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PAY NOW OR PAY LATER?: THE ECONOMICS WITHIN THE PRIVATE EQUITY PARTNERSHIP

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ABSTRACT

The economics of partnerships have been of enduring interest to economists, but many issues regarding intergenerational conflicts and their impact on the continuity of these organizations remain unclear. We examine 717 private equity partnerships, and show that (a) the allocation of fund economics to individual partners is divorced from past success as an investor, being instead critically driven by status as a founder, (b) the underprovision of carried interest and ownership—and inequality in fund economics more generally—leads to the departures of senior partners, and (c) the departures of senior partners have negative effects on the ability of funds to raise additional capital.

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I. Introduction

Partnerships were the dominant organizational form of businesses for several millennia and, even today, remain critical to the way in which the professional service and investment sectors are run. Several theories have been offered about the prevalence and persistence of this ownership form. The classic formulation of Alchian and Demsetz (1972) suggests that in settings where employees are difficult to monitor, a partnership structure may provide optimal incentives for hard work.[1] Alternatively, Morrison and Wilhelm (2004, 2008) suggest that it may serve as a commitment device, ensuring that the senior partners properly monitor and train successors, at least until the need for physical investment in an industry becomes too great. In yet another variation, Levin and Tadelis (2005) argue that partnerships with equal sharing rules can actually overcome their clients' concerns about the lack of the observability of partner effort: because of the sharing rule, partners have a powerful incentive to closely monitor partners and ensure that they are productive.

At the same time, the partnership structure raises issues. Dividing profits according to some set formula may lead to moral hazard problems, where partners' awareness that they are only capturing a portion of the profits that they are generating reduces their motivation to work hard (Alchian and Demsetz, 1972; Holmstrom, 1982). This hypothesis has been empirically supported in a variety of settings, from Gaynor and Gertler's (1995) study of medical practices to Abramitzky's (2008) analysis of Israeli kibbutzim. Several mechanisms had been shown to be effective, however, in alleviating this free-riding problem, including the peer pressure posited by

[1] Literature on executive compensation has also emphasized the benefits of the partnership structure, such as the ability to screen for optimistic employees and increased retention (e.g., Oyer and Schaefer, 2005).

Kandel and Lazear (1992) and the relational contracts studied in the partnership setting by Rayo (2007).

While the cross-sectional moral hazard issues in partnerships are well understood, the intergenerational problems that can emerge in these settings have been less well appreciated. Because of the opaqueness of partnerships and the difficulty of determining individual contributions—the very reasons that the literature suggests partnerships exist in the first place—the founders and senior members of partnerships may not appropriately reward younger contributors. Were the younger partners to leave to begin their own organization, they may find it difficult to establish a comparable reputation and status. As a result, the founders may command a disproportionate share of the economics generated by the partnership, even to the point that the other partners provide less-than-optimal effort (for discussions in the labor literature, see Card, et al., 2012, Charness and Kuhn, 2007, and Cullen and Pakzad-Hursony, 2016).[2]

In this paper, we analyze these issues in the context of private equity funds. In particular, we examine approximately 700 partnerships analyzed in the course of the due diligence process by a major institutional investor. In each case, we have detailed data on how the economics of the fund—in particular, the carried interest (the profit share) and ownership of the management company—is split between the individual partners. We link this information to that on the past performance of individual partners' investments, the characteristics of the current, subsequent, and prior funds raised by the group, and the backgrounds and career paths of the individual partners.

[2] It should be noted that the workers in the listed studies have substantially lower levels of compensation and autonomy than those examined here.

Three clear patterns emerge from our analysis. First, the allocation of fund economics is typically weighted toward the founders of the firms. Individual investors' past performance seems to have little influence on economic allocation, even among the most senior group of partners. Second, the distributions of carried interest and ownership appear to substantially affect the stability of the partnership. Individual senior partners with a smaller economic share are more likely to leave the partnership, even after controlling for their past performance. Partnerships with a more unequal distribution of economics are less stable. Third, partners' departures have a negative effect on private equity groups' ability to raise additional funds.

This topic is not merely of academic interest. U.S. Securities and Exchange Commission Chair Mary Jo White has indicated repeatedly that the commission is currently drafting recommendations regarding "transition planning for advisers."[3] Few regulations on this topic currently exist in the U.S. except for Section 205 of the Investment Advisers Act of 1940, which includes a provision requiring managing partners with significant control over a firm to gain investor consent before transferring a significant amount of control over to a colleague, third-party firm, or investor. More generally, the appropriate tax treatment of compensation in the form of carried interest has been intensely controversial in the U.S. and Europe.

Meanwhile, press accounts suggest that numerous groups have come to grief over these issues. Already in the late 1990s, industry observers were attributing the dissolution of Golder Thoma Cressey Rauner into multiple firms to "its history of losing bright associates to

[3] "Enhancing Risk Monitoring and Regulatory Safeguards for the Asset Management Industry," speech by SEC Chair Mary Jo White at The New York Times DealBook Opportunities for Tomorrow Conference, December 11, 2014, https://www.sec.gov/News/Speech/Detail/Speech/1370543677722.

competitors willing to share equity."[4] More recently, the internal pressures related to these issues seemed to have escalated. According to the news accounts, "future ownership of the firm" was a major factor that drove president and successor-designate Justin Wender away from Castle Harlan.[5] In 2015, the 28-year old private equity firm gave up trying to raise capital following a dispute over succession, despite substantial success in its earlier funds.[6] In 2014, 23 years after its inception, Weston Presidio suspended its fund raising after a group of partners left to start a new investment firm.[7] In 2015, Doughty Hanson's demise was explained by one investor as follows: "Historically there was an issue with the top guys having all the power and the economics, so there were quite a few spinouts in the past." According to another investor who chose not to invest in the firm's funds, "One of the things that we never got comfortable with was the economics between the two founders and the rest of the team, and as far as I'm concerned that did cause [staff] turnover to a large extent."[8] Earlier that same year, Charterhouse, "the elder statesman of British private equity," was exposed to be "a scene of frictions, involving both how its earnings are divided among the staff and how to hand power to a new generation."[9]

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[4] "Venture Lesson," *Crain's Chicago Business*, December 13, 1997, http://www.chicagobusiness.com/article/19971213/ISSUE01/10003805/venture-lesson.

[5] "Justin Wender Statement on Quitting Castle Harlan," *PE Hub*, August 6, 2010, https://www.pehub.com/2010/08/justin-wender-statement-on-departure-from-castle-harlan/.

[6] "Castle Harlan Stops Fundraising Efforts for Fund VI," *PE Hub*, July 15, 2015, https://www.pehub.com/2015/07/castle-harlan-stops-fundraising-efforts-for-fund-vi/.

[7] "Weston Presidio Partners Said to Exit and Firm Cancels New Fund," *BloombergBusiness*, April 30, 2014, http://www.bloomberg.com/news/articles/2014-04-30/weston-presidio-partners-said-to-exit-as-firm-cancels-new-fund.

[8] "What Went Wrong at Doughty Hanson?," *Financial News*, April 16, 2015, http://www.efinancialnews.com/story/2015-04-15/douhgty-hanson-private-equity-abandons-fundraising.

[9] "Behind the Genteel Facade of the London-Based Private-Equity Firm Lurk Internal Frictions, *Wall Street Journal*, January 5, 2015, http://www.wsj.com/articles/infighting-roils-veteran-british-buyout-firm-1420515182.

As illustrated by discussions of succession tensions at the hedge fund Bridgewater, these issues are not unique to private equity partnerships.[10]

The rest of the paper is structured as follows. Section II provides background, reviews the construction of the data-set, and provides key summary statistics. Section III presents the analyses. The final section concludes the paper.

II. Data

After a brief introduction to compensation in the private equity industry, this section provides an overview of the data collection process and the key dependent and independent variables employed.

A. Compensation in Private Equity Funds

To date, the academic and practitioner literature on compensation in venture capital and private equity partnerships has focused on the aggregate split between the investors in the funds (limited partners, or LPs) and fund managers (general partners, or GPs), rather than the division between the GPs. Press accounts often implicitly assume that funds conform to the "two and twenty" template: an annual management fee of 2% of committed capital or net asset value (or some modification thereof) and 20% of the fund profits (sometimes after some minimum rate of return, or hurdle rate, is achieved). But, as the literature shows, the reality is more complex.

Gompers and Lerner (1999) find differences in the compensation schemes of new and established firms. Examining 419 U.S. VC partnerships formed between 1978 and 1992, they

[10] "Bridgewater Succession Plan in Flux as Heir Greg Jensen Steps Back," *Financial Times*, February 7, 2016, http://www.ft.com/intl/cms/s/0/12ef2de6-cc72-11e5-be0b-b7ece4e953a0.html#axzz41qrrASOy.

show that new and smaller firms tended to have higher fixed base compensation (i.e., from fees), while the compensation of established firms was more variable and more sensitive to performance. The authors ascribe this pattern to a learning model of performance, wherein GPs must be motivated by the prospect of financial gains once their reputation has been established. In a related work, Chung, et al. (2012) show that the current fund's performance affects GPs' abilities to raise capital for future funds, which can also provide a powerful motivation.

Metrick and Yasuda (2010) analyze the economics of the private equity industry using a dataset from a large investor in private equity funds. With detailed information on 238 funds raised between 1993 and 2006, the authors model the net present value of expected revenue that managers receive. They find that roughly 66% of expected revenue comes from fixed components, especially management fees. Robinson and Sensoy (2013) show that for a large sample of buyout and venture capital funds from 1984 to 2010, compensation is largely unrelated to net-of-fee cash flow performance. Market conditions during fundraising are an important driver of compensation, as payments rise and shift to fixed components during fundraising booms. They argue that compensation is distorted by agency problems, but at the same time, managers with higher compensation earn back their pay by delivering higher gross performance. Phalippou, Rauch, and Umber (2015) show that transaction fees charged by private equity groups are significant in magnitude, vary substantially across GPs, and increase when private equity groups go public.

Turning to the compensation at the level of the individual partners within funds, there are at least five strands of income:

- A share of carry gives a professional a claim on the capital gains from fund investments. In some cases, the division of these payments between partners is fixed at the beginning

of the fund's life; in other cases, there is a combination of fixed and performance-contingent elements; and in a small number of instances, the shares are entirely determined *ex post* based on performance. It should be noted that some carry may be assigned outside the ranks of senior and junior partners. Among the claimants may be lower-level employees (particularly at larger firms), retired partners, anchor LPs (key investors, especially in young funds), and large institutions that sometimes purchase equity stakes in private equity management companies.

- Second, there are often "excess" fees, that is, fees in excess of actual expenses. These can be large, especially for larger funds, whose management fees often substantially exceed the actual costs of running the funds. In addition, private equity funds have traditionally charged a variety of transaction and monitoring fees, which may far exceed the actual costs incurred (though in recent funds, these have been largely reimbursed to the LPs). Based on our discussions with GPs, firm ownership allocation is typically used to distribute excess fees (i.e., they are treated as dividends), but in a few cases, they are allocated to the partners according to the same formula that is used to divide carried interest.
- A less common, but potentially significant, form of compensation associated with ownership stakes comes from liquidity events, such as sales of minority stakes to financial institutions, sovereign wealth funds, and the like; or, in rarer instances, sales of entire management companies. The proceeds from these sales (to the extent they are not reinvested in the businesses) are divided among the GPs in proportion to their ownership stakes. In addition, the equity stakes of senior partners may be sold to the next generation of partners, though often at a discount to the value that would be garnered in an arms-

length transaction (see, for instance, Lerner and Leamon, 2013). Most dramatically, when a management company is taken public, these stakes can become quite valuable and liquid.

- Individual partners are almost invariably paid a salary and a bonus, which are frequently a relatively modest share of senior professionals' compensation.[11] Consistent with this observation, these revenue streams are rarely reported in investment proposals compiled by our LP (see discussion below).
- Partners may also be able to participate in transactions alongside the funds, whether through co-investments on a deal-by-deal basis, an investment in the main fund (partners are often expected to contribute at least one percent of the capital in their funds, though they may do so with money borrowed from the bank or by using management fees), or through a fund that is a companion to the main one (whose investments are frequently made on a no fee-no carry basis).

Some or all of the deferred compensation may be forfeited if the partner leaves the fund before the returns are distributed or before a vesting period expires.

B. The Sample and Potential Biases

Our analysis employs a proprietary and novel dataset that has been assembled from due diligence reports of one of the world's largest limited partners (LPs). The data on the economics

[11] For instance, Steven Schwartzman, Blackstone's co-founder who held the title of Chairman and Chief Executive Officer in 2015, received total compensation of over $799 million that year. He received no bonus and a salary of $350,000 (The Blackstone Group, *2015 Form 10-K*, https://www.sec.gov/Archives/edgar/data/1393818/000119312516481948/d129194d10k.htm). Also see Glocap (2013) for survey-based evidence on this point.

of the partnerships was collected from the investment proposals prepared by the investment professionals at the LP during the process of fund assessment.

Table I provides an overview of sample composition. As Panel A reports, of the total number of funds in our sample, 62% are buyout partnerships; the rest are venture capital partnerships or those focusing on growth capital, mezzanine, and distressed debt transactions.[12] Among the largest quartile of funds in the sample, the overwhelming majority (89%) of the funds are (not surprisingly) buyout groups; in other quartiles, the share of such groups is lower.

The vast majority of the partnerships in our sample were formed between 2000 and 2015 (the median vintage is 2007), although some funds were raised in earlier vintage years. 52% of the funds in our sample targeted transactions in the United States and Canada, and the rest were almost evenly split between Europe and the rest of the world.

Our sample is *not* identical to the investment portfolio of the LP. While most of the funds for which an investment proposal was completed were eventually funded by the LP, our sample is not conditional on the LP's investment. Furthermore, in a significant number of cases, the due diligence documents on individual partnerships included detailed information of the economics and characteristics of predecessor funds, regardless of whether the LP invested in them or not. Thus, our sample includes a significantly larger number of funds than those the LP has actually invested in.

Given the sophistication and size of the LP, the funds in our sample might be more successful than the industry average. At least historically, there has been considerable heterogeneity in the performance of LPs (Lerner, Schoar, and Wongsunwai, 2008). There also

[12] The group also invests in funds focused on secondary interests. We excluded these to avoid introducing unwanted heterogeneity.

might be a "backfill bias": earlier funds in which the LP did not invest are likely to have done disproportionately well.

In collecting the information on partners' compensation, the LP tries to follows the same format, and so, for the majority of the funds, we have clear information on the distribution of carry. In cases where a range of values was indicated for partner carry, e.g., "3.37%-6.16%," we used the mid-point of that range (6% of partner×fund observations).

In many cases, the actual carry scheme had a combination of contingent and deterministic components. This was the case, for instance, when partners received a base level of carry and an additional amount based on the success of his or her individual deals. These were coded by the LP using the best anticipation of the final expected carry division, as determined in consultation with the partners in the fund (42% of partner×fund observations).

In 12% of the investment proposals, the LP was not able to discern meaningful data on carried interest allocations. The cases with missing data fell into two distinct categories. First, the GP may not have had a set carried interest scheme but instead allocated it dynamically as the fund's portfolio and performance evolved (sometimes termed an "eat what you kill" system), or else employed an extremely complex scheme. Second, the GP may have refused to include information about the distribution of the economics in its disclosures to the LP. These refusals were most common with very high-demand venture capital organizations, who frequently quantity-ration the amount of funds they raise (Kaplan and Schoar, 2005). This second issue does not typically occur in the buyout sub-sample (throughout the analysis, we control for the type of the private equity fund).

C. Measuring Fund Economics

We are able to collect two central measures of fund economics: distribution of carried interest ("carry") and ownership of the management company among fund professionals. Our full sample contains data on carried interest distribution for just under 300 general partner (GP) organizations and 6,344 investment professionals managing 717 private equity funds. GP ownership distribution is available for 2,041 investment professionals managing 191 funds and corresponding to 124 private equity management companies. The scarcity of ownership information is attributed to the GPs' resistance to providing this information, citing its sensitive nature and the fact that it was not normally provided to LPs as part of the due diligence process. As Table I, Panel A illustrates, we are capturing ownership for 36% of the funds in the smallest size quartile, but only for 15% of the funds in the largest size quartile. Across the sample, carry and ownership stake appear to be complements: the correlation between the two variables is 0.69 and is strongly statistically significant.

Although we observe all compensation information reported to the LP, we focus our analysis on two levels of partners: (i) those in the top echelon of private equity partnerships (whom we term "senior partners"), and (ii) those in the second echelon ("junior partners"). Collectively, we refer to the top two bands as "all partners" or "senior professionals." To assign investment professionals into one of these groups, we rely on their professional titles. There is very little consistency in the titles used across private equity groups. In all, 161 different job titles of professionals were recorded from the original documents. To standardize this listing, we create a measure of hierarchy *within* GP organizations, with the numerical value decreasing as seniority increased within organizations. (The relative seniority was determined as part of the LP's due diligence process.) Coding the individuals' biographies in this way allows us to make inter-firm comparisons, regardless of the titles that different firms use. For instance, in a representative

firm, a senior managing partner is given a value of 1, a managing partner a value of 2, a principal 3, an associate 4, and an analyst 5.

Based on this classification, if a given fund has more than one partner with the top title, partners with values of 1 and 2 are counted as senior and junior partners, respectively. In cases where there is only one individual with the top title (e.g., senior managing director), those in the first and second bands (e.g., managing directors) are counted as senior partners, and individuals in the third band (e.g., directors) are counted as junior partners.

In total, there are 674 partnerships (out of 717 funds with carry information) in our sample for which we have information on carry division for one of the two top tiers of partners. This sample includes 2,577 individuals who are classified as senior partners and 1,394 individuals who are classified as junior partners. We also collect information on founders: there are 1,032 investment professionals in our sample who are classified as founders. We were not able to find information on who the founders were for 41 firms (82 funds). Excluding these cases, founders are present in 77% of the funds. The size of the sample will be smaller if we condition it on the availability of other variables; we will report the actual size of the sample when doing the analysis.

D. Other Fund- and Partner-Level Information

In addition to the carry split and ownership data, we collected a variety of data on the partners and the funds. We collected information on the performance and size of earlier and subsequent funds. For those funds to which the LP committed capital, we use detailed information on cash flows, which allows us to calculate public market equivalents (PMEs). This information is augmented by cash flow data provided by Preqin, a data vendor whose data are

largely collected through Freedom of Information Act requests to public pensions and endowments. For the rest, we use the internal rate of return (IRR) and the multiple of invested capital (MOIC), two standard performance measures that are widely used in the private equity industry. This information is collected from various sources, including Bison, Pitchbook, and Preqin. We obtain information on the final size of funds using information from the LP and public databases such as Preqin and Pitchbook. One subtle issue was posed by larger private equity organizations that had different "fund families": e.g., a distinct series of buyout funds raised for U.S., European, and Asian transactions. In these cases, we examined earlier and later funds within the same fund family (e.g., European Buyout Funds I, II, and III).

From investment proposals, in addition to titles, we gathered information on the individual characteristics of each investment professional, including their name, age, educational background, and previous work experience.

In addition, the LP undertook an attribution analysis, in which they assessed the performance of each partner's earlier investments over his or her past two to four funds (whether within the same firm or elsewhere). These analyses can be challenging to undertake, as the mapping between individual partners and transactions may not be readily apparent (for instance, funds may seek to downplay the role of a departed partner). In some cases, the LP either could not obtain the needed data from the GPs or did not have the resources needed to complete the analysis. As a result, we have information on performance in prior funds for about 1,290 investment professionals (248 different funds) in one of the top two tiers of seniority. In some analyses below, we focus on what we term "top" investors, which we use to designate those with a gross investment multiple of two times or more. In unreported robustness checks, we use a three-times gross multiple as the cut-off for top investors.

Furthermore, we record the timing of partners' departures. This information is based on due diligence documents, as well as on extensive web research using news stories, firm web sites, and professional databases such as LinkedIn and Spokeo.

III. Analysis of Fund Economics

We seek to understand the causes and consequences of the division of the economics of funds in four parts. First, we present summary statistics on the fund economics. Then, we analyze the determinants of the distribution of the economics across the partners. Third, we examine the relationship between fund economics and the departure of investment professionals. Finally, we examine the consequences of these departures for the GPs' future fundraising.

A. The Division of Fund Economics

Table I, Panels B and C show a basic summary of the division of carried interest and ownership at the time of the raising of the fund. We present in Panel B the distribution of carried interest and ownership for all partners by fund geography, type, and size quartile. We then look in Panel C at the economics for the senior and junior partners separately, as well as departure rates of all partners and those with superior prior investment performance (as defined above). The two panels also summarize the primary measurement that we will use to examine the overall distribution of the economics of funds, a measure that we term "inequality": the ratio of the carried interest or ownership share of the individual with the largest such allocation to the average share. We report in the upper part of Panel C measures for the senior and junior partners separately. When we undertake the inequality calculations in the lower part of Panel C, we present these for the senior partners and then across all partners.

Panel B reveals substantial differences across groups. European groups have substantially lower carried interest and ownership per partner, while venture groups have larger shares. Not surprisingly, larger funds have a smaller share of carry and ownership per partner. Venture groups display significantly lower levels of carry inequality than buyout funds, perhaps reflecting the greater uncertainty in outcomes and, consequently, a desire of the partners for risk-sharing. Larger groups tend to be less equal in their carry splits.

In Panel C, we find substantial differences between the senior partners and junior partners. First, the senior partners (not surprisingly) receive a greater share of the economics. The mean (median) senior partner receives 15% (13%) of the carried interest and 21% (18%) of the ownership, while for junior partners, the corresponding numbers are 7% (5%) and 3% (0%).

Second, the measures of inequality increase substantially when we look at all partners. For senior partners alone, the mean (median) measure of carry inequality measured as maximum to mean carry is 1.41 (1.27); when all partners are considered, the corresponding ratio is 1.80 (1.63). These patterns are even starker for ownership. For senior partners alone, the mean (median) measure of ownership inequality is 1.68 (1.33); when all partners are considered, the corresponding ratio is 2.63 (2.17). As Panel C also reports, the magnitudes are very similar if we use an alternative measure of inequality: the average carry for the top quartile scaled by the mean carry.[13]

Finally, the table reveals that departures of partners are relatively rare. The median fund has no departures of any partners between the closing of the current and the next fund. For the mean

[13] In what follows, we use maximum to mean carry and ownership as a measure of inequality. All the results are robust to using average for the top quartile instead of the maximum.

fund, the probability that a given senior partner will depart is 9%, for junior partners, 12%. The probability of the departure of a top performer is slightly lower.

[TABLE I]

Figure 1 provides a richer look of the division of the key economic drivers of compensation. In each of the two panels, the distribution is presented for the senior and junior partners. In Panel A, the distribution of carried interest for senior partners reaches its peak at about 10%, while the modal junior partner (using not only the partition shown in the graph, but also coarser and finer divisions) has no carry. There is a long tail of senior partners with carry shares exceeding 20%, while there are many fewer junior partners with such a large share of the economics.

The patterns with ownership are more skewed, as Panel B reveals. While abut three-quarters of the senior partners have some ownership in the firm, only about 30% of the junior partners do. Thus, ownership of the management company is much more concentrated than carried interest. Using the partition scheme in the graph, the distribution of ownership for the senior partners is essentially flat between a zero and twenty-five percent share, while for junior partners with some ownership, the share falls off very quickly.

[FIGURE 1]

Figure 2 depicts the measures of carry and ownership inequality. Panel A shows the distribution of carry inequality for the senior partners for funds of various sizes, as well as all partners. For all funds, the modal outcome (using this and other partition schemes) is a very even distribution of carry—in fact, for 24% percent of the funds, the carry inequality is exactly one. But as we look at progressively larger funds, the carry inequality increases. We present here the smoothed distribution (kernel density) for funds with more than three and more than eight senior

partners. With funds with three or more partners, the distribution peaks at about 1.25; for those with eight or more partners, near 1.75. When we examine the carry inequality computed using all partners, the distribution not only has a higher mean (as we saw in Table I), but peaks about 1.5.

In Panel B, we examine the distribution of ownership inequality in a similar manner. There is a long tail of observations, with some groups exhibiting extreme ownership inequality. Again, the inequality is substantially greater when we examine all partners than when just senior partners are analyzed.

[FIGURE 2]

In Figure 3, we look at the dynamics of these patterns. In Panels A and C, we look across different fund numbers (for instance, the third fund raised by a group as opposed to the second). We present in each case the mean inequality measure for a fund of a given number. Of course, there are many more observations of the organizations' second funds than their twelfth ones. We see that carry and ownership inequality falls as private equity organizations mature, though the pattern is more diffuse when it comes to ownership inequality. This pattern holds whether we look at just the senior partners or all the partners (where, as seen above, the measure of carry inequality is typically higher).

In Panels B and D, we look at the evolution across funds of different vintage years. Because of the maturation effect identified in Panels A and C, we might anticipate that carry inequality would fall over time. At the same time, new funds enter the industry, whose carry splits may be less or more equal than the others. We see only a modest change in carry and ownership inequality over time.

[FIGURE 3]

In unreported analyses, we look at these patterns for two subsets of individuals. First, we restrict the analysis exclusively to founders and examine their share over time. We find that the founders' share not only falls as funds mature, but has also decreased in more recent vintages. In a second analysis, we restrict the analysis to partners in "young" organizations (those in the first three funds). We find here only modest decreases in inequality over time.

B. Determinants of Fund Economics Distributions

The first empirical question relates to the drivers of the distribution of fund economics. We examine what are the key factors that drive how large carried interest and ownership stakes individuals receive.

As we will see in the regressions in Table II, an important driver of fund economics is whether the individual is a founder. Because the founders are overwhelmingly senior partners, we focus on them in Figure 4. Conditional on founder(s) being present, the top left chart shows that the mean founder receives a much larger share of the carried interest than the mean non-founder: 19.2% vs. 10.9%. If the founder is no longer with the firm, senior partners, on average, earn 12.1% carry, and the distribution of carry is more compressed (top right chart). The lower chart shows that a similar pattern holds when we examine ownership. Again, the senior partner who is a founder has an average ownership stake of 30.8%, while the mean non-founder has a stake of only 13.6%.

[FIGURE 4]

The relationship with past performance is much less consistent, as we see in Figure 5. We depict for each senior (the left graphs) and junior (the right ones) partner the partner's past performance (measured as a multiple of invested capital) and the partner's share of carry (Panel

A) and ownership (Panel B). The R^2s are presented from linear regressions using all observations and all observations with a multiple less than five. The relationships that do appear in the data appear to be driven by one or two outliers in each case, as is seen by the generally poorer goodness-of-fit when the samples are restricted to observations of partners with a multiple less than five.

These impression are corroborated in the regression analyses reported in Table II. We present separate analyses of carry and ownership stakes for senior and junior partners. We begin with the broadest possible sample, controlling for status as a founder. We then control for fund characteristics, add a control variable for the past investment multiple of the partner's investments (a step which substantially reduced the sample size), and finally add instead a variety of controls for the partner's characteristics (which again substantially limits the sample size).

In Panel A, we focus on senior partners. In each case, status as a founder has a strong and significant impact on carry and ownership, increasing the former by 7-8% (relative to a mean of 15%) and the latter by 10-19% (relative to a mean of 21%). Turning to the junior partners in Panel B (where, not surprisingly, far fewer individuals are founders), the effects continue to be strong, though smaller in magnitude: 3-5% for carried interest (relative to a mean of 7%) and 4-5% for ownership (relative to a mean of 3%).

In addition to a strong founder effect, we also see in the regressions that funds with a higher sequence number are associated with a declining share of carried interest for senior partners and a larger share for junior partners, consistent with the evidence around decreasing carry inequality shown in Figure 3. Larger funds have reduced carry and ownership stakes for all partners, perhaps because of the increasing likelihood that some of the economics were held by investment

professionals outside of the top two bands or by a third party (i.e., as a result of a founding sponsorship or a subsequent financing arrangement). (Results in Table II are robust to the addition of controls for the number of partners in unreported regressions.)

Most strikingly, past performance of senior partners has explanatory power for their ownership stake, but not for their carried interest. For junior partners, the pattern is contradictory: while better performing partners have a larger carry share, they actually have reduced ownership. (Although we have to keep in mind that the sub-sample of junior partners for whom we have ownership data is much smaller.)

[TABLE II]

C. Fund Economics and Departures of Partners

A natural next question relates to the implications of these carry distribution schemes. As noted in the introduction, the simple fact that carry distributions are unequal may not be problematic. The investment skills of partners may vary (as shown, for instance, in Ewens and Rhodes-Kropf, 2015), and the compensation scheme may reflect this fact. Partners may contribute to the success of the firm in a variety of ways in addition to selecting and overseeing attractive investments, from managing the raising of capital, to communicating with LPs, to overseeing the investment review process.

One natural place to look to understand the consequences of these economic choices is at the decision of professionals to leave the firms. In Figure 5, we take a first look at these patterns. In Panel A, we compare senior partners who left by the time of the closing of the next fund to those who were still there then; in Panel B, we undertake a similar comparison of departing and remaining junior partners.

We find that for senior and junior partners, partners who stay have significantly higher carry stakes, though the magnitudes of the levels and differences are larger for the senior partners (16% vs 9%, as opposed to 6% vs. 5%). There is an even more dramatic differentiation in ownership stake than in the case of carried interest among the senior partners: while those who stay until the next fund have 23% of the ownership, those who leave only have 13%. Among the junior partners, these differences are insignificant, doubtless reflecting the low probability that junior partners receive ownership stakes in the first place.

A natural concern is whether the departing partners are underachievers and thus more likely to be asked to leave the partnership. The same poor performance may explain their low share of the fund economics. To address the possibility that correlations are leading to spurious conclusions, we examine the performance attributed to the investors who ultimately stay or leave. Recall that the performance attribution is done at the time of due diligence on the funds, before closing of the fund (and any departures of partners). Thus, these evaluations should not be dragged down by the temptation that fund managers may experience to saddle a departed partner with the poorest transactions. Here, we see no significant patterns: while the departing senior partners do slightly worse (a multiple of 1.9 vs. 2.3), and the departing junior partners do better (a multiple of 2.8 vs. 2.2), none of these differences are statistically significant.

Finally, we examine how the overall carry inequality at a fund affects the decision to stay or leave. We find that senior partners are statistically significantly more likely to stay at a firm with lower carry inequality (an inequality measure of 1.5 for the stayers vs. 1.6 for the leavers). Among the junior partners, the effect seemed to go the other way.

[FIGURE 5]

To examine these patterns in regression analyses, we proceed in two ways. First, in Table III, we remain at the level of the individual partner. We then turn, in Table IV, to examining these patterns at the fund level.

In Table III, the unit of observation is that of an individual partner-fund pair. The dependent variable takes on the value one if the individual departed before the closing of the next fund, and zero otherwise. We employ an OLS regression specification. We first present that analysis with the carry or ownership share as the key independent variable (specifications (1), (4), and (7)), then with an additional control for the individual's attributed investment multiple at that point (specifications (2), (5), and (8). The remaining three specifications use the residual from regressing the carry and ownership stake on the founder status dummy and a set of fund characteristics (i.e., the residuals from the analyses reported in Table II, specifications (2) and (6), respectively.) As before, we undertake separate analyses for senior and junior partners.

The results in Table III point out that both carried interest and ownership stakes are associated with the decision of senior partners to leave funds: individuals with a lower share of the economics are significantly more likely to leave a fund. Carry stake is also important in explaining departures of both junior partners, but not the ownership stake. As before, this latter result is most likely due to the fact that few junior partners hold ownership stake in the firm.

[TABLE III]

Table IV examines decisions to depart on the fund-wide level. Here, we use the share of senior or junior partners leaving before the closing of the next fund as the dependent variable. We examine the share of departures of all partners, as well as those who are top performers (again, using those whose attributed performance is greater than a two times gross multiple, though we also repeat the analysis using a three times threshold, and find that the results are

robust).The key independent variable is the measure(s) of carry or/and ownership inequality at the fund.

Here, the results diverge sharply among the senior and junior partners. The share of departures among the senior partners is significantly greater in cases where the inequality of the carry or ownership is greater. In Panel A, a one-standard deviation increase in the carry inequality measure (0.49) in regression (1) increases the rate of departures by 2.2%; a one-standard deviation increase in the ownership inequality measure in regression (3) (0.88) increases the rate by 3.7%, both of which are economically meaningful relative to the mean departure rate of senior partners of 9.0%. The results when we look at the share of high-performing departers are equally significant and similar in magnitude. The inequality of compensation levels has much less of an impact on junior partner-level departures in Panel B, suggesting that their departure decisions may be swayed more by the probability of promotion rather than by the distribution of fund economics.[14]

[TABLE IV]

D. The Consequences of Departures

A related question is whether these departures affect the private equity firms from which they depart. Even if high achievers are departing firms with unequal economics, as Table IV suggests, one might hypothesize that they can be readily replaced with no detrimental consequences for the performance of subsequent funds. On the other hand, sophisticated LPs (e.g., Swensen, 2005)

[14] A natural follow-on analysis would examine the change in carry split and overall economics that departing partners experience (conditional on staying in the private equity industry). Unfortunately, we cannot create a reasonably sized sample of such departers: while our LP is a large one, it still invests in (and thus has compensation data on) a small fraction of the overall pool of PE funds.

often argue that team stability is an important prerequisite to a partnership's enduring investment success. In particular, they highlight that even when a departing GP is replaced by a comparable investor, performance frequently suffers, because of the challenges that investment professionals working together for the first time frequently encounter. Because sophisticated LPs frequently hope to nurture relationships with investment firms for many years, they frequently look askance at such staffing changes.

One challenge with exploring the consequences of the departures relates to the relatively recent vintages of many of the funds in our sample (as noted above, the median vintage year in our sample is 2007). In particular, it is difficult to assess what the impact of departures has on the ultimate performance of subsequent funds, because many successor funds do not have meaningful performance numbers as of yet. So here, we do a more limited analysis, focusing on the consequences of departures on the sizes of the subsequent funds.

Cornelli, Simintzi, and Vig (2015) examine the consequence of investor turnover on the performance of roughly two thousand individual investments. They find that investments performed worse when a key investor responsible for the investment left during the period the firm remained within the fund's portfolio. They suggest, though, that the departure of the individual did not cause the underperformance of the deal, but rather that the departure was driven by the underperformance of the investment. Here, we are examining how the size of future funds changes as a consequence of departures.

We look at these patterns in a regression framework. In Table V, we use each fund in the sample that raised a follow-on fund through the end of 2015 as an observation. We use as the dependent variable the natural logarithm of the size of the next fund raised. We use as independent variables the logarithm of the current fund size, the characteristics of the fund, and

(critically for our purposes) the share of departures of the senior partners (in Panel A) and junior partners (Panel B) in the two years after the closing of the fund. We focus on early departers because of concerns about interpretation raised by Cornelli, Simintzi, and Vig (2015): it could be that troubled firms take a long time to raise, end up with smaller amounts of capital, and experience extensive turnover due to health issues or changing preferences during the long ensuing gap, but the departures do not cause the fundraising difficulties. By focusing on departures over a set period of time soon after the fund closing, when the performance of the investments is still unclear, we minimize these issues of interpretation.

We also control for the performance of the current fund in some regressions using various metrics (all measured using cash flows in U.S. dollars): the internal rate of return, the multiple of invested capital, and the Kaplan-Schoar public market equivalent (PME) relative to the S&P 500 index. We also look at top-performing departers as a share of the partners.

[TABLE V]

The results suggest a relationship between the extent of departures and performance. This relationship is very strong for senior partners, and also true if the departing partners are the top performers. For instance, the second regression in Panel A implies that the loss of one senior partner at an average-sized firm (i.e., one with four senior partners) is associated with the next fund, all else being equal, being 17% smaller (= *exp*(0.76 * .25)). The departure of junior partners has much less of an implication for future fundraising. We also see from the control variables that buyout funds are more likely to grow quickly, as are funds with a higher IRR.

The results are robust to the use of longer windows (e.g., departures in the three years after the fund was raised) as well to the use of alternative dependent variables (for instance, time to

the raising of the next fund, though the results here are less statistically significant). These findings suggest that departures have real consequences for funds' ability to access capital.[15]

IV. Conclusion

The economics of partnerships have been a topic of enduring interest to economists. While the cross-sectional moral hazard issues posed by the sharing of partnership economics are well understood, the dynamic problems that can emerge have been less well scrutinized. Here, we examine roughly 700 private equity partnerships, and show that (a) the allocation of fund economics to individual partners seems divorced from past success as an investor, being instead critically driven by status as a founder, (b) the underprovision of carried interest and ownership—and inequality in fund economics more generally—leads to the departures of senior partners from these funds, and (c) the departures of partners have significant negative effects on the ability of the funds to subsequently raise additional capital.

It must be acknowledged that even if high achievers are disproportionately departing, and these departures negatively impact funds, having funds with a high degree of carry or ownership inequality may still be privately optimal for the founders. They may prefer to have the proverbial larger share of a smaller pie, especially if there is a considerable income to be gleaned from management and transaction fees. But such outcomes are unlikely to be in the interest of the LPs, who seek to build long-term relationships with stable, high-performing funds.

[15] It might be thought that such departures would be "good news" for the remaining partners, as the benefits from not having to split the fund with the additional partner would make up for the smaller size. In actuality, there are substantial economies of scale in running a private equity fund, so the fall in excess management fees (i.e., fees net of operating expenses) after raising a smaller fund may be substantial.

While this paper takes a first look at fund economics, there is much more to learn here. One particularly interesting question relates to the generalizability of the findings to other asset classes. The assets under management by investment partnerships of many types—from the familiar hedge and real estate funds to more novel ones targeting natural resources, distressed debt, and infrastructure—have exploded in recent decades. To what extent do the same types of issues appear in these settings?

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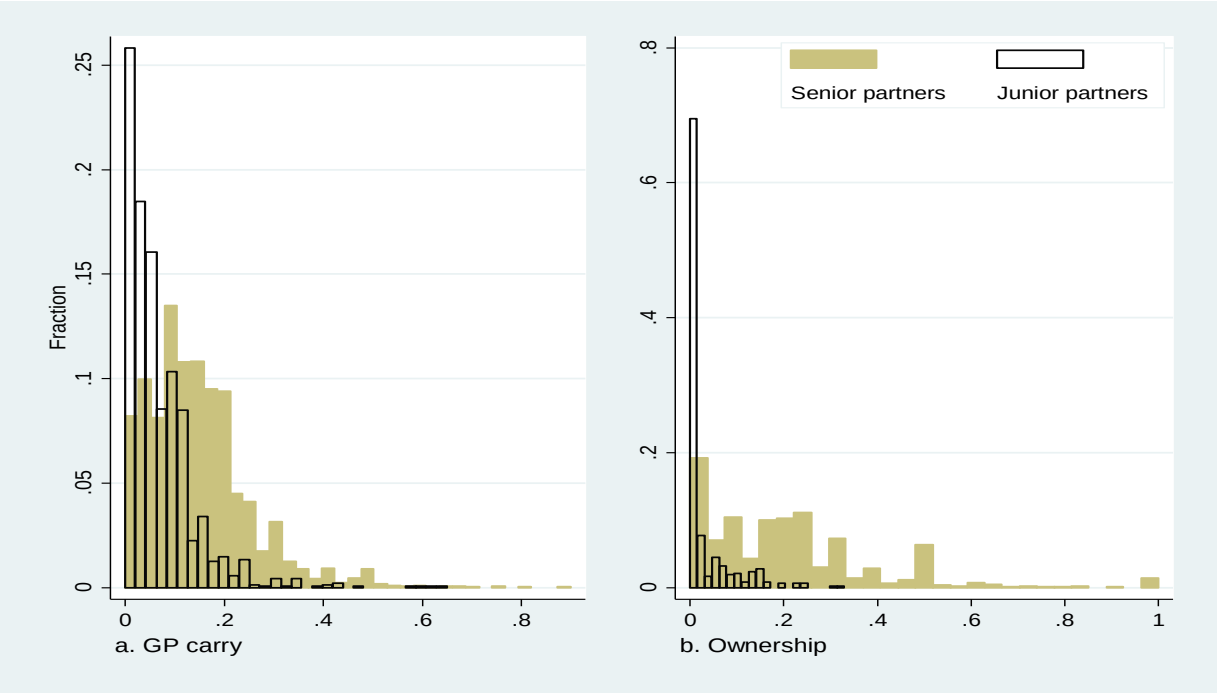


Figure 1. Distribution of partners' share of carried interest and ownership. We present for each senior and junior partner the share of the economics of the funds in our sample.

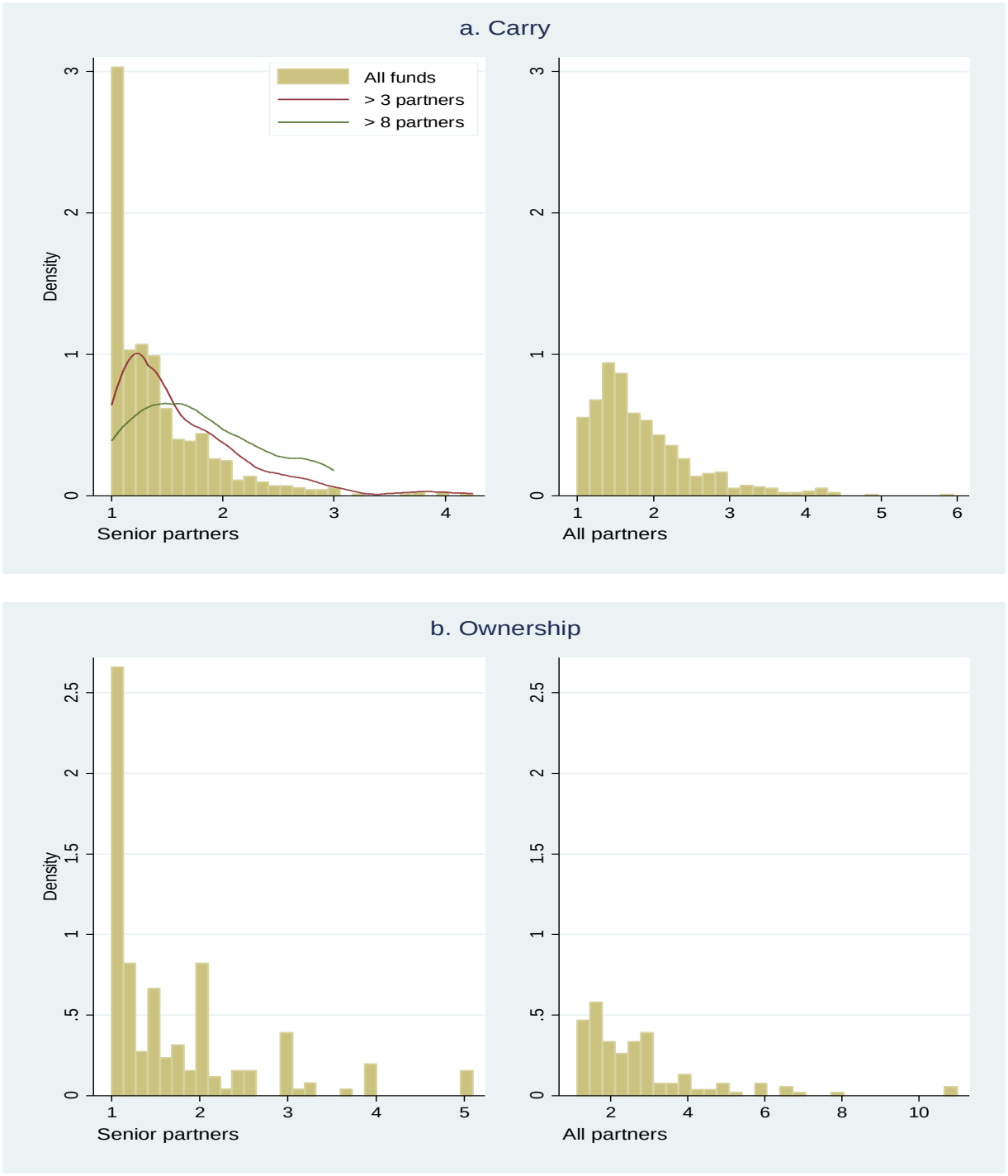


Figure 2. Ratio of maximum to mean carry and ownership stake. We present for each fund in the sample our measure of the inequality of carried interest and ownership, computed for senior partners only in the left panel and for all partners on the right. We present the smoothed (kernel density) distribution for funds with more than three and eight senior partners in the upper left panel.

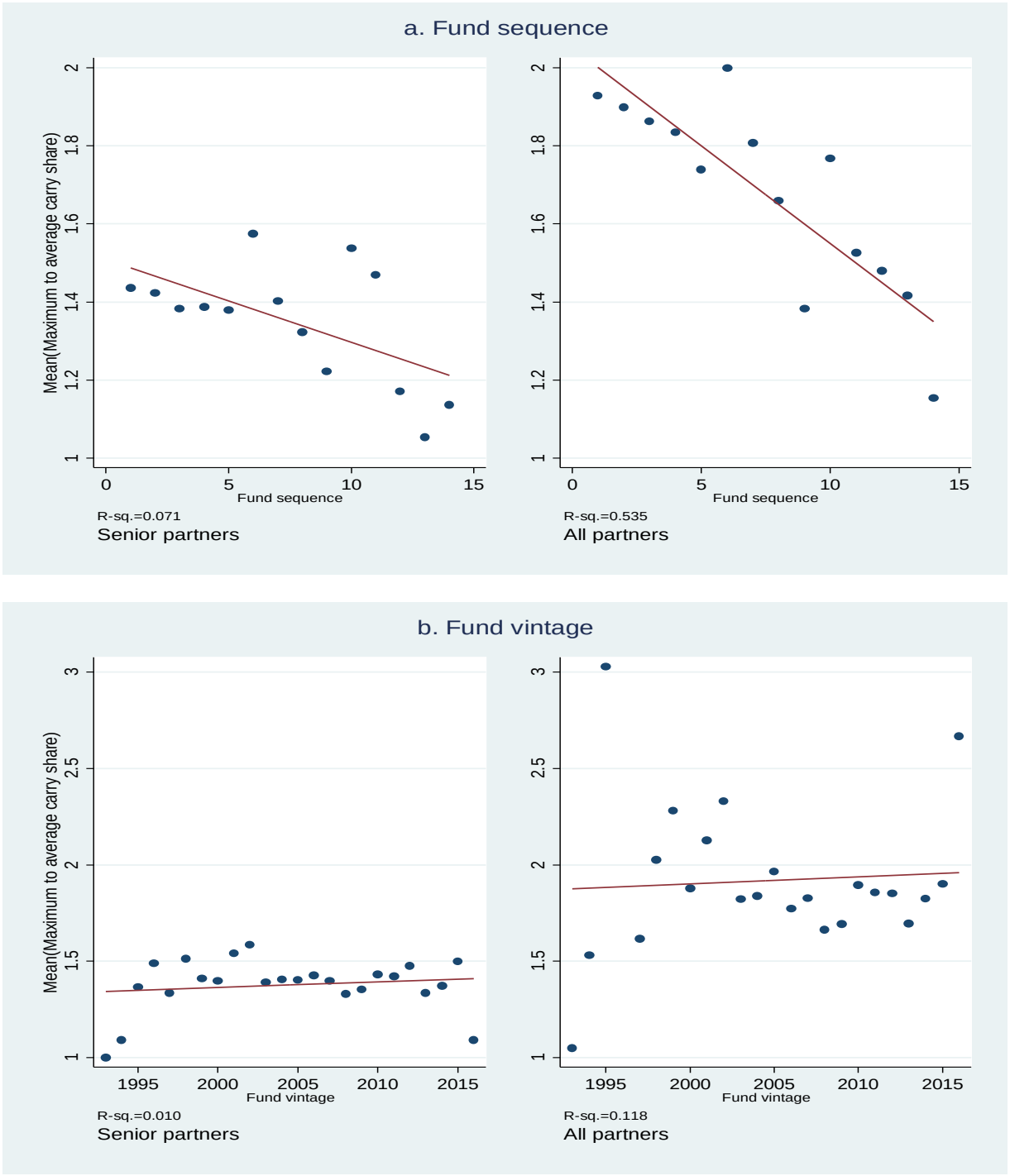
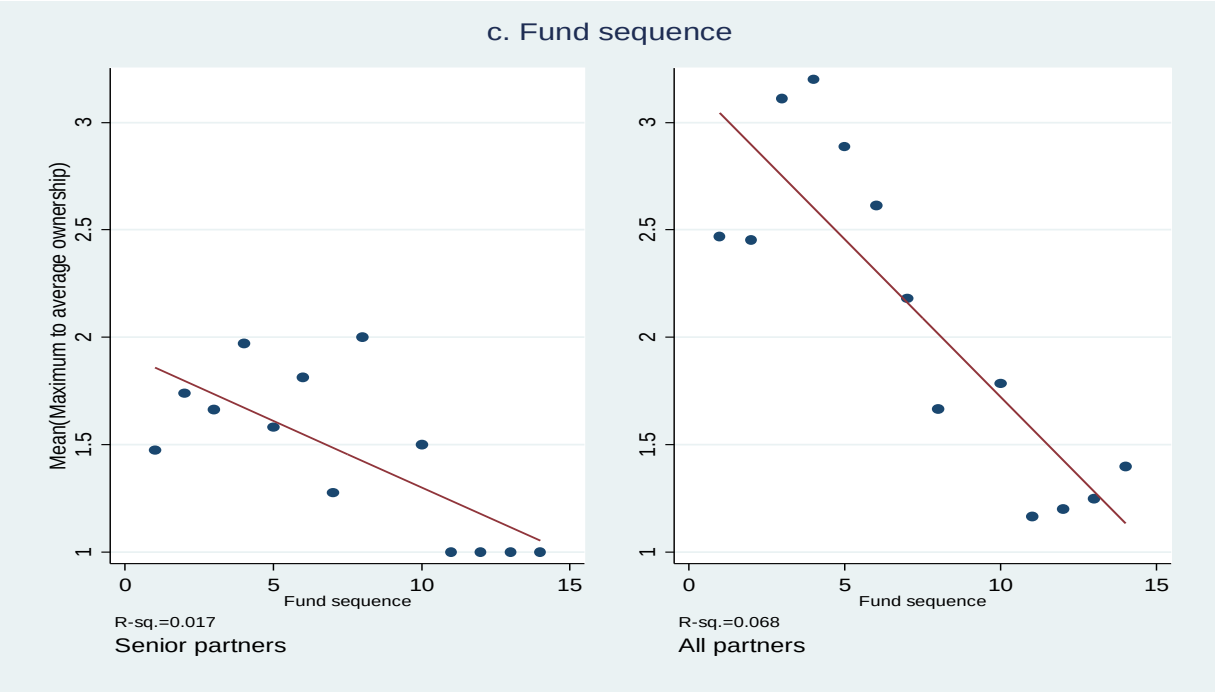
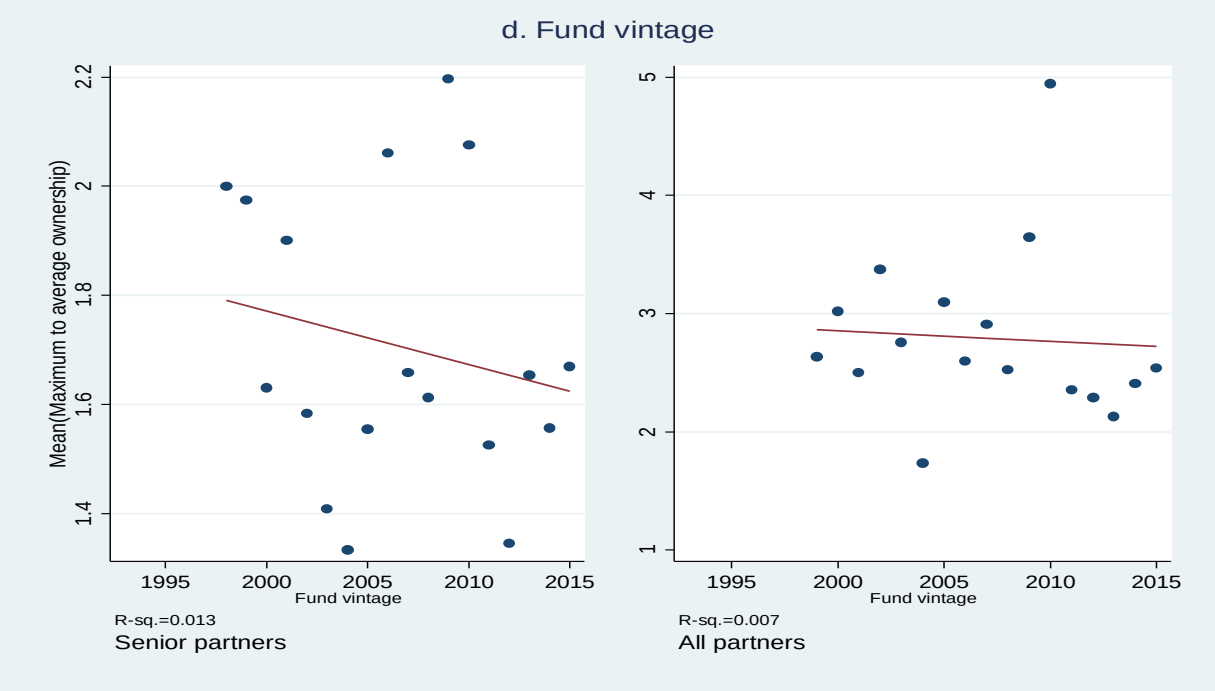


Figure 3. Evolution of carry and ownership inequality. Each observation in the plot corresponds to the mean inequality measure for a given fund sequence number (Panels a and c) or fund vintage (b and d).

Figure 3—continued





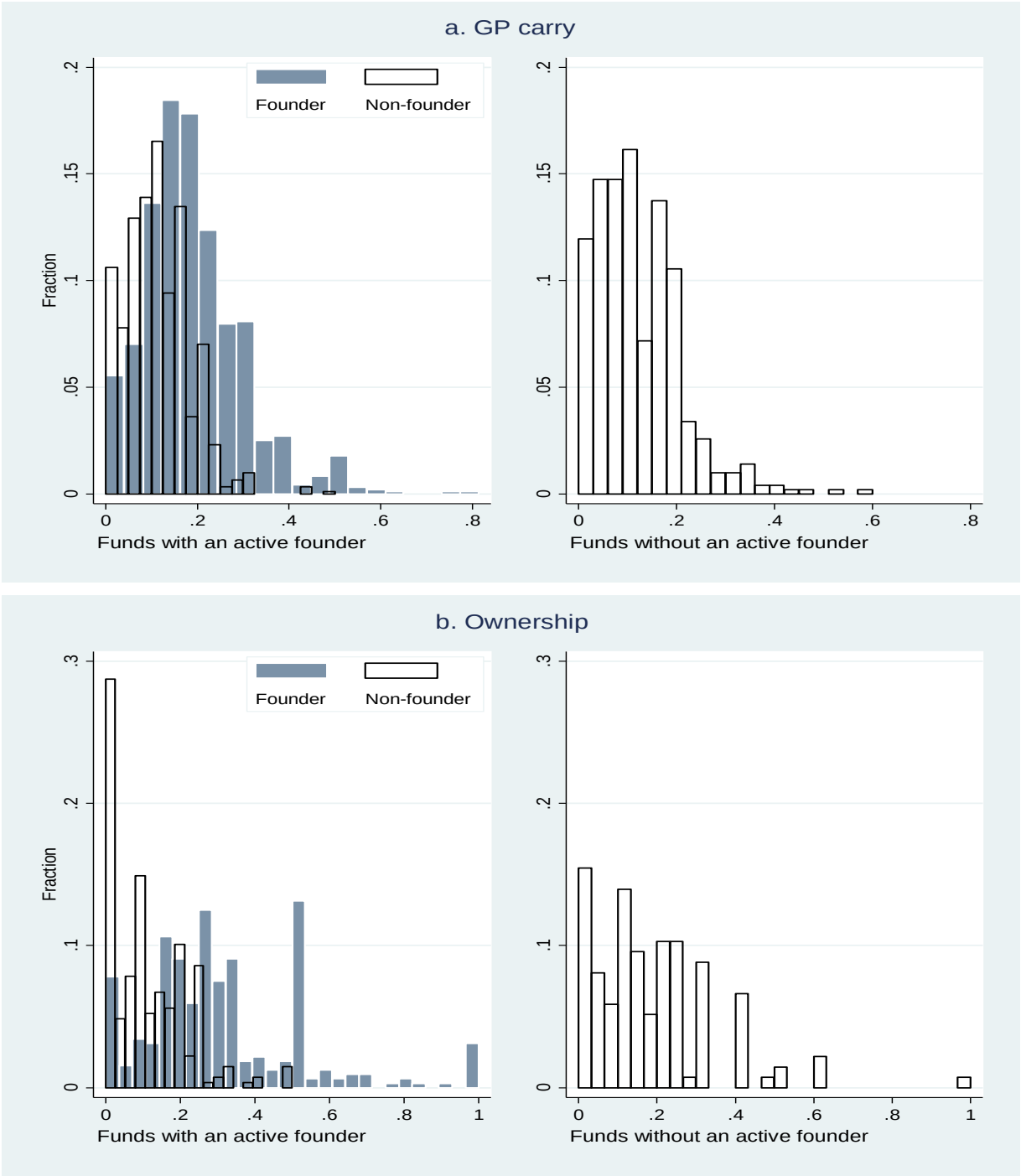


Figure 4. Founders' and non-founders' share of carried interest and ownership. These are presented for all senior partners in the sample.

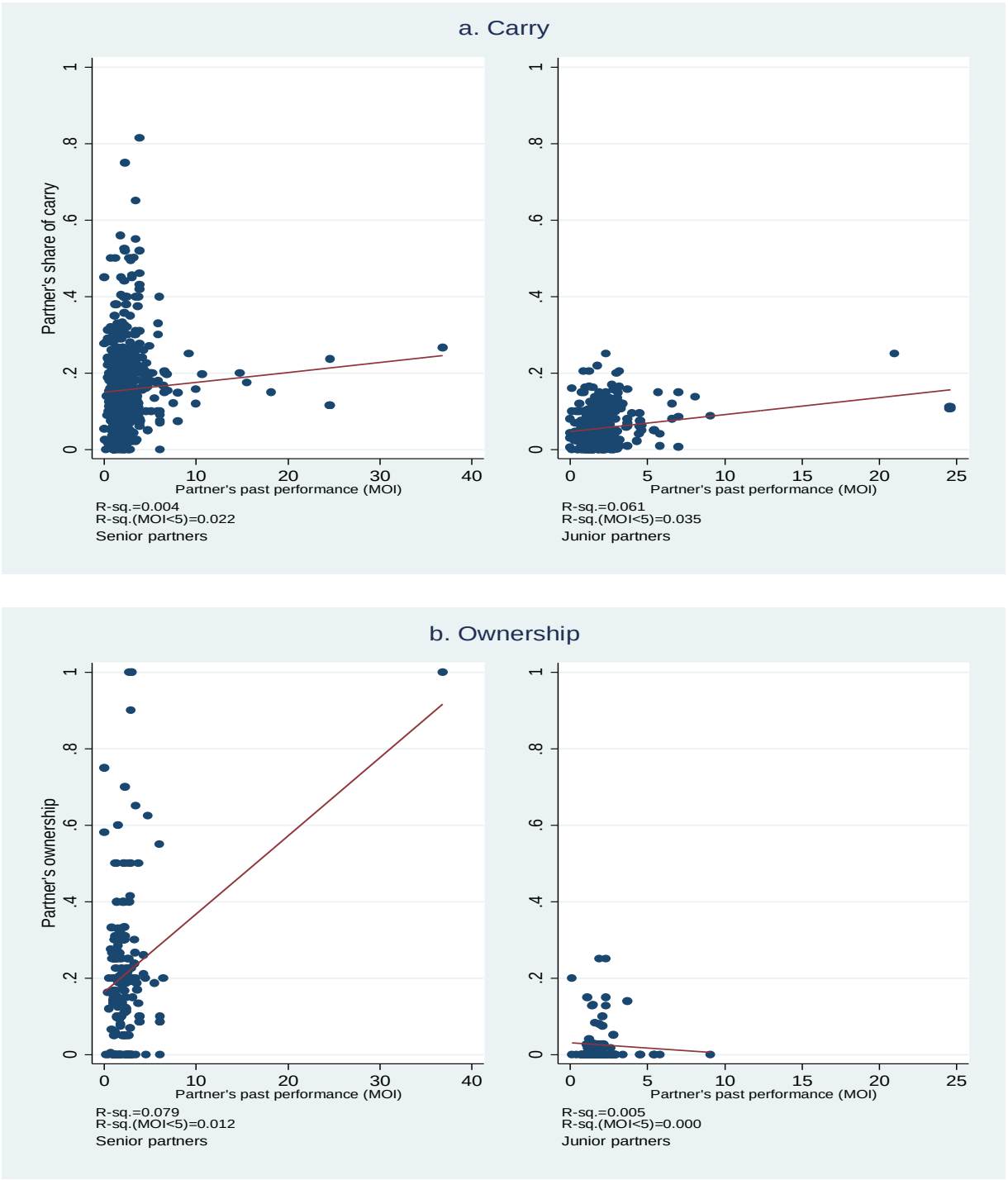
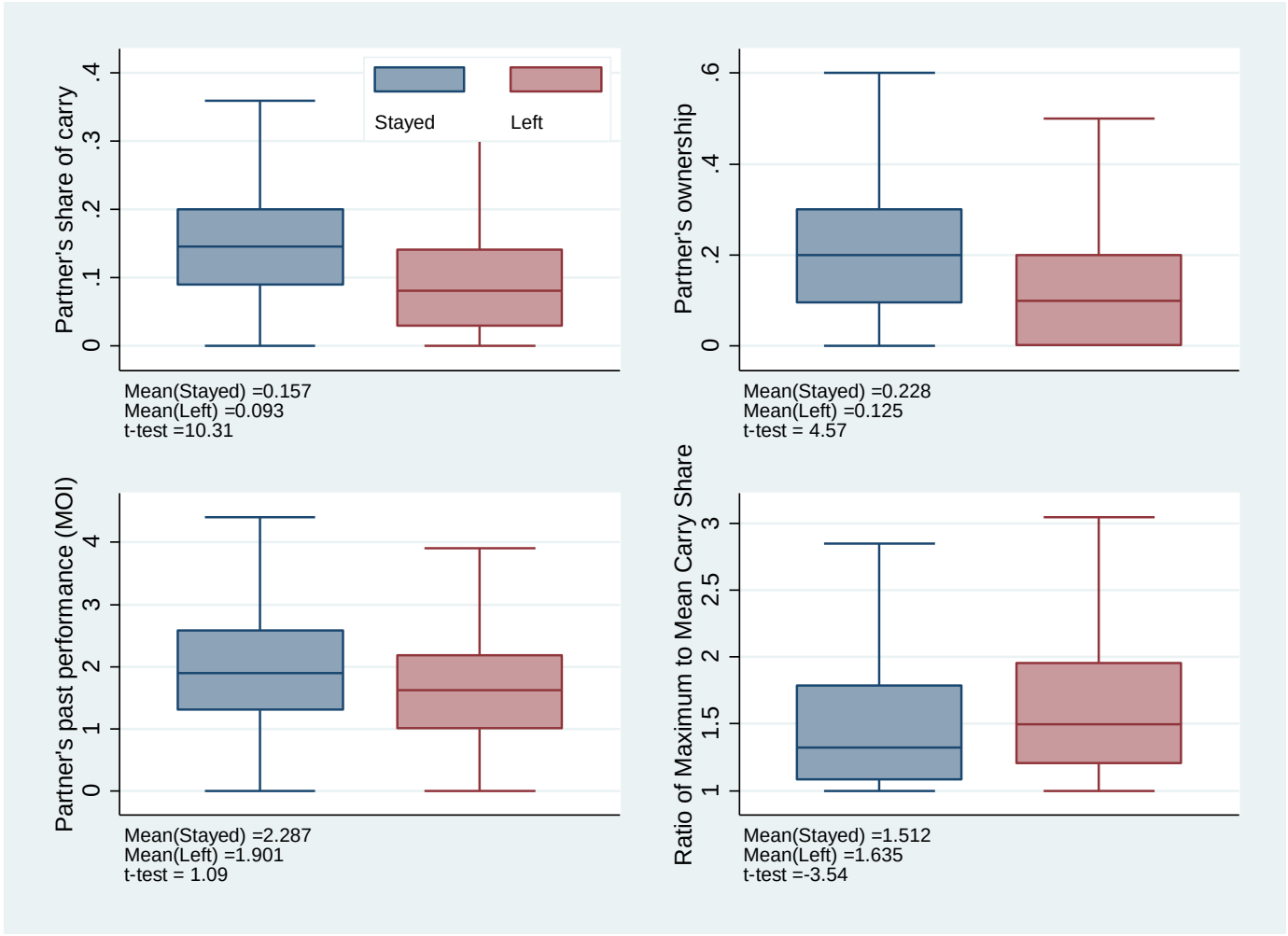


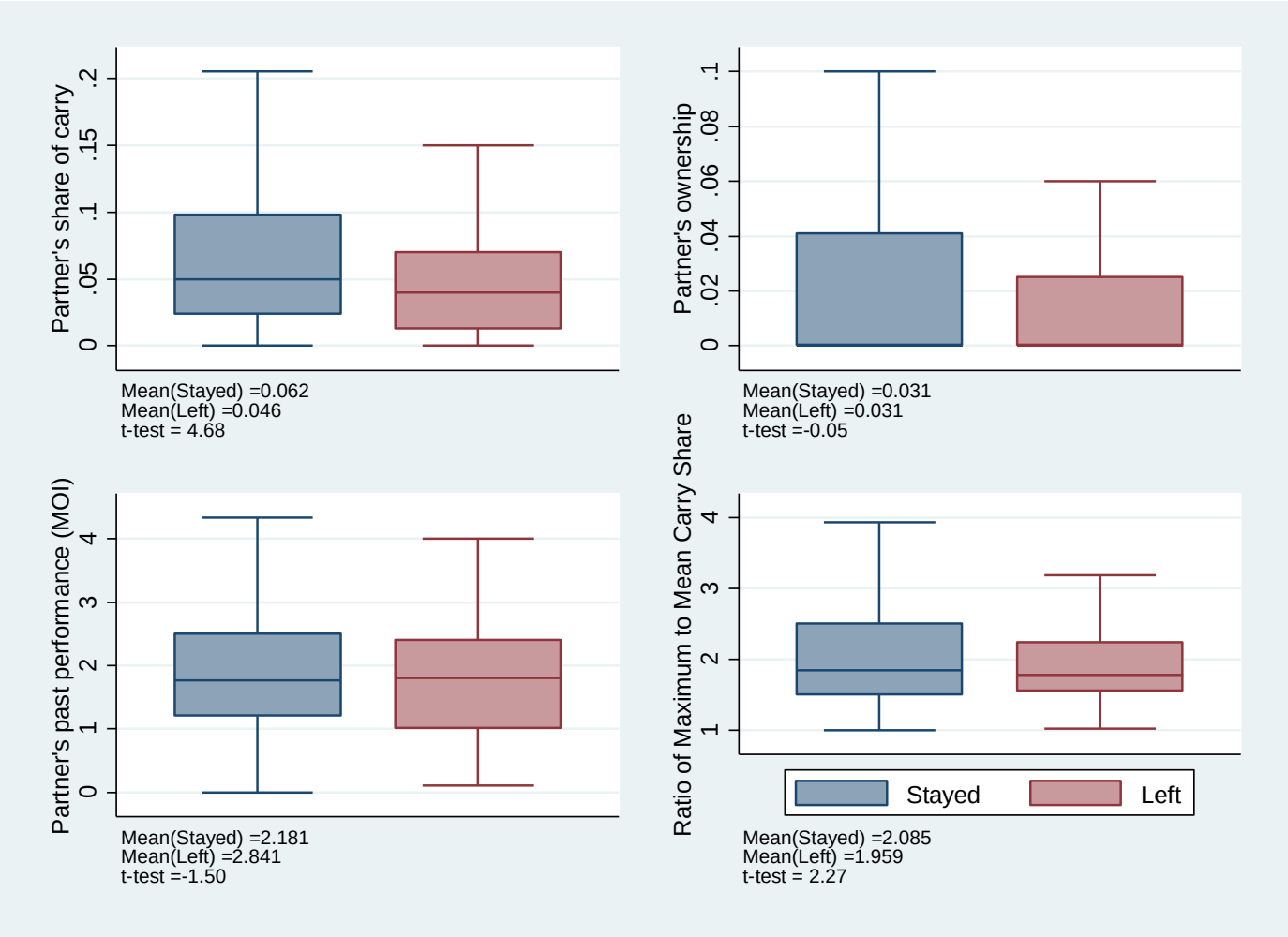
Figure 5. Partners' share of carried interest and ownership and past performance. We present for each senior (the left graphs) and junior (the right ones) partner in the sample the partner's past performance (measured as a multiple of invested capital) and the partner's share of carry (Panel A) and ownership (Panel B). The R^2s are presented from linear regressions using all observations and all observations with a multiple less than five.



a. Senior partners

Figure 6. Factors associated with partners' departure. The table compares for senior partners (Panel A) and junior partners (Panel B) the characteristics of those partners who remain through the next fund and those who depart before the next fund's closing: the share of carry and ownership in the current fund, past performance (expressed as a gross multiple of investment), and the overall carry inequality of the current fund. The *t*-test corresponds to the differences in means between the two groups.

Figure 6—continued



b. Junior partners

Table I
Summary Statistics

Panel A. Reporting of carry and ownership by fund, segmented by fund size. We look at all available carry information. (As compared to the unconditional sample, this sample is reduced by nine funds due to lack of the fund-size information.) Funds are sorted into size quartiles for each vintage year.

	Buyout funds (% of all funds with carry data)	Funds with ownership data (% of all funds with carry data)	Buyout funds with ownership data (% of buyout funds with carry data)
Size quartile			
1 (smallest)	44%	36%	40%
2	51%	28%	38%
3	68%	26%	34%
4 (largest)	89%	15%	17%
Total	62%	27%	30%

Table I – continued

Panel B. Distribution of all partners with carried interest or ownership data, by fund type and geography. The t-test statistics test the differences in means with North American funds for the fund geography category, the differences in means with buyout funds for the funds type category, and the differences in means between the largest and the lowest fund size quartile. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Carried interest				Firm ownership				Carry inequality: Max/Mean				Ownership inequality: Max/Mean			
	Obs. (partners)	Std. dev.	Mean	*t*-test	Obs. (partners)	Std. dev.	Mean	*t*-test	Obs. (funds)	Std. dev.	Mean	*t*-test	Obs. (funds)	Std. dev.	Mean	*t*-test
Fund geography:																
North America	2,103	0.102	0.125	--	463	0.191	0.151	--	296	0.701	1.842	--	66	2.206	3.026	--
Europe	1,118	0.101	0.097	-7.49***	477	0.156	0.123	-2.45**	154	0.639	1.849	0.10	61	1.423	2.490	-1.61
Rest of the world	743	0.102	0.132	1.69*	246	0.190	0.153	0.15	130	0.745	1.878	0.48	36	1.179	2.656	0.93
Fund type:																
Buyout	2,568	0.106	0.113	--	908	0.174	0.131	--	385	0.688	1.884	--	124	1.870	2.828	--
Mezzanine	176	0.105	0.109	-0.56	46	0.229	0.173	1.59	25	0.895	2.157	1.88*	7	0.504	2.854	0.04
VC/Growth	1,227	0.094	0.130	4.79***	232	0.178	0.169	2.96***	171	0.656	1.734	-2.41**	32	1.387	2.394	-1.23
Fund size quartile:																
1 (smallest)	917	0.107	0.147		371	0.174	0.156		154	0.689	1.774		57	1.733	2.603	
2	956	0.097	0.125		283	0.170	0.153		146	0.696	1.803		43	1.563	2.467	
3	1,017	0.101	0.117		309	0.191	0.130		147	0.640	1.870		40	1.880	3.088	
4 (largest)	1,055	0.096	0.088		210	0.169	0.103		129	0.745	1.976		20	1.944	3.159	
4-1			-0.058	-12.77***			-0.053	-3.57***			0.202	2.36**			0.556	1.20
Total	3,971	0.102	0.118		1,186	0.178	0.140		674	0.685	1.802		187	1.695	2.635	

Table I – continued

Panel C. Distribution of economics (by partner) and fund characters.

	Obs.	Std. dev.	Mean	10th %	Median	90th %	Obs.	Std. dev.	Mean	10th %	Median	90th %
	Senior partners						Junior partners					
Carry	2,577	0.106	0.147	0.031	0.130	0.278	1,394	0.070	0.066	0.000	0.050	0.138
Ownership	733	0.192	0.210	0.000	0.180	0.500	453	0.053	0.027	0.000	0.000	0.100
Across funds:												
Number of partners	673	2.499	3.976	2.000	3.000	7.000	540	2.865	2.620	1.000	1.000	5.000
Fraction of partners leaving by next fund	673	0.198	0.089	0.000	0.000	0.333	540	0.269	0.122	0.000	0.000	0.500
Fraction of top-performers leaving by next fund	673	0.189	0.080	0.000	0.000	0.333	540	0.256	0.110	0.000	0.000	0.500
	Senior partners						All partners (Senior and junior partners identified)					
Across funds:												
Carry inequality: Max /Mean	673	0.489	1.408	1.000	1.268	2.000	674	0.685	1.802	1.125	1.634	2.733
Carry inequality: Top quartile/Mean	673	0.390	1.341	1.000	1.238	1.829	674	0.445	1.607	1.091	1.532	2.200
Ownership inequality: Max/Mean	187	0.884	1.677	1.000	1.333	3.000	187	1.695	2.635	1.250	2.172	4.550
Ownership inequality: Top quartile /Mean	187	0.694	1.540	1.000	1.255	2.333	187	0.730	1.937	1.140	1.791	3.000

Table II
Who Gets the Money?

Each observation in the regressions is an individual partner in a given fund. The dependent variable is the share of carried interest or management company ownership accruing to the individual partner. The independent variables include a dummy denoting whether an individual is a founder of the respective firm, the sequence number of the fund and logarithm of its size, a dummy for whether the fund is a buyout one, the individual's past track record (expressed as a gross multiple of invested capital), the individual's years of private equity experience and with the firm, dummies for the individual's experience and education, and geography and vintage year controls. Panel A presents the results for senior partners; Panel B for junior partners. The founder dummy is dropped from regression (7) of Panel B due to the small number of observations. Standard errors (reported in brackets) are clustered at the firm×fund-type level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table II – continued

Panel A. Senior partners

	Carried interest				Firm ownership			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Founder	0.0785***	0.0695***	0.0818***	0.0772***	0.1721***	0.1696***	0.1037***	0.1945***
	[0.004]	[0.004]	[0.007]	[0.010]	[0.013]	[0.014]	[0.026]	[0.043]
Fund sequence	--	-0.0031***	0.0010	-0.0042**	--	-0.0004	0.0030	-0.0090
		[0.001]	[0.002]	[0.002]		[0.003]	[0.008]	[0.009]
Log(Fund size)	--	-0.0251***	-0.0270***	-0.0189***	--	-0.0071	-0.0223	-0.0286
		[0.002]	[0.004]	[0.006]		[0.008]	[0.018]	[0.027]
Buyout	--	0.0176***	0.0217***	-0.0092	--	-0.0038	-0.0101	0.0846
		[0.004]	[0.007]	[0.012]		[0.018]	[0.040]	[0.060]
Past performance (MOI)	--	--	0.0003	--	--	--	0.0200***	--
			[0.001]				[0.004]	
Years in PE	--	--	--	-0.0003	--	--	--	0.0022
				[0.001]				[0.003]
Years with the firm	--	--	--	0.0003	--	--	--	0.0029
				[0.001]				[0.005]
Experience: Banking	--	--	--	-0.0049	--	--	--	0.0453
				[0.009]				[0.038]
Education: MBA	--	--	--	0.0074	--	--	--	0.0157
				[0.009]				[0.040]
Education: MD	--	--	--	0.1128***	--	--	--	0.6834***
				[0.037]				[0.202]
Education: JD	--	--	--	-0.0377**	--	--	--	-0.0814
				[0.016]				[0.087]
Education: Ph.D.	--	--	--	0.0240	--	--	--	0.1128
				[0.020]				[0.092]
Education: Ivy league	--	--	--	0.0024	--	--	--	0.0482
				[0.015]				[0.085]
Education: Top school U.S. (Bachelor)	--	--	--	0.0027	--	--	--	-0.1209
				[0.014]				[0.082]
Education: Top school Europe (Bachelor)	--	--	--	0.0122	--	--	--	0.0520
				[0.023]				[0.113]
Fixed effects: Vintage	--	Yes	Yes	Yes	--	Yes	Yes	Yes
Fixed effects: Geography	--	Yes	Yes	Yes	--	Yes	Yes	Yes
Observations	2,369	2,346	787	320	724	712	192	126
R-squared	0.15	0.25	0.32	0.45	0.20	0.26	0.30	0.46

Table II – continued

Panel B. Junior partners

	Carried interest				Firm ownership			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Founder	0.0288***	0.0328***	0.0530***	0.0253**	0.0408***	0.0526***	--	0.0073
	[0.005]	[0.005]	[0.011]	[0.013]	[0.013]	[0.014]		[0.023]
Fund sequence	--	0.0030***	0.0035***	0.0050**	--	0.0032*	-0.0094**	-0.0001
		[0.001]	[0.001]	[0.002]		[0.002]	[0.004]	[0.007]
Log(Fund size)	--	-0.0158***	-0.0224***	-0.0254***	--	-0.0108***	-0.0272***	-0.0363***
		[0.001]	[0.002]	[0.005]		[0.004]	[0.010]	[0.007]
Buyout	--	0.0128***	0.0196***	0.0193	--	0.0010	0.0035	0.0756***
		[0.003]	[0.006]	[0.013]		[0.008]	[0.027]	[0.022]
Past performance (MOI)	--	--	0.0021**	--	--	--	-0.0145***	--
			[0.001]				[0.005]	
Years in PE	--	--	--	-0.0000	--	--	--	0.0024*
				[0.001]				[0.001]
Years with the firm	--	--	--	0.0010	--	--	--	-0.0002
				[0.001]				[0.002]
Experience: Banking	--	--	--	0.0100	--	--	--	0.0148
				[0.007]				[0.010]
Education: MBA	--	--	--	0.0007	--	--	--	-0.0023
				[0.008]				[0.011]
Education: MD	--	--	--	0.0048	--	--	--	--
				[0.042]				
Education: JD	--	--	--	0.0062	--	--	--	0.0154
				[0.019]				[0.025]
Education: Ph.D.	--	--	--	0.0624*	--	--	--	--
				[0.034]				
Education: Ivy league	--	--	--	0.0438	--	--	--	0.0268
				[0.027]				[0.037]
Education: Top school U.S. (Bachelor)	--	--	--	-0.0326	--	--	--	-0.0267
				[0.025]				[0.028]
Education: Top school Europe (Bachelor)	--	--	--	0.0111	--	--	--	0.0069
				[0.031]				[0.044]
Fixed effects: Vintage	--	Yes	Yes	Yes	--	Yes	Yes	Yes
Fixed effects: Geography	--	Yes	Yes	Yes	--	Yes	Yes	Yes
Observations	1,166	1,148	407	147	404	393	91	85
R-squared	0.02	0.19	0.37	0.42	0.02	0.14	0.37	0.62

Table III
Departure of Partners: Individual Level

Each observation in the regressions is an individual partner in a given fund. The dependent variable is a dummy equal to one if the partner left by the time the next fund was closed, and zero otherwise. The independent variables are the share of carried interest or ownership allocated to that partner and the individual's past track record (expressed as a gross multiple of invested capital). The economic measures in the third, sixth and ninth regressions are residuals from a regression of the economic measure on partner and fund characteristics. Panel A presents the results for senior partners; Panel B for junior partners. Standard errors (reported in brackets) are clustered at the firm×fund-type level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Senior partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Carry	-0.7485***	-0.3653***	-0.2574**	--	--	--	-0.5478***	-0.7776**	-0.5739*
	[0.073]	[0.089]	[0.107]				[0.171]	[0.303]	[0.339]
Ownership	--	--	--	-0.2882***	-0.3621***	-0.2317*	-0.0828	-0.0474	-0.0418
				[0.063]	[0.118]	[0.129]	[0.090]	[0.175]	[0.177]
Past performance (MOI)	--	-0.0035	-0.0041	--	0.0084	0.0051	--	0.0037	0.0025
		[0.004]	[0.004]		[0.008]	[0.008]		[0.008]	[0.008]
Fixed effects: Vintage	--	--	Yes	--	--	Yes	--	--	Yes
Observations	2,133	700	697	686	175	175	680	172	172
R-squared	0.05	0.03	0.01	0.03	0.05	0.02	0.04	0.09	0.04

Panel B. Junior partners

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Carry	-1.2971***	0.0395	-0.5463	--	--	--	-1.7996***	-1.7244*	-1.8071*
	[0.277]	[0.354]	[0.421]				[0.543]	[0.973]	[1.050]
Ownership	--	--	--	0.0173	0.6722	0.2642	0.6843	1.5138*	1.1865
				[0.384]	[0.658]	[0.713]	[0.426]	[0.824]	[0.896]
Past performance (MOI)	--	0.0080	0.0099	--	-0.0271	-0.0292	--	-0.0154	-0.0185
		[0.006]	[0.006]		[0.028]	[0.028]		[0.029]	[0.029]
Fixed effects: Vintage	--	--	Yes	--	--	Yes	--	--	Yes
Observations	1,020	355	354	358	75	75	339	73	73
R-squared	0.02	0.01	0.01	0.00	0.03	0.02	0.03	0.07	0.06

Table IV
Departure of Partners: Fund Level

Each observation in the regressions is a fund. The dependent variable is the fraction of senior partners (Panel A) or junior partners (Panel B) that left by the time of the next fund. Top performers are partners with a gross multiple of invested capital greater than two times. The independent variables are the fund's carry and ownership inequality, the fraction of the partners who are founders, the sequence and logarithm of the size of the fund, and controls for the type, vintage year, and geography of the fund. Standard errors (reported in brackets) are clustered at the firm×fund-type level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Senior partners

	Fraction of partners leaving by next fund						Fraction of top performers leaving by the next fund					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Carry inequality: Max /Mean	0.0457***	0.0472***	--	--	0.0860**	0.0860**	0.0416***	0.0450***	--	--	0.0741**	0.0751**
	[0.016]	[0.016]			[0.034]	[0.038]	[0.015]	[0.015]			[0.034]	[0.038]
Ownership inequality: Max /Mean	--	--	0.0394**	0.0385**	0.0076	0.0091	--	--	0.0375**	0.0398**	0.0100	0.0141
			[0.017]	[0.019]	[0.021]	[0.023]			[0.016]	[0.019]	[0.021]	[0.022]
Fraction of founding partners	--	0.0025	--	-0.0320	--	-0.0217	--	0.0063	--	-0.0162	--	-0.0072
		[0.022]		[0.048]		[0.048]		[0.021]		[0.047]		[0.047]
Fund sequence	--	0.0105***	--	0.0026	--	0.0035	--	0.0102***	--	0.0031	--	0.0039
		[0.004]		[0.008]		[0.008]		[0.004]		[0.008]		[0.008]
Log(Fund size)	--	0.0002	--	0.0215	--	0.0172	--	-0.0009	--	0.0096	--	0.0058
		[0.008]		[0.019]		[0.019]		[0.007]		[0.019]		[0.019]
Buyout	--	-0.0418**	--	-0.0577	--	-0.0605	--	-0.0315*	--	-0.0423	--	-0.0448
		[0.018]		[0.041]		[0.041]		[0.017]		[0.040]		[0.040]
Fixed effects: Vintage	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes
Fixed effects: Geography	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes
Observations	673	666	187	183	187	183	673	666	187	183	187	183
R-squared	0.01	0.07	0.03	0.15	0.06	0.18	0.01	0.07	0.03	0.13	0.05	0.15

Table IV – continued

Panel B. Junior partners

	Fraction of partners leaving by next fund						Fraction of top performers leaving by next fund					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Carry inequality: Max /Mean	-0.0098	0.0046	--	--	-0.0433	-0.0617	-0.0053	0.0079	--	--	-0.0389	-0.0630
	[0.016]	[0.017]			[0.045]	[0.050]	[0.015]	[0.016]			[0.044]	[0.048]
Ownership inequality: Max /Mean	--	--	-0.0100	-0.0105	-0.0014	0.0011	--	--	-0.0068	-0.0064	0.0009	0.0054
			[0.014]	[0.017]	[0.017]	[0.020]			[0.014]	[0.017]	[0.016]	[0.019]
Fraction of founding partners	--	-0.0164	--	-0.1077	--	-0.1258	--	0.0006	--	-0.0588	--	-0.0773
		[0.047]		[0.123]		[0.124]		[0.045]		[0.119]		[0.120]
Fund sequence	--	0.0109*	--	-0.0040	--	-0.0057	--	0.0083	--	-0.0055	--	-0.0072
		[0.006]		[0.013]		[0.013]		[0.006]		[0.013]		[0.013]
Log(Fund size)	--	-0.0220*	--	0.0156	--	0.0237	--	-0.0168	--	0.0298	--	0.0381
		[0.012]		[0.030]		[0.031]		[0.011]		[0.029]		[0.030]
Buyout	--	-0.0073	--	-0.0881	--	-0.0904	--	-0.0119	--	-0.1286**	--	-0.1310**
		[0.026]		[0.067]		[0.067]		[0.025]		[0.065]		[0.065]
Fixed effects: Vintage	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes
Fixed effects: Geography	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes	--	Yes
Observations	581	574	163	159	163	159	581	574	163	159	163	159
R-squared	0.00	0.08	0.00	0.18	0.01	0.19	0.00	0.07	0.00	0.18	0.01	0.19

Table V
Partner Departures and Fund Continuity: Size of the Next Fund

Each observation in the regression is a fund. The dependent variable is logarithm of the next fund size. The independent variables are the fraction of partners leaving within two years of the closing of the fund (or top-performing partners, that is, partners with a gross multiple of invested capital greater than two times), the logarithm of current fund size, the fraction of partners who are founders, the sequence number of the fund, a dummy denoting whether the fund is a buyout one, the performance of the fund (measured using internal rate of return, multiple of invested capital, or Kaplan-Schoar public market equivalent based on the S&P 500) through the end of 2015 or the latest prior available data, and controls for the vintage year of the fund and fund geography. Panel A presents the results for senior partners; Panel B for junior partners. Standard errors (reported in brackets) are clustered at the firm×fund-type level. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Senior partners

	Any partners				Top-performing partners			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fraction of partners leaving by next fund	-0.4355	-0.7612***	-0.6364**	-0.6459**	-0.4062	-0.7163**	-0.5922**	-0.6028**
	[0.310]	[0.291]	[0.279]	[0.280]	[0.319]	[0.299]	[0.287]	[0.289]
Log(Fund size)	0.8327***	0.8687***	0.8582***	0.8579***	0.8328***	0.8689***	0.8585***	0.8583***
	[0.023]	[0.028]	[0.028]	[0.028]	[0.023]	[0.028]	[0.028]	[0.028]
Fraction of founding partners	-0.0511	-0.0854	-0.0974	-0.0922	-0.0508	-0.0857	-0.0976	-0.0924
	[0.074]	[0.087]	[0.089]	[0.087]	[0.074]	[0.088]	[0.089]	[0.087]
Fund sequence	0.0091	0.0081	0.0080	0.0076	0.0089	0.0078	0.0077	0.0073
	[0.013]	[0.014]	[0.014]	[0.014]	[0.013]	[0.014]	[0.014]	[0.014]
Buyout	0.4058***	0.3873***	0.4090***	0.4017***	0.4064***	0.3889***	0.4099***	0.4027***
	[0.069]	[0.078]	[0.079]	[0.079]	[0.069]	[0.078]	[0.080]	[0.079]
IRR	--	0.5418***	--	--	--	0.5345***	--	--
		[0.163]				[0.162]		
MOI	--	--	0.0723	--	--	--	0.0717	--
			[0.046]				[0.045]	
PME (S&P 500)	--	--	--	0.0941	--	--	--	0.0933
				[0.070]				[0.069]
Fixed effects: Fund vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects: Geography	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	475	324	324	324	475	324	324	324
R-squared	0.84	0.85	0.85	0.85	0.84	0.85	0.85	0.85

Table V – continued

Panel B: Junior partners

	Any partners				Top-performing partners			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fraction of partners leaving by next fund	0.2543	0.1080	0.1228	0.1259	0.2811	0.0410	0.0453	0.0441
	[0.205]	[0.125]	[0.129]	[0.127]	[0.260]	[0.168]	[0.171]	[0.170]
Log(Fund size)	0.8562***	0.8913***	0.8822***	0.8815***	0.8596***	0.8906***	0.8813***	0.8805***
	[0.025]	[0.031]	[0.030]	[0.030]	[0.027]	[0.031]	[0.030]	[0.030]
Fraction of founding partners	0.0156	-0.0901	-0.0983	-0.0910	-0.0082	-0.0950	-0.1041	-0.0970
	[0.097]	[0.109]	[0.111]	[0.111]	[0.101]	[0.109]	[0.111]	[0.111]
Fund sequence	0.0078	0.0070	0.0069	0.0070	0.0069	0.0075	0.0076	0.0076
	[0.014]	[0.016]	[0.015]	[0.015]	[0.012]	[0.016]	[0.015]	[0.015]
Buyout	0.3836***	0.3588***	0.3761***	0.3708***	0.3563***	0.3600***	0.3776***	0.3724***
	[0.075]	[0.083]	[0.084]	[0.083]	[0.069]	[0.084]	[0.085]	[0.084]
IRR	--	0.4647**	--	--	--	0.4671**	--	--
		[0.181]				[0.182]		
MOI	--	--	0.0680	--	--	--	0.0681	--
			[0.049]				[0.050]	
PME (S&P 500)	--	--		0.0840	--	--	--	0.0839
				[0.062]				
Fixed effects: Fund vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects: Geography	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	414	282	282	282	417	282	282	282
R-squared	0.84	0.85	0.85	0.85	0.83	0.85	0.85	0.85