Placement Agents and Private Equity:

Information Production or Influence Peddling?

Matthew D. Cain*

Stephen B. McKeon**

Steven Davidoff Solomon ***

Date: August 2014

^{*} Financial Economist, Division of Economic and Risk Analysis, U.S. Securities and Exchange Commission. The Securities and Exchange Commission, as a matter of policy, disclaims responsibility for any private publication or statement by any of its employees. The views expressed herein are those of the author and do not necessarily reflect the views of the Commission or of the author's colleagues upon the staff of the Commission.

^{**} Assistant Professor of Finance, University of Oregon.

^{****} Professor of Law, University of California, Berkeley School of Law.

Abstract

We examine a dataset of 32,526 investments in 4,335 private equity funds and document an increasing trend in the outsourcing of the private equity fundraising process to external placement agents from 1991 to 2011. By 2011, about 75% of value-weighted fundraisings rely on placement agents. Placement agent use is positively correlated with aggregate capital flows to private equity, fund size, and diversity of the fund investor base, and negatively correlated with general partner experience. Funds employing placement agents experience lower net internal rates of return, on average. Returns are higher for funds employing a top-tier placement agent, for first-time funds employing an agent, and for funds employing an agent with a greater number of general partner relationships. However, returns are negatively correlated with the strength of agent-limited partner relationships. The results indicate that certain placement agents provide information-processing and screening benefits for investors and private equity firms, but that a subset of placement agents appears to capitalize on limited partner relationships to the detriment of investors.

"Just because you have bank fraud doesn't mean all banks are crooked; it's the same with placement agents."

-- Ash Williams (Executive Director, Florida state pension fund)¹

I. Introduction

In 2010, Alan Hevesi, the state comptroller of New York responsible for the investment of the New York State pension fund, pled guilty to the crime of felony public corruption. Mr. Hevesi was sentenced to up to four years in prison for accepting over \$1 million in gifts and campaign contributions from a placement agent. The goods and money were provided in exchange for Mr. Hevesi arranging to invest over \$250 million in New York pension funds in private equity funds.²

Unfortunately, Mr. Hevesi's conviction was not a singular event. In recent years, pay-to-play scandals have been uncovered in California, New York, and Kentucky. In each of these cases, placement agents collected millions of dollars in fees for steering investments to private equity funds while illicitly bribing public officials with money and goods.³ The outcry and publicity has led to federal regulation and the outright ban on the use of placement agents in some states like New York.⁴ Meanwhile, a number of private equity firms such as the Carlyle Group have agreed with regulators to stop the use of placement agents.⁵ Rule 206(4)-5 under the Investment Advisers Act of 1940, as proposed in 2009, would have banned all placement agents nationally, but following significant pushback from commenters, the rule, as adopted in 2010,

¹ Martin Z. Braun and Gillian Wee, *How Pension Placement Agents Exploited Political Ties*, Bloomberg, May 18, 2009.

² Mike McIntire, *Pension Inquiry Reveals a Power Broker's Web*, The N.Y. Times, May 13, 2009.

³ Peter Lattman, S.E.C. Charges Former Calpers Chief With Fraud, The N.Y. Times DealBook, April 23, 2012; Zack O'malley Greenburg, Secret Agent, Forbes.com, May 23, 2011.

⁴ Investors may still use investment consultants, and investors within states that ban placement agents may still invest in funds that utilize placement agents so long as they invest directly and not through the agents.

⁵ Craig Karmin and Peter Lattman, *Carlyle Reaches Pension-Fund Settlement*, The Wall Street Journal, May 15, 2009.

does not prohibit the use of placement agents but does prohibit the receipt of compensation following political donation activity by asset managers and placement agents.⁶

These incidents cast placement agents in a negative light, suggesting to many commentators that they are little more than capital markets actors leveraging their influence to extract rents. However, despite the bad publicity and enhanced regulation and scrutiny, placement agents have become and remain common in private equity fund-raising. In 1991 virtually no funds used a placement agent, but by 2011 we document that about 75% of value-weighted funds closed rely on placement agents. This paper explores this seeming dichotomy, examining the theory and use of placement agents using a dataset of 32,526 investments in 4,335 private equity funds.

Placement agents are financial intermediaries. These firms market private equity funds to external investors known as limited partners such as public or private pensions, endowments, insurance companies, and foundations. Placement agents are thus similar to investment banks in that they rely on reputation to facilitate investments (Chemmanur and Fulghieri, 1994); however, unlike investment banks where a small handful of intermediaries see the vast majority of deal flow, the placement agent industry is specialized and fragmented. The size of the market in which placement agents operate is enormous – over \$3 trillion as of 2012 (Bain & Co., 2012). Placement agents are also well-compensated, earning approximately 1% of the funds they direct from limited partners to the fund. Taken together, these stylized facts motivate our investigation

⁶ See http://www.sec.gov/rules/final/2010/ia-3043-secg.htm for more information. The rule was approved June 30, 2010, became effective on September 13, 2010, and required compliance of investment advisors by various dates in 2011.

For example, in Fang (2005) on page 2737, Table 1 indicates that the top five investment banks account for 70% of the market share in bond lead-underwriting services. We find that the top five placement agents represent only 46.4% of our sample of fundraising dollars affiliated with one or more agents.

into why placement agent services are outsourced instead of being performed directly by private equity funds.

There are two main explanations for placement agent utilization. The first is that placement agents create value through information production, screening, and certification. Placement agents may reduce costs related to asymmetric information between general and limited partners and manage the due diligence process, allowing general partners ("GPs") to focus on deploying funds raised. An alternative, more cynical, explanation holds that placement agents are little more than influence peddlers, possessing no ability to credibly certify fund quality; they merely attract institutional investors through personal relationships, or worse, kickbacks or "pay to play" schemes illustrated by recent headlines.

In this paper we explore these theories of placement agent utilization. We document that funds employing placement agents are more likely to obtain investments from funds-of-funds, less likely to obtain investments from public pensions or endowments, and more likely to obtain investments from limited partners in countries outside the general partner's headquarters country. We document that placement agent use is positively correlated with aggregate capital flows to private equity, fund size, and diversity of the fund investor base, and is negatively correlated with general partner experience. Moreover, fund performance is increasing in the number of agent-general partner relationships, in overall agent experience, and for first-time fundraisings affiliated with agent use.

These findings are consistent with an information production and certification role for placement agents. Fang, Ivashina, and Lerner (2013) note the complexity of private equity investment, the high level of information asymmetry and the costs associated with limited partner assessment of these investments. Placement agents can thus act as a certifier for private

equity funds, justifying their fees and use to the fund. It is difficult to imagine that the private equity fund is unable to hire employees to facilitate the due diligence at a fraction of the cost of a placement agent, so we suspect that the bulk of the value-add may be in the certification function.

However, we also find some support for the influence peddling theory. Funds employing placement agents experience lower net internal rates of return, on average. We also find that limited partner investment performance is negatively related to a measure of the investor-agent relationship strength across fundraisings. In other words, the higher frequency with which a limited partner invests in funds affiliated with a given placement agent, the worse the returns are for that limited partner. Thus, while we document the benefits of employing top-tier placement agents for complex fundraisings, we also find significant downsides for limited partners investing in funds based on agent influence or personal connections. These results point to significant heterogeneity in placement agent type and quality.

Our study makes several contributions to the literature on private equity. The reasons for placement agent use have not been thoroughly examined and represent a gap in our understanding. Rikato and Berk (2012) examine the placement agent industry and document a positive correlation between fees paid to placement agents and fund performance. More broadly, the field is just beginning to explore the mechanisms by which limited partners choose private equity investments (Hochberg and Rauh, 2013). Jenkinson, Jones, and Martinez (2013) examine the recommendations of investment consultants to pension plans, but these recommendations pertain only to *public* equity fund investments. Prior studies have analyzed general partner performance and reputation in fundraising (Kaplan and Schoar, 2005; Metrick and Yasuda, 2010; Sensoy, Wang and Weisbach, 2013). Lerner, Schoar, and Wongsunwai (2007) also highlight the

limited partner performance puzzle by documenting superior investment returns of endowments, but Sensoy, Wang, and Weisbach (2013) show how this outperformance has disappeared in recent years. Public pension funds and funds-of-funds have historically underperformed in their private equity investments, particularly those with a local in-state investment bias (Hochberg and Rauh, 2013). Our paper shows how limited partner investment decisions can go beyond these factors to be supplemented by the use of placement agents as secondary, financial intermediaries. Our study thus aims to further inform this line of inquiry by highlighting the role of placement agents in limited partner ("LP") investment decisions and eventual investment performance.

Our findings indicate that regulatory bans on the entire placement agent industry could produce unintended consequences. For example, some limited partners could miss out on superior investment opportunities available through certain placement agents. It is conceivable that the states which have now banned placement agents may in fact experience lower public pension investment returns going forward, at least among pensions that previously relied upon the certification role provided by top-tier agents. Ultimately, the results imply that the placement agent industry is marked by heterogeneity in agent type and quality, suggesting that both regulators and investors use discernment when evaluating the role of placement agents in private equity.

II. Sample Description

We obtain the sample and all variables from Preqin, a database covering private equity performance and details derived from Freedom of Information Act requests to public funds, regulatory filings, and voluntary disclosures by LPs and GPs. This dataset provides coverage of LP characteristics, their investments, general partner characteristics, their funds, fund returns,

and placement agents. The Preqin data indicates which placement agents are employed by given funds, but it does not indicate which LP investments a given agent secured for each fund. Coverage begins in 1969 and continues through 2012 in our sample, but sample coverage increases significantly during the 1990s. Similar to prior studies (e.g., Sensoy, Wang, and Weisbach, 2013), we only analyze fund performance data within the period 1991-2006 in order to alleviate return bias on unrealized fund investments in the latter sample years. ⁸

Table 1 provides summary statistics on the sample. Our dataset includes 2,112 unique limited partners who make an average of 15.4 private equity investments during the sample period, amounting to 32,526 total investment-level observations. We have data on 140 unique placement agents, who work with an average 7.1 funds across 5.3 different general partners during the sample time frame. We also have coverage of 1,533 unique general partners raising an average of 2.8 funds over the full sample period, for a total coverage of 4,335 different funds. Throughout the paper we convert fund size to millions of inflation-adjusted 2011 \$USD.

At the bottom of Table 1 we calculate "LP-Agent Overlap %" in the following manner. First, for each placement agent we count the number of different funds employing this agent over the sample period. Next, for each limited partner we count the number of funds invested in by the limited partner which also employed the given placement agent. The LP-Agent Overlap % is the fraction: number of LP investments in funds employing a given agent divided by total number of funds employing that agent. We calculate this statistics for all possible LP-Agent combinations. Table 1 indicates that at the maximum, some LPs invest in 100% of the funds employing a given placement agent. For example, CalPERS invests in 100% of any funds

⁸ Preqin has been used in several prior studies of private equity including: Sensoy, Wang, and Weisbach (2013), Hochberg and Rauh (2013), Harris, Jenkinson, and Kaplan (2012), and Rikato and Berk (2012). Lerner, Schoar, and Wongsunwai (2007) also use the Preqin data in a precursor format and describe the underlying data on page 736 of their study.

employing the placement agents Wetherly Capital, Arvco Capital Research, or Diamond Edge Capital Partners. Yet, the mean (median) overlap is only 11.8% (7.4%). In later empirical analyses, we explore the impact of this agent-investor relationship strength on investment returns.

Figure 1 graphs aggregate private equity fundraising annually from 1991 through 2011, along with the number of funds closed each vintage year. Overlaid on the graph are the value-weighted average net internal rates of return (IRRs) for each vintage year. We only calculate IRRs through 2006 as later vintages have yet to produce meaningful statistics. The numbers follow the boom-bust pattern of private equity investment and returns documented in prior literature (e.g., Kaplan and Schoar, 2005). Figure 1 also reports the value-weighted percentage of funds employing placement agents each year. This rate appears to spike in periods following significant capital inflows into private equity, with large jumps in 2002 and 2010-2011. By the end of the sample period in 2011, approximately 75% of funds raised employ placement agents. It is important to note, however, that placement agents are not responsible for securing 75% of all capital commitments to funds. They may, for example, only secure one or two limited partner investments out of all limited partners investing in any given fund.

Table 2 reports a ranking of general partner countries of origin and GP fund types in Panel A. Both rankings are reported in descending order of total funds closed, in CPI-adjusted 2011 \$USD. Preqin coverage appears to provide a much more thorough sample of US-based general partners and funds. The use of placement agents varies significantly by country, with a high of 78.6% of funds in the Netherlands and a low of 11.5% of funds in Australia. The United States ranks near the low end with 18.0% of funds employing placement agents. Buyout funds

are the most likely fund type to employ agents at 33.0%, with significantly less reliance on agents by funds of funds (8.4%), early stage funds (9.3%), and venture funds (10.0%).

Panel B of Table 2 reports the top 20 general partners based on aggregate fundraisings recorded by Preqin. Out of these 20 firms, 17 are headquartered in the United States and 3 are in the United Kingdom. A number of private equity firms never employ placement agents (e.g., TPG, HarbourVest, Bain, etc.) while others employ agents at a high rate, such as Apollo at 71.4% of funds. Overall the rates are lower than those reported in Panel A, implying that the more established firms in Panel B may utilize placement agents at a lower rate than newer entrants to the private equity industry. We explore this possibility in later empirical analyses.

Table 3, Panel A reports limited partner rankings by country and LP-type based on total number of investments captured in Preqin. We do not have data on the size of capital invested in each fund so rankings are equal-weighted. Again, Preqin coverage is heavily skewed towards US-based LPs. The final column reports the affiliation of funds invested in by each limited partner with placement agents, though we do not have data on whether each given LP investment occurred through the placement agent affiliated with each fund. In other words, this relation is noisy. Despite this noise, reasonable variation persists in agent use, with limited partners from Norway and Denmark investing in funds that employ placement agents more than 50% of the time. In contrast, limited partners from the United States and Luxembourg invest in funds that use agents less than one quarter of the time. The bottom of Panel A reports statistics on LP types. "Other" includes banks, investment companies, asset managers, corporate investors, private equity firms, government agencies, superannuation schemes, family offices, investment banks, sovereign wealth funds, investment trusts, and wealth managers. Funds of funds invest in the highest proportion of agent-affiliated funds at 36.6%.

Panel B of Table 3 reports limited partner investor rankings based on total investments made in the sample. Most of these are public pensions, with a few funds of funds, endowments, and foundations. The Pennsylvania Public School Employees' Retirement System invests in funds with the highest rate of placement agent use at 35.4%, while the State Universities Retirement System of Illinois invests in funds with the lowest use at 15.6%. Again, these statistics do not indicate whether or not the given LPs invested through the placement agents, but instead the results show that these LPs invest in funds that secured at least some capital commitments through the use of agents.

Table 4, Panel A reports a ranking of placement agents by aggregate fundraisings with which they are affiliated over the sample period. A number of the most active agents are affiliated with investment banks or private equity firms, including Credit Suisse, Park Hill (Blackstone), UBS, Merrill Lynch, and Lazard. The placement agent industry appears to be much more fragmented than the investment banking profession. For example, the five most active investment banks account for about 70% of the bond lead-underwriting market share. We document that placement agents are used in approximately \$1.22 trillion of fundraisings over the sample period (in 2011 \$USD), implying that the top five agents in Table 4, Panel A represent only 46.4% of that market share.

Panel B of Table 4 ranks the placement agents by the average net internal rate of return (IRR) on funds affiliated with each agent. To be included in the calculation, an agent must be affiliated with at least three funds that report IRR data in Preqin from 1991-2006. Average IRRs are reasonably high for a few select agents, but quickly fall off going down the list. Only 12 placement agents produce a mean IRR that exceeds the sample average of 9.84% reported in the last row. This table provides little evidence of persistence in fund returns within placement

⁹ See Fang (2005) on page 2737, Table 1.

agents, in contrast to general partner performance persistence across funds as documented by Kaplan and Schoar (2005).

III. Empirical Results

Next we turn to evaluating the information production and influence peddling hypotheses. We start with the first hypothesis by documenting characteristics of funds that employ placement agents in an attempt to identify whether placement agents are associated with more complex fundraisings (information production), less established general partners (certification), and fund returns (screening). Table 5, Panel A reports univariate descriptive statistics of funds by the number of placement agents employed, which ranges from zero to three. In the sample, 3,450 funds do not rely on an agent, 788 funds employ one agent, 85 funds employ two agents, and 12 funds employ three agents. For each category of agent use, the table reports means and medians in [brackets] for fund size, number of investors, number of investor types and countries of origin, an indicator for first GP fundraising in the sample period, and the fund sequence number. Fund size, number of investors, number of investor types, and number of investor countries represented in each fund are all monotonically increasing in the number of agents employed at both the mean and median. This is consistent with the hypothesis that general partners hire agents to help manage more complex fundraisings, i.e., larger funds with more diverse investor bases, supporting the information production hypothesis. The first GP fund indicator does not present a clear pattern, but the fund sequence is generally decreasing in the number of agents employed, implying that agents are hired to help manage and certify fundraisings by less established general partners.

Panel B of Table 5 reports average fund net IRRs based on agent use. IRRs are reported for all 32,526 LP investments in 4,335 GP funds, as well as various subsets of the data based on fund type, investor type, and LP / GP location. P-values from t-tests on differences of means are given in parentheses in the final column. For virtually all bins, returns are higher in funds without agents than in funds employing at least one placement agent. However one major caveat is the significant time trend in fund returns as documented in Figure 1: private equity returns were significantly higher in early sample years when placement agent use was rare. Panel B of Table 5 does not control for vintage and other factors, thus these descriptive performance trends could be driven by time or other variables. Subsequent tables attempt to control for these factors.

Table 6 examines the limited partner characteristics and other factors that predict the observance of placement agents in funds. Though the probit models predict agent use by funds, the variables all occur simultaneously so the direction of causality cannot be inferred from these tests. Vintage fixed effects are included in Columns (2), (4), and (6) and standard errors are clustered by fund since fund-level observations are duplicated for each LP investment in a given fund. In all columns agents are associated with larger funds, significant at the 1% level.

Regarding LP types, funds of funds are more likely to invest in funds employing placement agents, while public pensions and endowments are generally less likely to invest in agent-related funds. Columns (5) and (6) show that placement agents are more likely to be affiliated with funds raised by general partners in countries that differ from those of the LP investors. This result and the fund size result are consistent with the hypothesis that on average, placement agents are affiliated with more complex fundraisings, supporting the information production hypothesis.

Table 7 reports similar probit models on agent use, but at the fund level. Columns (2), (4), and (6) include vintage fixed effects, and standard errors in all models are clustered by fund vintage year. Similar to the pattern in Figure 1, agent use is more likely in periods of higher aggregate inflows to private equity. Agent use is lower among general partners headquartered in the United States, consistent with the descriptive pattern in Table 2. Buyout funds are significantly more likely to employ placement agents. Funds using placement agents have a greater diversity of LP country of origin, consistent with fundraising complexity and information production. Agents are more likely to show up for a GP's first fundraising event and for earlier funds sequentially, consistent with the certification hypothesis. We find only a marginally significant relation between agent use and the return on a GP's prior fund. Overall, these results provide evidence that is consistent with an information production and certification role of placement agents.

Table 8 provides a more direct test of the hypotheses by examining fund returns. This table reports OLS regressions of net internal rates of return on funds as the dependent variable with independent variables indicating the presence of placement agents, agent characteristics, and various controls. All models include fund vintage fixed effects. In addition to the previously-defined variables, we analyze top-tier placement agents (Top 3 Agent) from the Table 4, Panel A ranking, overall agent activity throughout the sample period (Log[Total Agent Funds]), and the number of agent connections to different general partners (Log[Total Agent GPs]).

In Column (1) of Table 8, the coefficient on the indicator for the presence of a placement agent with a fund is significantly negative, indicating that these funds produce about 1.13% lower net internal rates of return, on average. In Column (2) we add interactions of fund types

with agent presence. The agent level variable is positive but the magnitude is more than offset by the negative interaction on agent with venture funds and real estate funds. The presence of placement agents among these fund types appears to signal adverse selection and poor future returns. This is inconsistent with the certification hypothesis among this subset of the data. In Column (3) the interaction of placement agents with first-time GP fundraisings is positive and significant. Agents appear to provide at least some screening or certification of new entrants to the private equity industry. In Column (4), funds affiliated with top-tier placement agents produce net internal rates of return which are 3.2% higher, on average. This is consistent with a screening role provided by top-tier placement agents.

Columns (5) and (6) of Table 8 examine the subset of funds affiliated with placement agents. In Column (5), returns are higher for funds affiliated with more active agents, similar to the top-tier ranking results. In Column (6), returns are higher for funds affiliated with better-connected agents, in terms of the number of agent-GP connections. In sum, while the average or typical placement agent is associated with lower fund returns, certain higher-quality agents appear to provide some benefits to general partners or limited partners in terms of information production and certification of fund quality and future returns. The next table evaluates fund returns at the LP investment level.

Table 9 reports OLS regressions of LP investment returns. Standard errors are clustered by fund and vintage, and all models include vintage fixed effects. In all models, public pensions underperform other LP types, consistent with prior literature (e.g., Hochberg and Rauh, 2013). Similar to Sensoy, Wang, and Weisbach (2013), endowment outperformance during the 1990s appears to have disappeared in the larger sample to date. In Columns (1) and (2), more active limited partners produce superior returns. In Columns (1) and (2), LP investments in funds that

employ placement agents produce returns that are not statistically different from the baseline, though this is a less direct test than in the prior table. In Column (2), we examine whether the presence of a placement agent helps to alleviate the poor investment returns of public pensions. In fact, the returns are worse with a coefficient on the agent-public pension interaction of - 1.405%. This is consistent with the influence peddling hypothesis and popular press coverage regarding public pension scandals.

Columns (3), (4), and (5) of Table 9 evaluate the subset of LP investments in funds with placement agents. The key variable of interest in these models is LP-Agent Overlap %. This is the fraction of funds invested in by a given limited partner for a given placement agent affiliated with the current fund investment. As reported in Table 1, at the extreme, several limited partners invest in 100% of the funds affiliated with a given agent, which provides a strong statistical indicator of relationship strength between the limited partner and agent. The coefficients on this variable are significantly negative in the three models of Table 9. It thus appears that stronger ties to a given agent are detrimental to LP investors. This evidence largely supports the influence peddling hypothesis of placement agents: limited partners do not appear to profit from their relationships to placement agents, on average.

IV. Conclusion

We evaluate the use of placement agents by general partners in fundraising for private equity funds. Their employment has increased dramatically from nearly nonexistent in 1991 to being engaged on about 75% of value-weighted fundraisings in 2011. Despite their rising ubiquity in the private equity industry, recent controversies and convictions for paying kickbacks and engaging in fraudulent activity, little empirical research has been conducted to date on

placement agents. We evaluate different hypotheses of their use: that agents merely represent influence peddling, selling their connections to investors and adding no real value, or that agents produce new information for investors, certifying fund quality and screening for the best private equity firms.

Our results provide some support for both explanations. We find that placement agent use is positively correlated with aggregate capital flows to private equity, fund size, and diversity of the fund investor base, and is negatively correlated with general partner experience. Moreover, fund performance is increasing in the number of agent-general partner relationships, in overall agent experience, and for first-time fundraisings affiliated with agent use. These findings are consistent with an information production and certification role for placement agents from the perspective of general partners.

However, we also find some support for the influence peddling theory. Funds employing placement agents experience lower net internal rates of return, on average. We also find that limited partner investment performance is negatively related to the strength of relationship connections between investors and placement agents. Thus, while we document the benefits of employing top-tier placement agents for complex fundraisings, we also find significant downsides for limited partners investing in funds based on agent influence or personal connections.

Ultimately, the results point to significant heterogeneity in placement agent type and quality. Proposals for outright bans on placement agents may thus produce unintended consequences, such as lower future returns among those investors that rely on the certification and screening roles provided by top-tier agents. Our research suggests that regulators should

take a nuanced approach in the consideration of placement agents and their role in private equity fundraising going forward.

References

- Bain & Company, 2012, Global Private Equity Report, retrieved from www.bain.com.
- Chemmanur, Thomas J. and Paolo Fulghieri, 1994, "Investment Bank Reputation, Information Production, and Financial Intermediation," *The Journal of Finance* 49, 57-79.
- Fang, Lily, 2005, "Investment Bank Reputation and the Price and Quality of Underwriting Services," *Journal of Finance* 60, 2729-2761.
- Fang, Lily, Victoria Ivashina, and Josh Lerner, 2013, "The Disintermediation of Financial Markets: Direct Investing in Private Equity," Working Paper.
- Harris, Robert S., Tim Jenkinson, and Steven N. Kaplan, 2012, "Private Equity Performance: What Do We Know?," Working Paper.
- Hochberg, Yael V. and Joshua D. Rauh, 2013, "Local Overweighting and Underperformance: Evidence from Limited Partner Private Equity Investments," *Review of Financial Studies* 26, 403-451.
- Jenkinson, Tim, Howard Jones, and Jose Vicente Martinez, 2013, "Picking Winners? Investment Consultants' Recommendations of Fund Managers," Working Paper.
- Kaplan, Steven N. and Antoinette Schoar, 2005, "Private Equity Performance: Returns, Persistence, and Capital Flow," *The Journal of Finance* 60, 1791-1823.
- Lerner, Josh, Antoinette Schoar, and Wan Wongsunwai, 2007, "Smart Institutions, Foolish Choices: The Limited Partner Performance Puzzle," *The Journal of Finance* 62, 731-764.
- Metrick, Andrew and Ayako Yasuda, 2010, "The Economics of Private Equity Funds," *Review of Financial Studies* 23, 2303-2341.
- Rikato, Marko and Ales S. Berk, 2012, "Costliness of Placement Agents," Working Paper.
- Sensoy, Berk A., Yingdi Wang, and Michael S. Weisbach, 2013, "Limited Partner Performance and the Maturing of the Private Equity Industry," Working Paper.

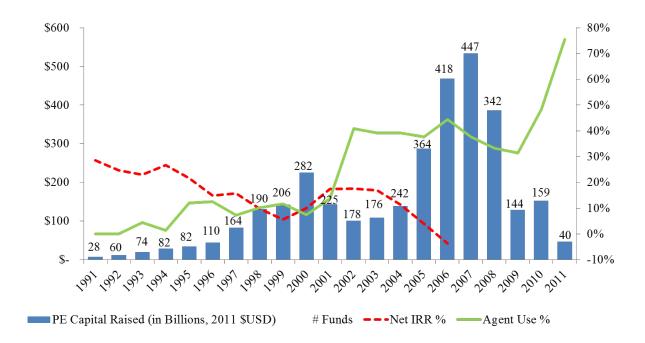


Figure 1. Aggregate Fundraising, Returns, and Placement Agent Use

This figure summarizes by vintage year: a) aggregate private equity capital fundraising, inflation-adjusted to billions of 2011 \$USD (left-hand-side scale); b) number of funds closed; c) value-weighted average net internal rate of return (IRR) for funds closed (right-hand-side scale); and d) the value-weighted percentage of placement agent use by funds (right-hand-side scale). Value-weightings are determined by fund size.

Table 1. Sample Description

Distribution of variables and descriptive statistics. Sample represents all private equity investments in the Preqin database from 1969 through 2012. Total LP Investments is the number of investments made during the sample period by each limited partner (i.e., "LP") investor. Total Agent Funds is the number of funds affiliated with each placement agent. Total Agent GPs is the number of unique general partners (i.e., "GPs") affiliated with each placement agent. Total # Funds is the number of funds closed by each GP during the sample period. Fund Size is the size of each fund in millions of inflation-adjusted 2011 \$USD. # LPs in Fund, # LP Types in Fund, and # LP Countries in Fund are the number of LPs invested in, the number of LP Types represented in, and the number of LP Countries represented in each fund, respectively. First GP Fund is an indicator for the first fundraising closed by a GP in Preqin coverage. GP Fund Sequence represents the numerical order of each fund closed by a given GP based on vintage. LP-Agent Overlap % is calculated as the number of funds employing a given placement agent that the limited partner invests in divided by the total number of funds employing that placement agent.

	<u>N</u>	Min	Mean	SD	Median	Max
Dy Ilwigue I De	11	171111	Mean	<u>5D</u>	Median	<u>wax</u>
By Unique LP:	2.112	1.0	1.7.4	40.7	2.0	5 0.4
Total LP Investments	2,112	1.0	15.4	40.7	3.0	784
By Unique Agent:						
Total Agent Funds	140	1.0	7.1	12.6	2.5	105
Total Agent GPs	140	1.0	5.3	8.3	2.0	61
By Unique GP:						
Total # Funds	1,533	1.0	2.8	3.7	2.0	58.0
By Unique Fund:						
Fund Size (\$mm)	4,050	\$2.2	\$817.3	\$1,553.1	\$378.1	\$24,212.2
# LPs in Fund	4,335	1.0	7.5	10.3	4.0	121
# LP Types in Fund	4,335	1.0	2.5	1.5	2.0	7.0
# LP Countries in Fund	4,305	1.0	2.1	2.0	1.0	20.0
First GP Fund	4,335	0.0	0.353	0.478	0.0	1.0
GP Fund Sequence	4,335	1.0	4.3	6.1	2.0	58.0
By LP-Fund (w/ Agents):						
LP-Agent Overlap %	3,896	1.2%	11.8%	12.2%	7.4%	100.0%
Li rigent Overlap /0	3,070	1.2/0	11.070	12.2/0	/ . T /0	100.070

Table 2, Panel A. General Partner and Fund Characteristics

Ranking of country of origin of the top 20 private equity firms (i.e., general partners, or "GPs") and of the fund types by aggregate capital raised in millions of inflation-adjusted 2011 \$USD. The final column reports the equal-weighted percentage of funds employing a placement agent.

	G .	" a CD		Total Funds	% with
<u>Rank</u>	Country	# of GPs	# Funds	(<u>\$mm)</u>	Agents
1	US	953	3,002	\$2,575,266	18.0%
2	UK	125	365	\$435,939	30.0%
3	France	29	74	\$41,967	26.0%
4	Sweden	19	37	\$35,227	56.8%
5	Canada	26	58	\$34,482	23.7%
6	Switzerland	20	83	\$33,626	15.9%
7	Hong Kong	18	30	\$21,056	53.3%
8	Australia	22	61	\$19,727	11.5%
9	Germany	18	32	\$12,695	34.4%
10	Italy	19	34	\$11,370	16.2%
11	Singapore	11	14	\$8,703	50.0%
12	China	12	15	\$8,058	11.8%
13	Israel	17	33	\$7,393	14.3%
14	Netherlands	6	13	\$6,164	78.6%
15	Norway	7	15	\$5,494	53.3%
16	Finland	6	32	\$5,273	15.6%
17	India	10	18	\$5,252	33.3%
18	Brazil	8	10	\$4,039	50.0%
19	Argentina	2	8	\$3,598	12.5%
20	Poland	3	11	\$3,587	18.2%
				Total Funds	% with
Rank	Fund Type	# of GPs	# Funds	<u>(\$mm)</u>	Agents
1	Buyout	384	1,036	\$1,509,986	33.0%
2	Real Estate	260	811	\$593,320	24.2%
3	Venture	267	662	\$205,964	10.0%
4	Fund of Funds	79	437	\$238,740	8.4%
5	Early Stage	109	263	\$68,821	9.3%

Table 2, Panel B. General Partner Ranking by Aggregate Fundraising

League table ranking of the top 20 private equity firms (i.e., general partners), ranked by aggregate size of all fundraisings included in the Preqin database. Fund sizes are summed in millions of inflation-adjusted 2011 \$USD. The total number of closed funds is reported as well as the equal-weighted percentage of funds employing a placement agent in the final column.

Rank	General Partner	Location	Total Funds (\$mm)	# Funds	% with Agents
1	Blackstone Group	US	\$116,209	21	38.1%
2	Goldman Sachs Merchant Banking Division	US	\$87,985	20	5.0%
3	Kohlberg Kravis Roberts	US	\$81,820	16	12.5%
4	Carlyle Group	US	\$74,984	35	2.9%
5	TPG	US	\$61,416	12	0.0%
6	Oaktree Capital Management	US	\$53,736	30	17.6%
7	Warburg Pincus	US	\$52,259	9	11.1%
8	HarbourVest Partners	US	\$47,820	31	0.0%
9	CVC Capital Partners	UK	\$46,526	8	12.5%
10	Apollo Global Management	US	\$41,747	7	71.4%
11	Bain Capital	US	\$41,167	14	0.0%
12	Apax Partners	UK	\$40,647	22	8.7%
13	Lone Star Funds	US	\$37,274	10	20.0%
14	Morgan Stanley Real Estate Investing	US	\$29,830	10	0.0%
15	Hellman & Friedman	US	\$28,810	6	0.0%
16	Goldman Sachs Private Equity Group	US	\$28,073	16	0.0%
17	Permira	UK	\$27,761	12	0.0%
18	Credit Suisse Customized Fund Investment Group	US	\$27,052	21	17.4%
19	Providence Equity Partners	US	\$26,258	9	11.1%
20	Welsh, Carson, Anderson & Stowe	US	\$25,587	14	14.3%

Table 3, Panel A. Limited Partner Characteristics

Ranking of country of origin of the top 20 investors (i.e., limited partners, or "LPs") and of the LP types by total number of fund investments made. The final column reports the equal-weighted percentage of funds invested in which employ a placement agent; this does not indicate whether the limited partners invested through a placement agent or directly with the fund for any given investment.

			#	% with
Rank	Country	# of LPs	Investments	Agents
1	US	972	22,243	24.8%
2	UK	200	2,765	28.9%
3	Switzerland	76	1,023	35.7%
4	Canada	45	609	28.3%
5	Australia	70	563	25.7%
6	Germany	58	497	48.5%
7	Finland	25	435	37.3%
8	France	39	403	47.2%
9	Netherlands	35	379	44.3%
10	Guernsey	3	313	31.8%
11	Sweden	26	278	38.0%
12	Denmark	25	221	52.5%
13	Japan	27	154	37.0%
14	Norway	31	149	51.7%
15	Kuwait	10	96	39.6%
16	Luxembourg	5	94	24.2%
17	Italy	21	88	31.9%
18	Belgium	15	85	28.1%
19	Spain	23	69	46.4%
20	Singapore	9	67	37.3%
			#	% with
Rank	<u>LP Type</u>	# of LPs	Investments	Agents
1	Public Pension	322	14,128	24.4%
2	Fund of Funds	237	5,979	36.6%
3	Other	533	3,167	32.0%
4	Foundation	224	2,945	20.4%
5	Endowment	189	2,170	21.3%
6	Insurance Co.	129	1,497	33.7%
7	Private Pension	216	1,118	32.2%
8	Unknown	221	637	36.1%

Table 3, Panel B: Limited Partner Ranking by Number of Investments

League table ranking of the top 20 investors in private equity (i.e., limited partners) ranked by number of investments in different funds. The final column reports the equal-weighted percentage of funds invested in which employ a placement agent; this does not indicate whether the given limited partner invested through a placement agent or directly with the fund for any given investment. All of the top 20 investors are located in the U.S.

Rank	Limited Partner	Type	# Investments	% with Agents
Kank	Emitted 1 at their	<u> 1 y p c</u>	mvestments	Agents
1	California Public Employees' Retirement System (CalPERS)	Public Pension	784	27.4%
2	Pennsylvania State Employees' Retirement System	Public Pension	404	21.7%
3	California State Teachers' Retirement System (CalSTRS)	Public Pension	377	26.4%
4	HarbourVest Partners	Fund of Funds	317	29.9%
5	State Universities Retirement System of Illinois	Public Pension	303	15.6%
6	Michigan Department of Treasury	Public Pension	301	19.0%
7	State of Wisconsin Investment Board	Public Pension	274	23.9%
8	Washington State Investment Board	Public Pension	273	18.1%
9	Oregon State Treasury	Public Pension	273	32.9%
10	Illinois Municipal Retirement Fund	Public Pension	272	22.7%
11	University of Michigan Endowment	Endowment	272	21.9%
12	Pennsylvania Public School Employees' Retirement System	Public Pension	269	35.4%
13	Virginia Retirement System	Public Pension	254	18.0%
14	Regents of the University of California	Public Pension	253	21.8%
15	Los Angeles Fire and Police Pension System	Public Pension	245	29.0%
16	San Francisco City & County Employees' Retirement System	Public Pension	237	22.2%
17	Los Angeles County Employees' Retirement Association	Public Pension	236	16.5%
18	University of Texas Investment Management Company	Endowment	231	24.3%
19	Conversus Asset Management	Fund of Funds	226	22.1%
20	John D. and Catherine T. MacArthur Foundation	Foundation	221	16.8%

Table 4, Panel A: Placement Agent Ranking by Aggregate Fundraising

League table ranking of the top 20 placement agents, ranked by aggregate size of funds affiliated with each agent. Fund sizes are summed in millions of inflation-adjusted 2011 \$USD. The total number of funds affiliated with each agent is reported in the final column.

Rank	Placement Agent	Total Funds (\$mm)	# Funds
1	Credit Suisse Private Fund Group	\$179,123	105
2	Park Hill Group	\$120,008	37
3	UBS Investment Bank Private Funds Group	\$119,737	47
4	Merrill Lynch Private Equity Placements Group	\$76,625	29
5	Monument Group	\$70,091	47
6	Lazard Private Fund Advisory Group	\$55,215	39
7	MVision Private Equity Advisers	\$52,822	33
8	Citi Alternatives Distribution Group	\$49,028	20
9	Atlantic-Pacific Capital	\$33,258	39
10	Jefferies Fund Placement Group	\$29,709	22
11	Arvco Capital Research	\$29,248	4
12	Eaton Partners	\$28,777	35
13	Principle Advisory Services	\$23,187	8
14	Farrell Marsh & Co.	\$21,814	20
15	Evercore Partners Private Funds Group	\$18,548	13
16	Macquarie Real Estate Private Capital Markets	\$17,547	22
17	UBS Real Estate Group	\$15,002	5
18	Probitas Partners	\$13,329	25
19	M3 Capital Partners	\$11,400	10
20	Benedetto Gartland & Company	\$9,510	7

Table 4, Panel B: Placement Agent Ranking by Returns

League table ranking of the top 20 placement agents, ranked by the equal-weighted average net internal rate of return (IRR) on funds affiliated with each agent. IRRs are only included for funds closed between 1991 and 2006. Observations with fewer than three reported fund IRRs are excluded. The total number of funds included in the IRR average is reported in the final column.

<u>Rank</u>	Placement Agent	Mean Net IRR %	# Funds
1	International Private Equity	20.76	5
2	Somerset Capital	17.48	4
3	MVision Private Equity Advisers	14.67	18
4	Pinnacle Trust Partners	13.87	3
5	Citi Alternatives Distribution Group	13.45	11
6	Alternative Investment Source	12.33	4
7	Cygnus Capital Partners Limited	11.80	4
8	Park Hill Group	11.60	4
9	UBS Investment Bank Private Funds Group	11.31	22
10	Beacon Hill Financial Corp.	10.84	5
11	Bentley Associates	10.77	3
12	Atlantic-Pacific Capital	10.39	26
13	Merrill Lynch Private Equity Placements Group	9.62	21
14	Credit Suisse Private Fund Group	8.99	55
15	Benedetto Gartland & Company	8.78	4
16	Monument Group	8.08	37
17	Forum Capital Partners	7.83	3
18	Thomas Capital Group	7.52	5
19	Jefferies Fund Placement Group	6.98	15
20	Campbell Lutyens	6.88	16
	Benchmark: Average Fund IRR	9.84	2,525

Table 5, Panel A. Fund Characteristics by Number of Agents

Descriptive statistics on fund characteristics by number of placement agents employed in fundraising. Variable means are given with medians below in [] brackets. All variables are defined in preceding tables.

# of Agents per Fund	<u>N</u>	Fund Size (\$mm)	<u># LPs</u>	# LP Types	# LP <u>Countries</u>	First GP <u>Fund</u>	Fund <u>Sequence</u>
Zero	3,450	\$724.0 [\$327.1]	6.8 [4.0]	2.4 [2.0]	1.9 [1.0]	35.0%	4.6 [2.0]
One	788	\$1,085.3 [\$528.2]	9.9 [6.0]	3.0 [3.0]	2.8 [2.0]	37.6%	3.1 [2.0]
Two	85	\$1,506.0 [\$713.6]	10.7 [6.0]	3.0 [3.0]	3.0 [2.0]	29.4%	3.2 [2.0]
Three	12	\$2,988.1 [\$2,344.2]	28.2 [17.0]	4.6 [5.0]	5.8 [5.5]	25.0%	2.9 [2.5]

Table 5, Panel B: Investment Returns by Sample Characteristics and Agent Use

Mean net internal rates of return (IRRs) for samples of funds with vs. without placement agents. Subsamples are reported by: fund type, LP type, LP location, and GP location. P-values from t-tests on difference of sample mean IRRs are given in the final column. All variables are defined in preceding tables.

		<u>-</u>	Net II	RRs	_
	<u>N</u>	% with Agents	Agent	No Agent	P-Value
All LP Investments	32,526	27.7%	6.9%	10.5%	(0.000)
All GP Funds	4,335	20.4%	6.4%	10.6%	(0.002)
By GP Fund Type:					
Buyout	1,036	33.0%	11.5%	13.7%	(0.170)
Venture	662	10.0%	-2.9%	11.5%	(0.003)
Real Estate	811	24.2%	-1.7%	6.2%	(0.001)
By LP Type:					
Fund of Funds	5,979	36.6%	8.4%	9.4%	(0.076)
Public Pension	14,128	24.4%	4.9%	10.4%	(0.000)
Endowment	2,170	21.3%	8.4%	10.8%	(0.134)
By Location:					
LP: US	22,243	24.8%	5.9%	10.4%	(0.000)
LP: Non-US	8,922	34.6%	9.3%	11.4%	(0.000)
GP: US	3,002	18.0%	4.9%	9.9%	(0.002)
GP: Non-US	1,091	27.7%	10.2%	13.4%	(0.178)
LP=GP Country	22,072	22.8%	6.0%	10.4%	(0.000)
LP≠GP Country	9,811	38.3%	8.6%	11.4%	(0.000)

Table 6. Placement Agent Use and Limited Partner Characteristics, Multivariate

Probit models with the dependent variable equal to one for limited partner investments in funds that employ a placement agent and zero otherwise. LP Experience is the cumulative number of investments in funds made by a given LP prior to the current fund investment. Total LP Investments is the total number of investments in funds made by a given LP over the full sample period. LP=GP Country equals one if the LP and GP are located in the same country and zero if they are located in different countries. Robust standard errors are clustered by fund and p-values are reported in parentheses with ***, **, and * representing significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	<u>(4)</u>	<u>(5)</u>	(6)
Log(Fund Size)	0.170 ***	0.134 ***	0.184 ***	0.134 ***	0.171 ***	0.121 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log(LP Experience)	0.074 ***	0.009				
	(0.000)	(0.457)				
Log(Total LP Investments)			-0.047 ***	0.003	-0.030 **	0.013
			(0.000)	(0.812)	(0.018)	(0.305)
LP: Fund of Funds	0.124 ***	0.222 ***	0.235 ***	0.227 ***	0.180 ***	0.177 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LP: Public Pension	-0.272 ***	-0.133 ***	-0.056 *	-0.123 ***	0.004	-0.076 **
	(0.000)	(0.000)	(0.095)	(0.000)	(0.909)	(0.023)
LP: Endowment	-0.299 ***	-0.206 ***	-0.224 ***	-0.202 ***	-0.141 ***	-0.147 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.004)	(0.007)
LP based in US					0.007	0.043
					(0.868)	(0.278)
LP=GP Country					-0.333 ***	-0.305 ***
					(0.000)	(0.000)
Vintage Fixed Effects	No	Yes	No	Yes	No	Yes
N	31,641	31,641	31,641	31,641	31,004	31,004
Pseudo R ²	3.87%	12.77%	3.56%	12.76%	4.52%	13.63%

Table 7. Placement Agent Use and GP Fund Characteristics, Multivariate

Probit models with the dependent variable equal to one for funds that employ a placement agent and zero otherwise. First GP Fund equals one for the first vintage fund reported in Preqin for each general partner (GP) and zero for all other funds raised by a given GP. GP Fund Sequence is a count by vintage for each fund raised by a given GP. GP Prior Fund Net IRR is the net internal rate of return (IRR) earned on the prior vintage fund for a given GP. Other variables are defined in preceding tables. Robust standard errors are clustered by vintage and p-values are reported in parentheses with ***, **, and * representing significance at the 1%, 5%, and 10% levels, respectively.

Log(Annual PE Inflows)	(1) 0.333 *** (0.002)	<u>(2)</u>	(3) 0.346 *** (0.002)	<u>(4)</u>	(5) 0.300 ** (0.028)	<u>(6)</u>
GP based in US	-0.205 *** (0.000)	-0.165 *** (0.000)	-0.176 *** (0.000)	-0.121 *** (0.000)	-0.249 *** (0.000)	-0.219 * (0.067)
Fund: Buyout	0.421 *** (0.002)	0.500 *** (0.000)	0.279 ** (0.011)	0.340 *** (0.005)	0.289 ** (0.015)	0.261 ** (0.037)
Fund: Venture	-0.095 (0.250)	0.019 (0.738)	-0.202 *** (0.002)	-0.101 ** (0.017)	-0.227 *** (0.001)	-0.163 *** (0.003)
Fund: Real Estate	0.325 (0.137)	0.263 (0.158)	0.238 (0.314)	0.156 (0.439)	0.181 (0.137)	0.099 (0.441)
Log(Fund Size)	0.143 *** (0.000)	0.145 *** (0.000)	0.186 *** (0.000)	0.191 *** (0.000)	0.174 *** (0.002)	0.199 *** (0.000)
Log(# LPs in Fund)	0.031 (0.534)	0.045 (0.251)	0.042 (0.359)	0.060 * (0.092)	-0.070 (0.487)	-0.026 (0.800)
Log(# LP Countries in Fund)	0.130 *** (0.002)	0.116 ** (0.018)	0.179 *** (0.000)	0.175 *** (0.000)	0.176 *** (0.006)	0.197 ** (0.025)
# LP Types in Fund	0.013 (0.782)	0.017 (0.629)	-0.001 (0.978)	-0.000 (0.993)	0.018 (0.723)	0.000 (0.994)
First GP Fund	0.301 *** (0.000)	0.359 *** (0.000)				
GP Fund Sequence			-0.071 *** (0.000)	-0.080 *** (0.000)	-0.078 *** (0.000)	-0.089 *** (0.000)
GP Prior Fund Net IRR					-0.003 * (0.095)	-0.002 (0.539)
Vintage Fixed Effects	No	Yes	No	Yes	No	Yes
N	4,012	4,021	4,012	4,021	1,893	1,893
Pseudo R ²	12.32%	16.66%	15.04%	20.03%	11.94%	18.36%

Table 8. Placement Agent Use and Fund Returns

OLS regressions with fund net internal rate of return (IRR) as the dependent variable. If a fund employs multiple placement agents, each agent-fund combination represents a separate observation. Vintage fixed effects are included in all models. Placement Agent = 1 indicates that a fund employs the given placement agent and equals zero if a fund does not employ any placement agents. Top 3 Agent indicates that a fund employs one of the top three placement agents from the Table 4, Panel A ranking based on agent activity levels. Multiple Agents = 1 indicate that a fund employs more than one placement agent. Log(Total Agent Funds) is the log of the total number of unique funds affiliated with a given placement agent during the sample period. Log(Total Agent GPs) is the log of the total number of unique general partners (GPs) employing a given agent for various funds during the sample period. Other variables are defined in preceding tables. Robust standard errors are clustered by fund and vintage and p-values are reported in parentheses with ***, **, and * representing significance at the 1%, 5%, and 10% levels, respectively.

Table 8, continued

		1 4010 0,				
	<u>(1)</u>	<u>(2)</u>	(3)	<u>(4)</u>	<u>(5)</u>	<u>(6)</u>
Constant	30.162 ***	29.890 ***	32.433 ***	30.480 ***	27.994 ***	27.449 ***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Placement Agent = 1	-1.132 ***	3.527 ***	-4.411 ***	-1.943 ***		
	(0.009)	(0.001)	(0.000)	(0.000)		
GP based in US	-4.625 **	-4.655 **	-4.824 ***	-4.750 **	-1.343 ***	-2.086 ***
	(0.019)	(0.012)	(0.008)	(0.013)	(0.000)	(0.000)
Fund: Buyout	2.047 **	1.815 *	2.281 ***	2.061 **	0.744	0.329
•	(0.028)	(0.063)	(0.002)	(0.025)	(0.437)	(0.763)
Fund: Venture	-2.765	-0.948	-2.659	-2.675	-15.148 ***	-14.868 ***
	(0.606)	(0.850)	(0.594)	(0.615)	(0.000)	(0.000)
Fund: Real Estate	-3.359	-1.255	-3.216	-3.248	-9.970 *	-10.899
	(0.402)	(0.704)	(0.352)	(0.415)	(0.093)	(0.142)
Log(Fund Size)	-0.985 **	-1.057 **	-1.023 **	-1.032 **	-1.691 ***	-1.576 ***
,	(0.040)	(0.023)	(0.041)	(0.038)	(0.000)	(0.000)
Log(# LPs in Fund)	-0.197	-0.075	-0.502	-0.223	-2.974 ***	-3.258 ***
,	(0.826)	(0.927)	(0.605)	(0.807)	(0.000)	(0.000)
Log(# LP Countries in Fund)	-1.772	-1.944	-1.748	-1.756	3.256 ***	3.559 ***
,	(0.525)	(0.471)	(0.495)	(0.529)	(0.000)	(0.000)
# LP Types in Fund	1.539 **	1.410 **	1.621 **	1.526 **	0.805 ***	0.734 *
J.F	(0.011)	(0.018)	(0.014)	(0.012)	(0.000)	(0.073)
GP Fund Sequence	0.084	0.128	,	0.092	-0.283 ***	-0.271 ***
1	(0.777)	(0.659)		(0.754)	(0.000)	(0.000)
Agent * Buyout Fund	(/	-0.703		(/	(/	(/
2		(0.668)				
Agent * Venture Fund		-13.128 ***				
8		(0.000)				
Agent * Real Estate Fund		-10.536 ***				
8		(0.000)				
Agent * GP based in US		0.160				
		(0.916)				
First GP Fund		(01, 10)	-3.353			
			(0.218)			
Agent * First GP Fund			8.810 ***			
rigent ringt or rund			(0.001)			
Top 3 Agent			(0.001)	3.204 ***		
Top 3 rigent				(0.000)		
Multiple Agents = 1				-0.777		
Watapie rigents – r				(0.683)		
Log(Total Agent Funds)				(0.003)	0.649 ***	
Log(10tal rigont 1 ands)					(0.003)	
Log(Total Agent GPs)					(3.005)	1.460 ***
205(101111150111 013)						(0.000)
N	2,440	2,440	2,440	2,440	503	475
R^2	7.52%	8.23%	8.00%	7.59%	13.87%	14.27%
11	1.54/0	0.23/0	3.0070	1.57/0	13.07/0	17.27/0

Table 9. Limited Partner – Placement Agent Connections and Investment Performance

OLS regressions with limited partner – fund investment net internal rate of return (IRR) as the dependent variable. Vintage fixed effects are included in all models. Placement Agent = 1 indicates limited partner investments in funds employing one or more placement agents. LP-Agent Overlap % is calculated as the number of funds employing a given placement agent that the limited partner invests in divided by the total number of funds employing that placement agent. Other variables are defined in preceding tables. Robust standard errors are clustered by fund and vintage and p-values are reported in parentheses with ***, ***, and * representing significance at the 1%, 5%, and 10% levels, respectively.

	<u>(1)</u>	<u>(2)</u>	<u>(3)</u>	<u>(4)</u>	<u>(5)</u>
Constant	26.281 ***	26.057 ***	13.223 **	11.458 **	12.415 **
	(0.000)	(0.000)	(0.019)	(0.030)	(0.015)
Placement Agent = 1	-0.080	-0.148			
	(0.962)	(0.948)			
Log(Fund Size)	0.470 *	0.479 *	0.172	0.140	0.099
	(0.074)	(0.078)	(0.794)	(0.839)	(0.889)
Log(Total LP Investments)	0.474 *** (0.007)	0.495 *** (0.003)		0.084 (0.614)	0.297 ** (0.042)
I(I D Ei)	(0.007)	(0.003)	-0.999 ***	(0.014)	(0.042)
Log(LP Experience)			(0.000)		
LP: Fund of Funds	-1.565	-2.419	0.069	-0.652 ***	-1.042 ***
Er . r und or r unds	(0.384)	(0.199)	(0.844)	(0.003)	(0.002)
LP: Public Pension	-3.331 ***	-3.049 ***	-0.521 ***	-2.297 ***	-1.846 ***
	(0.000)	(0.005)	(0.002)	(0.000)	(0.002)
LP: Endowment	-1.012	-1.146	-0.070	-0.742	0.153
	(0.278)	(0.317)	(0.891)	(0.283)	(0.843)
Agent * Fund of Funds		2.476			
		(0.148)			
Agent * Public Pension		-1.405 **			
		(0.028)			
Agent * Endowment		0.590 (0.670)			
IDA (O. 1. 0/		(0.070)	-10.572 **	12 014 **	-13.469 **
LP-Agent Overlap %			(0.027)	-12.814 ** (0.026)	(0.016)
LP Based in US			(0.027)	(0.020)	-2.123 ***
El Basea III OS					(0.000)
GP = LP Country					-0.184
· · · ,					(0.473)
N	20,844	20,844	4,760	4,760	4,760
\mathbb{R}^2	7.38%	7.46%	2.07%	1.62%	1.88%