict of interest for consultants. Further, the SEC found that consultants rarely disclose their affiliations to their client plan sponsors. Although consultants have a fiduciary responsibility towards their clients and are supposed to work in their clients' best interests, their business connections and affiliations may bias their recommendations to the clients. Instead of recommending the best manager, the consultant

[2]Based on iiSearches data for period 1995-2014.

may have a strong incentive to recommend managers with whom they have a strong business connection.

This paper focuses on consultant recommendations if the consultants themselves or their parent companies have other lines of business that can create a potential conflict of interest. I study manager hiring decisions to investigate whether these decisions were biased in favor of managers who had business connections with the focal consultant. I also study the impact of hiring connected managers on fund performance and disentangle two potential reasons why consultants may bias hiring decisions: (a) having better information about connected managers or (b) favoring connected managers to keep their ongoing business relationships.

With the multitude of services provided by consultant companies to managers, there could be many sources of business ties between a consultant and a manger. I test my hypothesis with two broad connection types: direct connection and indirect connection.[3] I consider a consultant and a manager to be directly connected if they have the same parent company. I consider two types of indirect connections: sub-advisor connection and broker connection.[4] If a consultant has an affiliated manager who is hired by an outside manager as a sub-advisor, then the consultant and the outside manager have a sub-advisor connection. If a consultant has an affiliated brokerage firm that receives brokerage commissions from an outside manager, then the consultant and the outside manager have broker connection. We do not observe the actual recommendations by the consultants to their client plan sponsors, but we do observe the final hiring decisions. Assuming that the hiring decisions are strongly influenced by consultant recommendations, I use hiring decisions as a proxy for consultant recommendations to study whether connections between consultants and managers bias consultant recommendations.

I use the random utility model (by McFadden [1974]) to estimate the influence of business

[3]Detailed explanation of these connection measures is provided in the next section under Business Connection Measures heading.

[4]Figure 1 explains the three connection measures graphically.

connections on hiring decisions when a plan sponsor chooses one manager from multiple candidate choices. I find that business connections strongly positively influence hiring decisions. Further, the probability of being hired is either insensitive or less sensitive to the managers' past performance and to the fee charged by these managers when the managers connected to consultants are hired, relative to the probability of being hired when the unconnected managers are hired. To mitigate the agency issues, the SEC implemented Chief Compliance Officer rule in Oct. 2004 that requires advisors to designate a Chief Compliance Officer and to adopt and maintain policies and procedures that assure compliance to Advisers Act.[5] The Advisers Act requires advisors to disclose all material facts to their clients and provide disinterested advice. Hence, I check whether the SECs Chief Compliance Officer rule was able to deter the consultants from favoring their connected managers. I find that business connections have a strong influence on hiring decisions even during the period 2005-2014. Consultants continue to favor connected managers despite SEC's efforts.

After establishing the influence of connections on hiring decisions, I test the performance of these connected hires relative to the unconnected hires. Connected hires may be beneficial to the plan if the hiring was based on private information about managers' skills, while they are detrimental to the plan if the hiring was based on reciprocity. If the consultants bias hiring decisions to favor their connected managers because they have private information about managers' skills, then the connected hires should outperform the unconnected hires. However, if the influence of connections on hiring decisions is based on reciprocity, then the connected hires should underperform relative to the unconnected hires. I find significant underperformance of connected hirings relative to unconnected hirings, suggesting that consultants compromise on plan performance to favor their connected managers.

Jenkinson, Jones, and Martinez [2015] show that consultant recommendations are mostly

[5]Rule 206(4)-7 under the Advisers Act: "Investment adviser means any person who, for compensation, engages in the business of advising others, either directly or through publications or writings, as to the value of securities or as to the advisability of investing in, purchasing, or selling securities, or who, for compensation and as part of a regular business, issues or promulgates analyses or reports concerning securities."

driven by soft factors and do attract flows for managers, but they fail to find outperformance of the recommended managers compared to the others. My paper provides an explanation as to why the consultant-recommended managers may not outperform the non-recommended managers. I provide evidence that consultant recommendations are biased towards favoring their connected managers. I show that relying solely on investment consultants may not be beneficial since the investment consultants may not have the best interest of investors in mind while making their recommendations for managers.

Since most of the plan sponsors rely on investment consultants, my paper also provides a possible alternative explanation for the poor performance of plans documented by prior studies such as Lakonishok, Shleifer, Vishny, Hart, and Perry [1992] and Stewart, Neumann, Knittel, and Heisler [2009].

My paper also adds to the literature on connections. Prior researchers studying connections find different results for the influence of connections on decisions in different contexts. Many studies find that connections affect decisions. Reuter [2006] studies underwriter-fund ties and finds evidence of preferential IPO allocations. Cohen and Schmidt [2009] find evidence of overweighting 401(k) client firms stocks. Kuhnen [2009] studies sub-advisor and director appointments and finds evidence of preferential hiring based on the intensity of past interactions. Cohen, Frazzini, and Malloy [2008] study social connections and find evidence of information transfer. In contrast to these studies, Davis and Kim [2007] do not find evidence of the dependence of proxy votings on ties when they study the effect of ties between corporations and funds that manage their corporate benefit plans on proxy voting by the funds. I show that connections strongly positively influence hiring decisions and also reduce the sensitivity of hiring probability to important attributes like past performance and fee.

The remainder of this paper is organized as follows: Section 2 explains the connection measures and methodology used to test the bias in hiring decisions. Section 3 details the data sources used and the sample construction. Section 4 discusses the results for bias in

hiring decisions and the impact of connected hiring on post hiring plan performance. Section 5 provides robustness tests and section 6 concludes the paper.

2. Connection Measures and Methodology

2.1. Business Connection Measures

Consultants may be connected to investment managers either directly as affiliates or indirectly through their other lines of business, such as brokerage. Although there could be many sources of business ties between a consultant and a manager, I use three types of connections to test my hypotheses: direct connection, sub-advisor connection and broker connection.[6] Sub-advisor and broker connections, are indirect connections.

An investment consultant may also have a money management firm as its subsidiary or it may be a part of a bigger organization that also has a money management business. For example, Graystone Consulting is a part of Morgan Stanley. Thus, Graystone Consulting and Morgan Stanley Investment Management are connected. I call this type of connection when the consultant and manager belong to the same organization a direct connection. I hypothesize that an investment consultant would recommend a directly connected manager more favorably than other managers, and hence the directly connected manager would have a higher chance of being hired. For example, when Graystone Consulting was working as a consultant to the Boyce Thompson Institute for their plant research plan, it hired Morgan Stanley Investment Management for their Private Equity mandate.

Sub-advisory contracts are profitable for investment managers as they increase the managers' total asset under management and the fee earned, and hence investment managers compete for sub-advisory contracts. An investment manager who receives a sub-advisory

[6]Figure 1 explains the three measures graphically.

contract from another manager might want to return the favor to keep the ongoing relationship. Similar to the direct connection, the second type of connection between a consultant and a manager comes into effect when the consultant or its parent company also have a money management firm. I call this money management firm the consultant's affiliate manager. When an investment consultant *IC*'s affiliated money management firm *AM* is a sub-advisor to funds managed by an outside money management firm *OM*, I call the consultant *IC* and outside manager *OM* to be indirectly sub-advisor connected. A consultant connected to an investment manager through a sub-advisory contract may try to return the favor to the manager by helping the manager get hired for a mandate. Consultant *IC* is sub-advisor connected to a manager *OM* if *IC*'s affiliate manager *AM* is sub-advisor to *OM*'s mutual funds within six months of the mandate search date.

When the consultant or its parent company has a brokerage firm and that brokerage firm earns a commission from an investment manager, the consultant has an incentive to help the manager win a mandate to keep the brokerage relationship ongoing. I recognize this as a second type of indirect connection between the consultant and the manager and name this connection as broker connected. Consultant *IC* is broker connected to a manager *OM* if *IC*'s affiliated broker firm *AB* is one of the highest paid brokers for *OM*'s mutual funds within a six month period of the mandate search date.

2.2. Manager Hiring Decisions

Plan sponsors have investment committees chaired by a Chief Investment Officer who is responsible for investing the plan funds. The investment committee drafts an investment policy for the plan that describes the objectives of the plan sponsor, the asset classes in which it plans to invest and the amount of money to be invested in each asset category. Once the plan policy is created, the plan sponsor places a request for proposals (RFPs) for hiring investment managers. These events of hiring investment managers are usually called

searches. The investment committee shortlists the managers based on their past performance and other attributes. They interview the shortlisted managers and make the final decision on the manger to be hired for the plan. Most of the plan sponsors follow the advice of investment consultants not only in drafting the investment policy but also in the manager hiring process.

Manager hiring decisions involve choosing a manger from a pool of candidate managers based on their performance and other attributes. Hence, I use the random utility model in McFadden [1974] to model the hiring decisions. Specifically, if the plan sponsor i has M_i managers to choose from, the utility that the plan sponsor obtains from choosing manager j is given by

$$y_{ij}^{*} = \alpha + x_{ij}^{'}\beta + \epsilon_{ij} \tag{1}$$

where x_{ij} are the attributes that affect sponsors' utility. y_i is the manager choice that maximizes the sponsors' utility. The probability of choosing manager j is given by

$$P(y_i = j \mid x) = p_{ij} = \frac{exp(x_{ij}^{'}\beta)}{\sum_{q=0}^{M} exp(x_{ij}^{'}\beta)} \tag{2}$$

To estimate the choice model, I match each hiring decision with all the managers the plan sponsor could have hired. For each hiring decision, the list of potential choices includes all the managers that offer a product in the same asset style as the mandate and have at least 15 months of returns during the previous 3 years.[7] Independent variables include manager related variables and consultant manager connection variables.

[7] I require at least 15 non-missing monthly returns for pre-hiring 3-year alpha estimation.

3. Data

For testing my hypotheses, I require information on (a) mandates, (b) the consultant involved in the hiring process, (c) the set of potential candidate managers and their performance and other attributes, (d) measures of connection between consultant involved and candidate managers, and (e) the manager hired for the mandate and their post hiring performance. Since there is no single database that tracks all this information, I use data from multiple sources. Some of these sources are standard while some require manual data collection. I describe these different data sources, collection process, and sample construction below. In this paper I focus on the US active equity mandates.

3.1. Manager Hiring and Consultant data

I obtain mandate and hiring information from iiSearches database for mandates between 1995 to 2014. iiSearches tracks the RFPs for mandates and maintains a database that contains most of the mandates since 1995 by different types of plan sponsors such as pension plans, endowments etc. This database contains information about the plan sponsor, fund size, asset category for the mandate, size of the mandate, consultant used in the hiring process, and the manager hired. It contains the name, address, phone number, and website for both the consultants involved as well as the managers hired. I use this information to match across different data sources. This database has 32,524 completed hiring decisions between 1995 to 2014, out of which 26,777 hiring decisions involved consultants. Of these, 6,433 are for actively managed US equity mandates.

3.2. Connections data

Identifying connections between consultants and managers requires information on the organizational structures of their firms. Data on organization structure comes from multiple sources. For each consultant and manager in the iiSearches database, I hand collected organization structures from Factset and augmented it with other sources: Form ADV from the SEC and broker reports from the Financial Industry Regulatory Authority(FINRA). Investment consultants and managers are required to file form ADV with the SEC. This form contains information on the firm's direct and indirect owners as well as the filer's SEC number, address, phone number, and website. The latest form ADVs filed by consultants and managers are available on the SEC's Investment Adviser Public Disclosure (IAPD) website. I downloaded these form ADVs for all the consultants and managers from the IAPD and parsed them to collect their ownership information and also their address, phone number, and website. FINRA provides broker reports that also contain the direct and indirect owners of the broker and also the broker's address, phone number, and website. The information in these reports comes from the filings by brokers and their registration process with FINRA. I downloaded these broker reports from FINRA's BrokerCheck website and parsed them to collect brokers' ownership information along with their address, phone number, and website. I combine the ownership and identifying information (name, address, phone number, and website) from the three sources to create final organizational structure data. I use this organizational structure data to identify directly connected consultant manager pairs. A consultant is directly connected to a manager if both belong to the same organization. I combine the organizational structure data with sub-advisory and brokerage data, described below, to identify sub-advisor and broker connections between consultants and managers. I use name, address, phone number, and website to match this ownership data with the data from other sources.

Mutual funds are required to file form NSAR with the SEC on semi-annual basis. These

form NSARs, along with other fund related information, also contain information on sub-advisors for the fund and list the ten brokers who received the highest brokerage commissions from the fund during the filing period. The SEC's electronic disclosure system, EDGAR, provides access to electronic filings by firms and funds. I downloaded form NSARs for all of the funds from EDGAR and parsed them to collect sub-advisor and brokerage data. These forms contain fund advisor information, the sub-advisor's name and SEC number, names and IRS numbers for the ten highest paid brokers for the fund, and the brokerage commission paid to each. I combine this data with the organization structure data created above to identify sub-advisor and broker connections.

All the ownership data sources that I used - Factset, Form ADV, and FINRA's broker reports - provide only the latest ownership information. Hence, my organizational structure data does not account for mergers and acquisitions. Using the latest organizational structure may lead to misclassification of connections in cases where a consultant and a manager may appear to be connected now but were probably not connected at the time of hiring or vice versa. Such mis-classifications of connection may only lead to weaker effects of connection in the data. Hence, the actual impact of connections on the hiring decisions may be higher than my data indicates.

3.3. Manager data

I obtain manager related information from eVestment. The eVestment database provides firm and product level information for investment managers and is widely used by investment consultants and plan sponsors for screening managers. For each product offered by a manager, the eVestment database provides firm and product inception date, monthly composite returns, monthly asset under management, etc. It contains data on 23,405 products offered by 2,958 investment management firms. This database does not provide information on the historical fee for the products, but it does provide the latest pro forma fee for each product

for different levels of investment. Jenkinson, Jones, and Martinez [2015] and Busse, Goyal, and Wahal [2010] find very little time series variation in fee using the Informa Investment Solutions database, which provides historical fee. This suggests that the latest product fee can be used as a proxy for the historical fee. These data are self-reported by managers. The database also contains manager address, phone number, and website. I use manager name, address, phone number, and website to match across different data sources. Actual returns earned by plans are not available, as they are proprietary. Hence, as a proxy for the post hiring returns earned by the managers for the mandate they were hired to manage, I use managers' composite returns for the product in the same asset class, size capitalization, and style as the mandate. These composite returns should be very close to the actual plan returns earned by the manager for the mandate and would differ only when the managers were restricted to invest in certain stocks by mandates.

3.4. Sample Construction

For each mandate, we only observe the final hiring decision, and not the plan sponsors' consideration set. To the best of my knowledge, there is no database that tracks the manager hiring process and captures the list of considered or recommended managers. Hence, to model the hiring decision, I assume that all the managers that have a product in the same asset style as the mandate during the hiring period are in the consideration set for the plan sponsor.[8] Hence, in the final data for estimating choice model for hiring decisions, each hiring decision is matched to a list of potential choices, that includes all the managers who offer a product in the same asset style as the mandate and have at least 15 months of returns during the previous 3 years. The hired dummy is the dependent variable for the hiring decision model. It is set to 1 for the manager that was hired and 0 for all the other potential choices.

Some mandates state a very broad asset category, such as US equity, while some are more

[8]By same asset style, I mean same asset class, capitalization, and style.

specific, such as US small cap equity. When the asset class is broader than the manager product classes, I use the sum of assets under management and equal weighted average of returns and fee.[9] For example, if the mandate is US equity and manager returns are available for US equity small cap, US equity mid cap, and US equity large cap products, I use the sum of assets under management and equal weighted average of returns and fees.

Organizational structure data constructed from Factset, form ADV, and FINRA's broker reports helps identify direct connections. I combine the organizational structure data with sub-advisory and brokerage data to identify sub-advisor and broker connections. A consultant manager pair is directly connected if they belong to the same organization. The direct connection dummy is set to 1 for the managers directly connected to the consultant involved in the hiring process and 0 for others. The sub-advisor connection dummy is set to 1 if a consultant's affiliate manager served as a sub-advisor to the candidate manager's funds within six months before or after the mandate date, or else it is set to 0. The broker connection dummy is set to 1 if the consultant's affiliate brokerage firm was one of the highest paid brokers for the candidate manager's funds within six months before or after the mandate date, or else it is set to 0. For the main tests, I use two connection dummies: direct connection and indirect connection. Indirect connection combines sub-advisor connection and broker connection. It equals 1 when either the sub-advisor connection or the broker connection is 1, or else it equals 0. Table 1 provides a description of all the variables used.

3.5. Descriptive Statistics

Table 2 provides summary statistics for the data used. Panel A provides the summary of completed hiring decisions present in the iiSearches database. It contains 32,524 hiring decisions completed between 1995 to 2014. 82% of these hirings involved consultants. 8,944 hiring decisions are for US equity mandates. Panel B provides the summary statistics for

[9] I obtain similar results if I use value weighting instead of equal weighting.

US equity mandates. 7,929 mandates are for active management. For active US equity mandates, the average fund size for decisions involving consultants is 12,628, much lower than the average fund size of 52,978 for the decisions that did not involve consultants. This suggests that bigger funds tend to not involve consultants in the hiring process. This is in line with the findings in Goyal and Wahal [2008]. Panel C provides summary statistics for the main data used for most of the tests. This is the final data obtained after combining mandates data with manager and connections data. Out of 6,433 US equity mandates that involved consultants, I was able to find the hired manager in the eVestment database for 4,529 mandates. These 4,529 mandates account for 79% of the total mandate asset in the sample and hence they should be representative of the population. Hired managers tend to have more assets under management and have higher pre-hiring alpha compared to the ones not hired. On average, each hiring decision has 201 managers to choose from. For 15.5% of the mandates, a manager connected to the consultant was hired, with 3% being directly connected and 12% being indirectly connected. In 4% of the decisions, a sub-advisor connected manger was hired, while in 8% of the decisions the manager had broker connection with the consultant. Before SEC's Chief Compliance Officer rule (i.e., in the period 1995 to 2004), 18% of the hired managers were connected to the consultant. After the Chief Compliance Officer rule, the connected hiring rate did reduce to 11%.

4. Results

4.1. Manager Hiring Decision

I model the hiring decision by estimating a conditional logit model with a hired dummy as the dependent variable and manager attributes and consultant-manager connection measures as independent variables. I test five different model specifications.[10] Refer to Table 3 for the

[10]In all the specifications, standard errors are corrected for clustering by plan sponsor

results.

Model 1 is the base model for estimating the probability of a manager being hired. Independent variables include manager attributes: last three year four-factor alpha, fee, one year return standard deviation, log of firm asset under management (AUM), percentage of AUM in the mandate asset category, and firm age.[11] In the later specifications, I add my variables of interest (connection variables). As we would expect, the probability of being hired is positively related to past performance and negatively related to manager fee. High volatility of past returns also reduces the probability of being hired. Larger firms have a higher chance of winning the mandate, and having a greater fraction of the AUM in the mandate asset category also increases the probability of being hired. Also, younger firms have higher chance of being hired.

In model 2, I add a connection dummy which equals 1 if the consultant and candidate manager are connected either directly or indirectly, or else it is 0. This connection dummy is strongly positively related to the probability of being hired, suggesting that being connected to the consultant significantly increases the chances of being hired. Having a connection to the consultant increases a managers' odds of being hired by 371%.

In model 3, I test if the sensitivity of hiring decision to past performance and fee differs for the mandates where a connected manager is hired. I add interactions between the connection dummy and alpha, and between connection dummy and fee. The interaction term between the connection dummy and alpha is negative and significant, suggesting that the hiring decisions are less sensitive to managers' past performance when a manager is connected to the consultant.

In model 4, I split the connection dummy into two dummies, a direct connection dummy and an indirect connection dummy, to separately identify the effects of direct and indirect

[11] I thank Ken French for providing the factors on his website. Similar results using Fama French 3 factor risk adjustment.

consultant-manager connections on hiring decisions. As we observe, both the connection dummies are positive and significant. A direct (indirect) connection to the consultant increases a manager's odds of being hired by 631% (292%).

In model 5, I add interaction terms between connection dummies (both direct and indirect) and alpha and fee. Results suggest that the hiring decision is less sensitive to past performance when a manager is either directly or indirectly connected to the consultant. We further observe that the sensitivity is lower for direct connections compared to indirect connections.

To investigate the differences in the sensitivity of hiring decisions to past performance and fee when a connected manager was hired compared to when an unconnected manager was hired, I test the base model 1 separately on the decisions when connected managers were hired. The results are provided in Table 4. The first column provides the sensitivities for decisions when unconnected managers were hired. As we observed earlier, the probability of being hired is strongly positively related to alpha and negatively related to fee. The second column provides results for decisions when directly connected managers were hired. Here, we observe that both alpha and fee do not have any significant impact on the probability of being hired, suggesting that consultants do not consider past performance and fee when recommending sponsors to hire directly connected managers. The third column provides the sensitivities for decisions where indirectly connected managers were hired. The hiring probability is less sensitive to alpha and fee compared to the unconnected hiring decisions. Hence, when indirectly connected managers are hired, fee and past performance are not given as much importance as they are when hiring unconnected managers.

Hence, we observe that connections strongly positively influence hiring decisions and that when connected managers are hired, hiring decisions are either insensitive or less sensitive to past performance and fee.

4.2. Post Hiring Performance

After establishing the bias in hiring decisions by consultants to favor connected managers, I test for the performance of these connected managers post-hiring. Connected hires may be beneficial for the plan if they are information driven. If the consultants bias hiring decisions in favor of their connected managers because they have private information about their skills, the connected hires should outperform the unconnected hires. However, if the influence of connections on hiring decisions is due to reciprocity, hiring connected managers may be detrimental to the plan because connected hires may underperform relative to unconnected hires.

To compare the performance of connected hires to unconnected hires, I regress post hiring four-factor alpha on connection dummies and other independent variables.[12] The results are provided in Table 5.[13] Model 1 is the base model. Post-hiring alpha is significantly negatively related to pre-hiring performance. This is consistent with the findings in Goyal and Wahal [2008]. Post-hiring performance is positively related to managers' AUM, suggesting economies of scale. It is also positively related to manager expertise in the mandate asset class, measured by the percentage of manager AUM in the mandate asset class. In Model 2, I add the connection dummy (which includes both direct and indirect connections) to test the impact of connection on post hiring performance. The connection dummy is significantly negatively related to performance, suggesting connected hires underperform relative to unconnected hires. In Model 3, I split the connection dummy into two separate dummies for direct and indirect connections. We observe that post-hiring, indirectly connected managers underperform relative to unconnected managers. Indirectly connected hires earn 0.45% lower alpha compared to unconnected hires. However, hiring directly connected managers does not

[12]Post-hiring alpha is estimated using monthly returns over three years period after hiring.

[13]All the model specifications control for year fixed effects and standard errors are corrected for clustering in observations when a manager is hired for a madate in the same asset class. I get the same results when standard errors are corrected for clustering in observations for the same manager.

lead to underperformance, possibly because the consultants hired their direct connections only when they were at least as good as the unconnected options. They may do so to avoid raising questions of favoring their own managers in case of future underperformance by the connected hires and thus risking their credibility. Consultants' direct connections can be easily traced and there is also a good chance that the sponsor might be aware of these connections. The underperformance of indirectly connected hires suggest that consultants bias their decisions to favor connected managers to the keep business relationships ongoing.

4.3. The Effect of Chief Compliance Rule

The SEC implemented Chief Compliance Officer rule in Oct 2004 that requires advisors to designate a Chief Compliance Officer and to adopt and maintain policies and procedures that assure compliance to the Advisers Act. The Advisers Act requires advisors to disclose all material facts to their clients and provide disinterested advice. I verify if biases in hiring decisions still exist after 2004. I redo the tests in Tables 3, 4, and 5 for the sample period 2005 to 2014. The results are provided in Tables 6, 7, and 8. The results are similar to what I obtained for the full sample in Tables 3, 4, and 5. Again, the results suggest that connections strongly positively influence hiring decisions and that when a connected manager is hired, the hiring decision is either insensitive or less sensitive to past performance and fee. Also, indirectly connected hires significantly underperform relative to unconnected hires, with the four-factor alpha being lower by 0.72%. Hence, the manager hiring decisions are still biased and detrimental for plans even after the Chief Compliance Officer rule.

4.4. Hiring Decision and Post Hiring Performance: By Indirect Connection Types

A direct connection between a consultant and a manager is easier to identify compared to an indirect connection, and hence it likely deters consultants from recommending directly connected managers whom they do not expect to perform well in the future. In this subsection, I separate the indirect connections into sub-advisor and broker connections to see how these different types of connections impact hiring decisions. The results are presented in Table 9. In Model 2, all three connection dummies are positive and strongly significant. While a direct or sub-advisor connection to the consultant increases a manager's odds of being hired by 619%, having a broker connection to the consultant increases the odds by 180%. Direct and sub-advisor connections have a much stronger effect than broker connections.

In model 3, I add the interaction terms between connection dummies (direct, sub-advisor and broker) and alpha and fee. Results suggest that for all the three connection types the hiring decision is less sensitive to past performance when a manager has business connections with the consultant involved, the sensitivity being lowest for direct connections. Also, for broker connected managers, the hiring decision is insensitive to the fee.

Table 10 provides the results for post-hiring performance. I regress post hiring four-factor alpha on connection dummies and other independent variables. Connected hires underperform significantly and most of this underperformance comes from the sub-advisor connected hires. Broker connected hires also underperform, but the performance difference relative to unconnected hires is insignificant. Sub-advisor connected hires earn 0.55% lower alpha compared to the unconnected hires.

5. Robustness Test

For my main test, to estimate the bias in hiring decisions caused by consultant-manager connections, I allow plan sponsors to choose from all the managers that have a product in the mandate asset category and have at least 15 months of non-missing returns during the 3 year period prior to the hire. This results in a large number of potential choices for the sponsor, sometimes as many as 2000 managers. This likely includes some managers who were not considered for the position, thereby increasing the total number of observations and reducing standard errors. As a robustness test, I restrict the number of managers that the plan sponsor chooses from, to 30. I create propensity scores for all the managers in the original dataset based on the base model 1 in table 3. For each hiring decision, I pick up to 30 managers with a propensity score closest to the hired manager. With this new data, I redo the tests in Tables 3 and 4. The results are provided in Tables 11 and 12. As we can see, these results are very similar to Tables 3 and 4. A connection to the consultant considerably increases a manager's probability of being hired. Connections also reduce the sensitivity of hiring decision to past performance and fee.

6. Conclusion

Plan sponsors have the responsibility to invest plan funds efficiently. They draft fund objectives and investment strategy and hire investment managers to manage these funds. Most of the plans rely on investment consultants' expertise while selecting the manager to manage plan funds. Although these investment consultants are expected to work in the best interest of the plan, helping to devise an efficient investment strategy, and recommending the best manager to execute that strategy, the consultants may have other hidden interests. Often, investment consultants have their own investment management firms, or have business connections with other investment managers, creating a conflict of interest. Such consultants

who are connected to managers have a strong incentive to bias the hiring decision to favor their related manager. I study the hiring decisions from 1995-2014 and find strong positive influence of connections on hiring decisions. A direct connection to the consultant increases the odds of a manager being hired by more than 600%. Also, when connected managers are hired, the hiring decisions are either insensitive or less sensitive to past performance and fee. Post-hiring, I also find that indirectly connected hires underperform compared to unconnected hires, with a 0.72% lower four-factor alpha annually, suggesting that these biases in hiring decisions are reciprocity driven and detrimental to the plan. Even after SEC's Chief Compliance Officer ruling in 2004, although the percentage of connected hires reduced from 18% to 11%, I still find strong results that consultants favor connected managers, compromising fund performance and suggesting potential conflicts of interest for consultants.

References

J. A. Busse, A. Goyal, and S. Wahal. Performance and persistence in institutional investment management. *The Journal of Finance*, 65(2):765–790, 2010.

L. Cohen and B. Schmidt. Attracting flows by attracting big clients. *The Journal of Finance*, 64(5):2125–2151, 2009. ISSN 0022-1082.

L. Cohen, A. Frazzini, and C. Malloy. The small world of investing: Board connections and mutual fund returns. *Journal of Political Economy*, 116(5):951–979, 2008. ISSN 0022-3808.

G. F. Davis and E. H. Kim. Business ties and proxy voting by mutual funds. *Journal of Financial Economics*, 85(2):552–570, 2007. ISSN 0304-405X.

A. Goyal and S. Wahal. The selection and termination of investment management firms by plan sponsors. *The Journal of Finance*, 63(4):1805–1847, 2008.

T. Jenkinson, H. Jones, and J. V. Martinez. Picking winners? investment consultants' recommendations of fund managers. *The Journal of Finance*, 2015.

C. M. Kuhnen. Business networks, corporate governance, and contracting in the mutual fund industry. *The Journal of Finance*, 64(5):2185–2220, 2009.

J. Lakonishok, A. Shleifer, R. Thaler, and R. Vishny. Window dressing by pension fund managers. *American Economic Review*, 81:227–231, 1991.

J. Lakonishok, A. Shleifer, R. W. Vishny, O. Hart, and G. L. Perry. The structure and performance of the money management industry. *Brookings Papers on Economic Activity. Microeconomics*, 1992:339–391, 1992. ISSN 1057-8641.

D. McFadden. Conditional logit analysis of qualitative choice behavior. *Frontiers in Econometrics*, pages 105–142, 1974.

J. T. Parwada and R. W. Faff. Pension plan investment management mandates: An empirical analysis of manager selection. *Journal of Financial Services Research*, 27(1):77–98, 2005. ISSN 0920-8550, 1573-0735.

J. Reuter. Are ipo allocations for sale? evidence from mutual funds. *The Journal of Finance*, 61(5):2289–2324, 2006. ISSN 1540-6261.

U. S. SEC. Staff report concerning examinations of select pension consultants. 2005.

S. D. Stewart, J. J. Neumann, C. R. Knittel, and J. Heisler. Absence of value: An analysis of investment allocation decisions by institutional plan sponsors. *Financial Analysts Journal*, 65(6):34–51, 2009. ISSN 0015-198X.

Figure 1: Connection Measures

This figure explains the three measures of Connection used: Direct Connection, Sub-advisor Connection and Broker Connection. Investment consultant *IC* is Directly Connected to it's affiliated money management firm *AM*. Investment consultant *IC* is Sub-advisor Connected to an outside money management firm *OM* if *IC*'s affiliated money management firm *AM* is a sub-advisor to funds managed *OM*. Investment consultant *IC* is Broker Connected to an outside money management firm *OM* if *IC*'s affiliated brokerage firm *AB* earns brokerage commission from the funds managed *OM*.

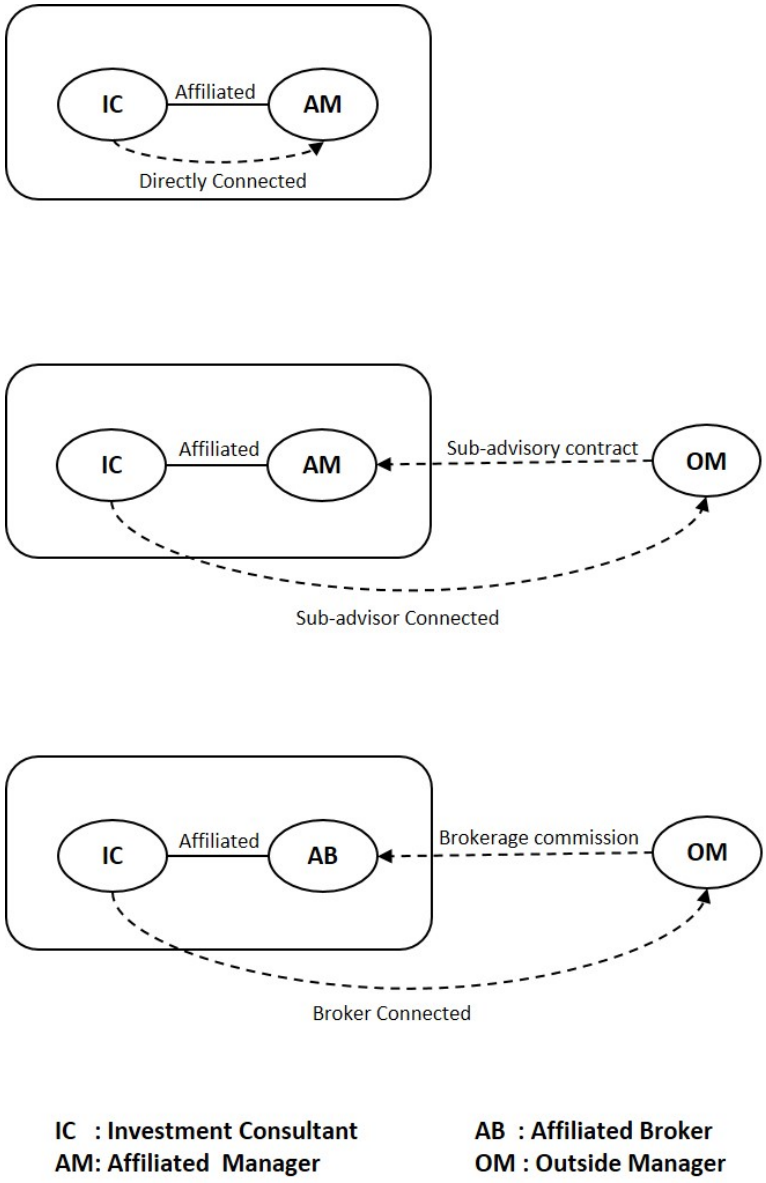

Table 1: Variable Description

Variable	Description
Alpha (t-1)	3-year Four-factor alpha (using monthly returns)
Fee($100M)	Manager Proforma fee for $100M investment level
Return std 1yr (t-1)	1-year standard deviation (using monthly returns)
Log Firm Size	Log of firm asset under management
%AUM in Mandate Asset style	Percent of manager asset under management in the same asset style as mandate
Manager age	Years since inception of Investment management firm
Direct Connection	Equals 1 if consultant-manager pair is directly connected, else 0. A consultant and manager pair is directly connected if they belong to the same organization.
Sub-advisor Connection	Equals 1 if consultant-manager pair is sub-advisor connected, else 0. If the consultant has an affiliated manager, who is hired by an outside manager as a sub-advisor within 6 months before or after the mandate date, then the consultant and the outside manager have sub-advisor connection.
Broker Connection	Equals 1 if consultant-manager pair is broker connected, else 0. If the consultant has an affiliated brokerage firm that received high brokerage commissions from an outside manager within 6 months before or after the mandate date then the consultant and the outside manager have broker connection.
Indirect Connection	Equals 1 when consultant-manager pair is either sub-advisor or broker connected, else 0.
Connection	Equals 1 when consultant-manager pair is either directly or sub-advisor or broker connected, else 0.

Table 2: Descriptive Statistics

Panel A and B: Based on iiSearches database 1995-2014. Total number of hiring decisions, hiring decisions that used consultant, average mandate size and average fund size. Panel C: Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment.

Panel A: All Mandates

Mandate Region	Asset Class	Hiring Decision	Used Consultant	Average Mandate size($M)	Average Fund size($M)
US	Alternatives	4,196	3,958	143	54,214
US	Balanced/Multi-Asset	3,953	2,193	219	8,577
US	Equity	8,944	7,245	153	19,018
US	Fixed Income	3,825	3,042	296	14,891
US	Hedge Funds	1,430	1,335	142	28,931
US	Real Estate	2,600	2,469	119	34,804
International	Alternatives	1,504	1,380	142	65,260
International	Balanced/Multi-Asset	552	415	968	30,481
International	Equity	4,013	3,368	247	31,524
International	Fixed Income	665	581	306	29,965
International	Hedge Funds	440	407	154	47,529
International	Real Estate	402	384	114	58,886

Panel B: US Equity Mandates

	Used Consultant			Did not use Consultant		
Strategy	Hiring Decision	Average Mandate size($M)	Average Fund size($M)	Hiring Decision	Average Mandate size($M)	Average Fund size($M)
Active	6,433	108	12,628	1,496	178	52,978
Passive	733	429	12,869	190	250	13,406

Panel C: Mandate-Manager Matched data

	Hired		Not Hired	
Vari-able	Mean	Std dev	Mean	Std dev
Consultant - Manager connection	0.155	0.362	0.049	0.216
Direct Connection	0.034	0.182	0.004	0.064
Inirect Connection	0.120	0.325	0.045	0.207
Sub-advisor Connection	0.042	0.202	0.007	0.086
Broker Connection	0.078	0.268	0.037	0.189
Manager AUM ($M)	85,429	168,865	48,384	130,533
% AUM in mandate asset class	35%	33%	38%	37%
Alpha - 3 year pre hiring	0.27%	0.44%	0.13%	0.43%
Standard deviation of returns	0.05	0.02	0.05	0.02
Manager age - years since inception	28.89	23.18	23.24	21.42
Manager Fee - $100M (BP)	66.51	18.74	67.91	20.20
Candidates for hiring			201	

Table 3: Manager Hiring Decision

Conditional logit model to estimate the effect of connections on hiring decisions. Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment. Time period: 1995-2014. Standard errors are corrected for clustering in observations for the same fund. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Model 1	Model 2	Model 3	Model 4	Model 5
Alpha(t-1)	0.863***	0.865***	0.955***	0.867***	0.955***
	(16.19)	(15.99)	(19.13)	(16.06)	(19.16)
Fee($100M)	-0.00967***	-0.0101***	-0.0104***	-0.0101***	-0.0105***
	(-6.60)	(-6.88)	(-6.81)	(-6.82)	(-6.88)
Return std 1yr(t-1)	-8.580***	-8.533***	-8.662***	-8.668***	-8.754***
	(-5.03)	(-4.86)	(-5.09)	(-4.93)	(-5.14)
Log Firm Size	0.319***	0.299***	0.300***	0.299***	0.300***
	(29.01)	(27.12)	(27.23)	(27.08)	(27.18)
%AUM in Mandate Asset Class	1.738***	1.740***	1.740***	1.744***	1.745***
	(27.65)	(27.38)	(27.35)	(27.41)	(27.37)
Years since Firm Inception	-0.00237**	-0.00255***	-0.00254***	-0.00253***	-0.00256***
	(-2.47)	(-2.63)	(-2.64)	(-2.60)	(-2.65)
Connection		1.550***	1.593***		
		(14.34)	(6.14)		
Connection*Alpha(t-1)			-0.515***		
			(-3.93)		
Connection*Fee($100M)			0.00137		
			(0.39)		
Direct Connection				1.989***	2.404***
				(14.95)	(4.91)
Indirect Connection				1.367***	1.264***
				(10.98)	(4.28)
Direct Connection*Alpha(t-1)					-0.636***
					(-3.45)
Indirect Connection*Alpha(t-1)					-0.476***
					(-3.20)
Direct Connection*Fee($100M)					-0.00430
					(-0.55)
Indirect Connection*Fee($100M)					0.00348
					(0.92)
Observations	690,664	690,664	690,664	690,664	690,664
Pseudo R^2	0.053	0.063	0.064	0.064	0.065

Table 4: Drivers of Hiring Decision when Connected Managers are Hired

Conditional logit model to estimate the drivers of hiring decisions. Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment. First column presents the results for mandates where unconnected manager was hired. Second column presents results for mandates where directly connected manager was hired. Third column presents results for mandates where indirectly connected manager was hired. Time period: 1995-2014. Standard errors are corrected for clustering in observations for the same fund. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Hired Unconnected	Hired Direct Connection	Hired Indirect Connection
Alpha(t-1)	0.962***	0.143	0.419***
	(18.66)	(0.58)	(2.66)
Fee($100M)	-0.0103***	-0.00466	-0.00696*
	(-6.60)	(-0.68)	(-1.77)
Return std 1yr(t-1)	-9.420***	-1.947	-4.894
	(-5.12)	(-0.20)	(-1.01)
Log Firm Size	0.313***	0.429***	0.355***
	(26.73)	(7.93)	(11.72)
%AUM in Mandate Asset Class	1.751***	0.929***	1.875***
	(26.12)	(2.79)	(10.70)
Manager age	-0.00315***	-0.00862**	0.00457**
	(-2.94)	(-2.02)	(1.99)
Observations	600,817	20,273	69,574
Pseudo R^2	0.053	0.069	0.064

Table 5: Post Hiring Performance

OLS regression of 3 year post hiring alpha on connection dummies and other controls to test the difference in performance of connected hirings compared to unconnected. Time period: 1995-2011. Standard errors are corrected for clustering in observations when a manager is hired for same asset style mandate. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Model 1	Model 2	Model 3
Pre-hiring Alpha	-6.4004**	-6.4858***	-6.4578***
	(-2.56)	(-2.60)	(-2.59)
Log Firm AUM	0.0240***	0.0243***	0.0242***
	(3.90)	(3.95)	(3.91)
%AUM in Mandate Asset Class	0.0671*	0.0665*	0.0668*
	(1.80)	(1.78)	(1.78)
Fee($100M)	0.0007	0.0007	0.0007
	(1.26)	(1.24)	(1.26)
Manager age	0.0001	0.0001	0.0001
	(0.29)	(0.34)	(0.37)
Connection		-0.0294*	
		(-1.90)	
Direct Connection			0.0027
			(0.09)
Indirect Connection			-0.0376**
			(-2.17)
Log Fund Size	-0.0013	-0.0018	-0.0018
	(-0.47)	(-0.64)	(-0.63)
Corporate Plan Indicator	0.0074	0.0074	0.0075
	(0.40)	(0.40)	(0.40)
Public Plan Indicator	-0.0159	-0.0158	-0.0157
	(-0.91)	(-0.90)	(-0.90)
Defined Benefit Plan Indicator	0.0070	0.0075	0.0075
	(0.47)	(0.49)	(0.50)
Constant	-0.2997***	-0.2912***	-0.2904***
	(-3.04)	(-2.94)	(-2.93)
Observations	3,626	3,626	3,626
R^2	0.168	0.169	0.169

Table 6: Manager Hiring Decision - After Chief Compliance Officer rule

Conditional logit model to estimate the effect of connections on hiring decisions. Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment. Time period: 2005-2014. Standard errors are corrected for clustering in observations for the same fund. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Model 1	Model 2	Model 3	Model 4	Model 5
Alpha(t-1)	1.4803***	1.4720***	1.5432***	1.4783***	1.5438***
	(15.68)	(15.59)	(16.34)	(15.58)	(16.31)
Fee($100M)	-0.0114***	-0.0118***	-0.0124***	-0.0117***	-0.0123***
	(-5.77)	(-5.98)	(-6.05)	(-5.92)	(-6.00)
Return std 1yr(t-1)	-6.7439**	-6.9780**	-7.0802**	-7.0708**	-7.1525**
	(-2.13)	(-2.19)	(-2.22)	(-2.22)	(-2.24)
Log Firm Size	0.3443***	0.3286***	0.3291***	0.3282***	0.3287***
	(22.18)	(21.36)	(21.44)	(21.32)	(21.40)
%AUM in Mandate Asset Class	1.8430***	1.8382***	1.8404***	1.8390***	1.8401***
	(20.07)	(20.01)	(20.02)	(19.97)	(19.98)
Years since Firm Inception	-0.0045***	-0.0047***	-0.0047***	-0.0047***	-0.0047***
	(-3.13)	(-3.30)	(-3.32)	(-3.26)	(-3.25)
Connection		1.5988***	1.3395***		
		(8.24)	(3.12)		
Connection*Alpha(t-1)			-0.8232**		
			(-2.46)		
Connection*Fee($100M)			0.0055		
			(0.93)		
Direct Connection				2.1802***	1.3654*
				(10.93)	(1.81)
Indirect Connection				1.3518***	1.2017**
				(6.09)	(2.52)
Direct Connection*Alpha(t-1)					-1.1790*
					(-1.81)
Indirect Connection*Alpha(t-1)					-0.6667*
					(-1.70)
Direct Connection*Fee($100M)					0.0142
					(1.24)
Indirect Connection*Fee($100M)					0.0034
					(0.51)
Observations	494,007	494,007	494,007	494,007	494007
Pseudo R^2	0.059	0.067	0.068	0.068	0.069

Table 7: Drivers of Hiring Decision when Connected Managers are Hired - After Chief Compliance Officer rule

Conditional logit model to estimate the drivers of hiring decisions. Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment. First column presents the results for mandates where unconnected manager was hired. Second column presents results for mandates where directly connected manager was hired. Third column presents results for mandates where indirectly connected manager was hired. Time period: 2005-2014. Standard errors are corrected for clustering in observations for the same fund. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Hired Unconnected	Hired Direct Connection	Hired Indirect Connection
Alpha(t-1)	1.565***	0.0355	0.889**
	(16.50)	(0.06)	(2.30)
Fee($100M)	-0.0121***	0.000966	-0.00801
	(-5.86)	(0.10)	(-1.20)
Return std 1yr(t-1)	-7.262**	-7.087	-3.535
	(-2.15)	(-0.25)	(-0.33)
Log Firm Size	0.336***	0.465***	0.407***
	(20.65)	(6.21)	(8.08)
%AUM in Mandate Asset Class	1.849***	1.598***	1.907***
	(18.73)	(3.18)	(6.53)
Manager Age	-0.00449***	-0.0243***	0.000284
	(-2.90)	(-2.91)	(0.08)
Observations	436,310	12,660	45,037
Pseudo R^2	0.060	0.068	0.067

Table 8: Post Hiring Performance - After Chief Compliance Officer rule

OLS regression of 3 year post hiring alpha on connection dummies and other controls to test the difference in performance of connected hirings compared to unconnected. Time period: 2005-2011. Standard errors are corrected for clustering in observations when a manager is hired for same asset style mandate. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Model 1	Model 2	Model 3
Pre-hiring Alpha	6.7185*	6.4829*	6.4437*
	(1.85)	(1.80)	(1.81)
Log Firm AUM	0.0149***	0.0150***	0.0150***
	(2.73)	(2.76)	(2.90)
%AUM in Mandate Asset Class	0.0433	0.0418	0.0440
	(1.37)	(1.33)	(1.44)
Fee($100M)	0.0009	0.0009	0.0008
	(1.48)	(1.49)	(1.48)
Manager age	-0.0000	-0.0000	0.0000
	(-0.05)	(-0.07)	(0.07)
Connection		-0.0309	
		(-1.26)	
Direct Connection			0.0671
			(1.44)
Indirect Connection			-0.0597**
			(-2.18)
Log Fund Size	-0.0015	-0.0022	-0.0024
	(-0.51)	(-0.71)	(-0.80)
Corporate Plan Indicator	-0.0545**	-0.0562**	-0.0578**
	(-2.32)	(-2.40)	(-2.50)
Public Plan Indicator	-0.0432**	-0.0439**	-0.0429**
	(-1.99)	(-2.03)	(-1.98)
Defined Benefit Plan Indicator	-0.0209	-0.0214	-0.0201
	(-1.06)	(-1.08)	(-1.05)
Constant	-0.1831**	-0.1747*	-0.1775**
	(-2.07)	(-1.96)	(-2.11)
Observations	1,325	1,325	1,325
R^2	0.044	0.046	0.052

Table 9: Manager Hiring Decision - By Indirect Connection types

Conditional logit model to estimate the effect of connections on hiring decisions. Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment. Time period: 1995-2014. Standard errors are corrected for clustering in observations for the same fund. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Model 1	Model 2	Model 3
Alpha(t-1)	0.8626***	0.8665***	0.9478***
	(16.19)	(16.16)	(19.12)
Fee($100M)	-0.0097***	-0.0100***	-0.0105***
	(-6.60)	(-6.76)	(-6.91)
Return std 1yr(t-1)	-8.5801***	-8.6047***	-8.7333***
	(-5.03)	(-4.92)	(-5.14)
Log Firm Size	0.3194***	0.2963***	0.2978***
	(29.01)	(26.81)	(26.92)
%AUM in Mandate Asset Class	1.7379***	1.7471***	1.7470***
	(27.65)	(27.39)	(27.32)
Years since Firm Inception	-0.0024**	-0.0026***	-0.0026***
	(-2.47)	(-2.71)	(-2.73)
Direct Connection		1.9726***	2.3290***
		(14.93)	(4.81)
Subadvisor Connection		1.9729***	2.2048***
		(12.42)	(5.98)
Broker Connection		1.0173***	0.5757*
		(8.41)	(1.65)
Direct Connection*Alpha(t-1)			-0.6201***
			(-3.40)
Subadvisor Connection*Alpha(t-1)			-0.5978*
			(-1.76)
Broker Connection*Alpha(t-1)			-0.3998**
			(-2.45)
Direct Connection*Fee($100M)			-0.0035
			(-0.45)
Subadvisor Connection*Fee($100M)			-0.0018
			(-0.32)
Broker Connection*Fee($100M)			0.0084*
			(1.82)
Observations	690,664	690,664	690,664
Pseudo R^2	0.053	0.066	0.067

Table 10: Post Hiring Performance - By Indirect Connection types

OLS regression of 3 year post hiring alpha on connection dummies and other controls to test the difference in performance of connected hirings compared to unconnected. Time period: 1995-2011. Standard errors are corrected for clustering in observations when a manager is hired for same asset style mandate. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Model 1	Model 2
Pre-hiring Alpha	-6.4858***	-6.4517***
	(-2.60)	(-2.58)
Log Firm AUM	0.0243***	0.0242***
	(3.95)	(3.91)
%AUM in Mandate Asset Class	0.0665*	0.0668*
	(1.78)	(1.78)
Fee($100M)	0.0007	0.0007
	(1.24)	(1.25)
Manager age	0.0001	0.0001
	(0.34)	(0.36)
Connection	-0.0294*	
	(-1.90)	
Direct Connection		0.0026
		(0.09)
Sub-advisor Connection		-0.0456**
		(-2.07)
Broker Connection		-0.0334
		(-1.42)
Log Fund Size	-0.0018	-0.0018
	(-0.64)	(-0.62)
Corporate Plan Indicator	0.0074	0.0075
	(0.40)	(0.40)
Public Plan Indicator	-0.0158	-0.0159
	(-0.90)	(-0.91)
Defined Benefit Plan Indicator	0.0075	0.0074
	(0.49)	(0.49)
Constant	-0.2912***	-0.2906***
	(-2.94)	(-2.93)
Observations	3,626	3,626
R^2	0.169	0.169

Table 11: Manager Hiring Decision - Restricting the number of Candidates

Conditional logit model to estimate the effect of connections on hiring decisions. Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment. With this data I generate propensity scores for managers based on Model 1 in table 3 and for each mandate I keep only up to 30 managers having propensity score closest to the hired manager. Time period: 1995-2014. Standard errors are corrected for clustering in observations for the same fund. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Model 1	Model 2	Model 3	Model 4	Model 5
Alpha(t-1)	1.6209***	1.6264***	1.6970***	1.6351***	1.7002***
	(11.45)	(11.32)	(13.59)	(11.35)	(13.65)
Fee($100M)	-0.0176***	-0.0179***	-0.0183***	-0.0179***	-0.0184***
	(-9.33)	(-9.39)	(-9.67)	(-9.38)	(-9.76)
Return std 1yr(t-1)	-15.7386***	-15.4694***	-15.6251***	-15.6894***	-15.8329***
	(-7.01)	(-6.76)	(-6.99)	(-6.85)	(-7.10)
Log Firm Size	0.5395***	0.5170***	0.5204***	0.5168***	0.5203***
	(13.56)	(12.85)	(13.38)	(12.84)	(13.37)
%AUM in Mandate Asset Class	2.9770***	2.9622***	2.9785***	2.9668***	2.9837***
	(14.07)	(13.80)	(14.29)	(13.81)	(14.32)
Years since Firm Inception	-0.0041***	-0.0042***	-0.0042***	-0.0042***	-0.0042***
	(-4.13)	(-4.18)	(-4.21)	(-4.16)	(-4.19)
Connection		1.5311***	1.5106***		
		(14.88)	(5.81)		
Connection*Alpha(t-1)			-0.4887*		
			(-1.76)		
Connection*Fee($100M)			0.0018		
			(0.51)		
Direct Connection				2.0711***	2.3505***
				(15.63)	(4.72)
Indirect Connection				1.3318***	1.2005***
				(11.49)	(4.16)
Direct Connection*Alpha(t-1)					-0.3287
					(-0.93)
Indirect Connection*Alpha(t-1)					-0.4881
					(-1.52)
Direct Connection*Fee($100M)					-0.0037
					(-0.47)
Indirect Connection*Fee($100M)					0.0037
					(0.93)
Observations	94,582	94,582	94,582	94,582	94,582
Pseudo R^2	0.032	0.046	0.047	0.047	0.048

Table 12: Drivers of Hiring Decision when Connected Managers are Hired - Restricting the number of Candidates

Conditional logit model to estimate the effect of connections on hiring decisions. Each active US equity mandate hiring decision from iiSearches matched to all managers with a product in the mandate asset style available in eVestment. With this data I generate propensity scores for managers based on Model 1 in table 3 and for each mandate I keep only up to 30 managers having propensity score closest to the hired manager. First column presents the results for mandates where unconnected manager was hired. Second column presents results for mandates where directly connected manager was hired. Third column presents results for mandates where indirectly connected manager was hired. Time period: 1995-2014. Standard errors are corrected for clustering in observations for the same fund. t-statistics in parentheses. *** indicates significance at 1% level, ** indicates significance at 5% level, * indicates significance at 10% level.

	Hired Unconnected	Hired Direct Connection	Hired Indirect Connection
Alpha(t-1)	1.785***	0.700	0.842**
	(14.23)	(0.89)	(1.98)
Fee($100M)	-0.0187***	-0.0116	-0.0128***
	(-9.55)	(-1.30)	(-2.61)
Return std 1yr(t-1)	-17.07***	-6.687	-10.20
	(-7.52)	(-0.62)	(-1.45)
Log Firm Size	0.549***	0.638***	0.518***
	(14.18)	(3.66)	(4.93)
%AUM in Mandate Asset Class	3.063***	2.293**	2.875***
	(14.71)	(2.27)	(5.46)
Manager Age	-0.00491***	-0.0114**	0.00292
	(-4.41)	(-2.47)	(1.17)
Observations	80,896	2,966	10,720
Pseudo R^2	0.033	0.055	0.045