Should Investors Care Where Private Equity Managers Went To School?

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Abstract

We investigate whether the educational background of private equity managers, which represents an integral part of their human capital, impacts fund performance. In particular, we explore three potential channels: (i) institutional quality, (ii) individual performance, and (iii) academic variety. We find that a combination of top-tier education and work experience identifies individual performance in the management team. In addition, academic variety, in particular among graduates of high-ranked universities, rather than uniform institutional quality, is an important return driver in private equity funds.

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1 Introduction

Education is an integral part of a manger's human capital and can affect the performance of corporate organizations (Hambrick and Mason (1984)). Similarly, evidence from labor economics suggest that it provides significant financial gains to the graduate (e.g., Black and Smith (2006)), in particular if obtained from higher-quality institutions (e.g., Dale and Krueger (2014)). For principals it also represents a relatively objective measure to evaluate a manager's potential abilities since it is easy to quantify, reliable to measure, and intuitive to interpret. An academic degree thereby serves multiple purposes. First, it represents a quality signal based on the institution's selectivity, which represent a particular talent pool. Second, it expresses expectations on the graduate's knowledge and skill set. Third, it has a social component through access to alumni networks.

In this paper, we investigate if the educational background of private equity managers, which captures important dimensions of team quality and variety, affects fund performance. We expect a fund's success to be impacted by both individual contributions and team composition and complementariness. More precisely, we analyze institutional quality, individual performance, and academic variety as potential performance drivers.

The success of management companies (general partners, GPs) of private equity partnerships mainly relies on the abilities of its senior employees (thereafter called "partners"). This group of managers allows us to study a particularly high-profile segment of the labor market. As earlier research has documented and our data confirms, a significant share of the partners attend high-quality universities (e.g., Ivy League schools) and work for highly selective employers before joining the private equity industry (e.g., investment banks and management consulting firms). For example, a bare 20 institutions comprise around 60% of academic degrees and 87% of MBA degrees of the fund partners in our sample, with alone 15% of academic degrees and 31% of MBA degrees from Harvard University.

Furthermore, institutional investors, such as pension funds, trust the partners with the management of often hundreds of millions of dollars. The capital is invested in

private companies and typically bound for 8-12 years within the investment fund. While prior studies provide strong evidence for the existence of manager skill, they leave the characteristics that embody a successful manager unclear.[1] A particularity of our laboratory is that fund managers profit from returns disproportionately compared to other segments of the labor market (e.g., corporate managers). Compensation arrangement are highly standardized and typically provide the partners with a 20% share in profits. The incentive structure essentially subsumes the governance for investors and it promotes stability within the management team (i.e., there is little turnover over the fund's lifetime).

Our study covers a large data set of U.S.-based buyout funds, which represent a homogeneous business model to ensure a sufficient level of comparability regarding the outcome of managerial efforts. We obtain the educational profile of 2,768 partners from 1,173 individual funds and 595 general partners. The average team size is 3.5 individuals (median: 3.0) since some managers work for multiple funds over time. We also obtain performance data for around two-thirds of the funds. This allows us to test the relevance of team characteristics with the return information that is ultimately relevant to their investors (limited partners, LPs). One advantage of the selected database is the identification of partners on the fund-level (rather than firm-level), which links the individual partners' profile to the corresponding fund performance. To the best of our knowledge, this paper is the first comprehensive study to shed light on the educational background of buyout fund partners.

Our findings can be summarized as follows. First, we find a positive relationship between fund-level performance and the average ranking position of the universities, which the fund partners attend. A change of one standard deviation increases the fund's multiple by 6.6%. When disentangling talent pool (e.g., the institution's SAT scores) from schooling

[1]The literature documents a high level of skill through sizable performance persistence (e.g., Kaplan and Schoar (2005) for fund-level and Braun et al. (2016) for deal-level evidence) and outperformance of public markets (e.g., Harris et al. (2014)). However, returns are widely dispersed across funds (e.g., Korteweg and Sorensen (2017)). In addition, an individuals' human capital can significantly better explain venture capital performance than the firm's organizational capital (Ewens and Rhodes-Kropf (2015)). Recently, Cornelli et al. (2017) find positive effects from turnover in private equity teams.

quality (e.g., student/faculty ratios), we find mixed evidence for systematic differences across the institutions. A stronger focus of an institution on finance (e.g., through more research publications), however, reflects positively on performance.

Second, we use high-quality education and high-profile work experience as an identification strategy for individual performance. Specifically, we benchmark graduates who are hired into competitive environments, such as top-tier investment banks and management consulting firms, conditional on their educational background with a high-ranked university. These firms typically only recruit the most talented graduates even from "elite" institutions, and thus we regard such a career track as an additional quality signal. We find strong outperformance for the partners that meet both criteria. A one standard deviation increase of their representation in the average team is estimated in the range of 6.6–9.2% in the fund's multiple. We also show that high-quality education and high-profile work experience separately cannot explain the effect.

Third, we find that academic variety from different undergraduate institutions, interdisciplinarity, and a lower dependency on an individual institution drive performance. The addition of another institution, which is not yet represented in the team, through an additional degree or partner, increases the fund's returns by 2.8% (the strongest contribution comes once again from graduates of high-ranked institutions). For an average fund with $766 million in capital this translates into $22 million more in distributions to limited partners.

Our contributions to the existing literature are as follows. First, we focus on the private equity industry that is highly dependent on manager skill yet lacks a systematic investigation of team characteristics to explain performance differentials. Our focus on the educational background of the management team intends to be a first step into this direction. This responds to an emerging strand in the literature to shed more light on the profile of (successful) teams in an important yet opaque asset class. For example, Lopez-de-Silanes et al. (2015) report a negative relationship between work load and performance, while Cornelli et al. (2017) recently highlight the role of turnover for a firm

to adjust their skill pool. Our findings focus on the nature of the management team's skill set through their educational background, and support the notion that the buyout model is ultimately not only a capital play, but team resources are important return drivers.

Second, our research setup allows us to exploit two particular characteristics of our laboratory for the measurement of returns to education. First, while success is in general a function of both abilities and effort, private equity managers are highly aligned through compensation terms and co-investment structures, which represent industry-wide standards and are not prone to much variation. This leaves outcomes primarily dependent on ability rather than motivation, and allows a purer investigation on the relationship between education and performance compared to similar research setups (e.g., Gottesman and Morey (2006a), Kaplan et al. (2012), Graham et al. (2012) on the characteristics of corporate CEOs). Second, the frequency of particular career paths allows us to identify individual performance within the graduates of a single institutions even without proprietary information such as the ones from school grades or outcomes of standardized tests. This extends the use of industry-specific experiences as a predictor for post-hiring value creation to a signaling tool of ability for investors (e.g., Acharya et al. (2013), Siming (2014)).

Third, we specifically focus on the composition and profile of the management teams of investment funds. While Degeorge et al. (2016) highlight the benefits of complimentary skill sets when managers of different firms deal with one another in secondary buyouts, we document various facets of academic variety. We show empirically that it pays off for the investment firm to hire professionals from different backgrounds. This is consistent with a resource-based view of the firm and adds a new dimension to earlier investigations. These are primarily focused on institutional quality and type, and include (single-manager) mutual funds (e.g., Golec (1996), Chevalier and Ellison (1999), Gottesman and Morey (2006b)), hedge funds (e.g., Li et al. (2011)), and venture capital funds (e.g., Dimov and Shepherd (2005), Zarutskie (2010)). Our study focuses on the breadth of the exposure and highlights the benefits of such heterogeneity in the educational background.

The remainder of the paper is organized as follows. Section 2 develops testable hypotheses based on the existing literature. Section 3 outlines our identification strategy and introduces sample characteristics. Section 4 presents the empirical results. Section 5 concludes.

2 Roles of education

We study three channels how the educational background of managers can affect the performance of private equity funds. These are (i) institutional quality, (ii) individual performance identified from high-quality education and work experience, and (iii) academic variety. Similar to the strategic management literature, we focus on the top management team (TMT), which we define as the set of partners who are responsible for the management of the fund.[2] The TMT represents the dominant coalition within the organization and functions as its decision-making group (Hambrick and Mason (1984)). In private equity, partners are employed in a management company and are responsible for identification of take-over targets, financing structure, governance, and operational improvements of the portfolio companies in a particular fund.

2.1 Institutional quality

There may be systematic differences between management teams of different funds with regards to their education. Universities differ from one another on an institutional level (e.g., history, geographic location, or teaching paradigms) and in terms of individual attributes. The choice managers make regarding university and study field is therefore a reflection of their personalities, attitudes, and preferences. At the same time, each institution follows its own selection strategy through its admission policy. As a consequence,

[2]The term "partners" is used in a general sense since the actual position titles vary from one firm to the other and are often arbitrary. The decisive characteristic is that the individual fulfills an elevated role within the team (e.g., as a lead partner or board member).

talent pool and schooling quality are particular to each individual institution.[3]

The empirical management literature provides a number of examples where the educational background matters for performance. For example, Butler and Gurun (2012) use the ranking position to identify "elite" CEOs, while Miller et al. (2015) find Ivy League educated CEOs to be associated with superior firm performance. While academic rankings combine different factors into a single metric, other studies focus on individual characteristics. These often focus on college admission as a proxy for cognitive abilities. Evidence comes, for example, from the mutual fund (e.g., Chevalier and Ellison (1999), Gottesman and Morey (2006b)) and hedge fund industries (e.g., Li et al. (2011)). In addition, Bertrand and Schoar (2003) find that MBA-educated CEOs undertake more risky strategies, while Gottesman and Morey (2006b) extend the evidence to show that it is particularly driven by managers from high-ranked MBA programs that tend to outperform. Graham et al. (2012) show that CEO compensation is a function of education quantity. Interestingly, Ivashina and Lerner (2017) recently report that there is no influence from education on the compensation of private equity managers.

The private equity task is intellectually challenging. During the due diligence process the managers need to gather and process vast amounts of information on markets and enterprises. They often negotiate with other senior managers on complex transaction terms, such as the representatives of the vendor and financing banks during the acquisition process. They also align other senior stakeholders, such as the incumbent target firm management, on goals or alternatively find suitable replacements. We hypothesize that some managers outperform others in these tasks as a result of their cognitive abilities, which an institution identifies during admission stage, or as a result of better-equipped skill set, which the managers obtain from academic training.

We first measure how well the universities score in academic rankings since this influences the candidate and faculty pool that they are able to attract. These factors

[3] For this reason, Engelberg et al. (2013), for example, use university fixed effects to eradicate such differences in a study aiming at the quantification of CEO networks.

then reinforce institutional quality since ranking methodology includes factors such as employability after graduation and research output as an input. The private equity industry differs here from similar research setups in that the majority of managers has graduated from a high-ranked institution. Thus, we investigate whether such quality signals still influence variation in returns. In a second step, we disentangle factors that are related to cognitive abilities (e.g., acceptance rate) from the influence that the institution has through schooling (e.g., student/faculty ratio and research focus). Thus, we hypothesize that institutional quality and fund performance are positively related.

2.2 Individual performance

University and program choice is typically motivated by the prospect of future career paths. The returns of attending the same (selective) academic institutions, however, are not homogeneous (e.g., Dale and Krueger (2002)). In order to capture the heterogeneity within the graduate base of schools, we consider the subsequent employment with a selective firm. With regard to private equity two particular industries stand out – investment banking and management consulting – which suffice both the theoretical argument why they are relevant for the private equity task and a significant source of recruitment to the industry.

Earlier studies document a positive relationship between the skills that likely resulted from such employment and private equity performance. For example, Acharya et al. (2013) find that consulting and banking experience correlates with investment performance via the selected deal strategy (organic/inorganic). Siming (2014) highlight that prior investment bankers are still able to capitalize on their previous employer after joining a private equity fund. Degeorge et al. (2016) use them to highlight benefits of complementary backgrounds during the syndication process of private equity firms.

The frequency and nature of the experience allows us to distinguish between graduates of institutions even without access to individual student data (e.g., their grades and test results). For example, in recent batches more than half of MBA graduates of the Harvard

and Stanford business schools are hired by finance and consulting firms.[4] A significant share of private equity partners has graduated from these institutions and many of them have worked for a leading firm in one of the two industries before joining private equity. In our sample of buyout funds, 34% of partners in the fund team have worked, on average, for either a top-tier investment bank or management consulting firm. Recruitment decisions in both industries typically focus on targeting the top-talent from the cohort, rather than on candidates that already have functional expertise (training is subsequently provided by the firm). While graduates from leading universities are more likely to obtain interviews with top-employers, their success in these again depends on their individual ability. Thus, we hypothesize that the recruiting decision presents another quality signal (similar to college admission), and we benchmark this group of managers against others outside the cross-section of top-quality education and work experience.[5] Thereby, the combination of high-quality education and functional experience, such as from top-tier investment banks and management consulting firms, leads to better performance.

2.3 Academic variety

We focus on variety in the academic background since private equity funds are ultimately a team effort. Theories on human capital and upper echelons suggest that managers vary in their opinions, preferences, skills and risk aversion, and that this heterogeneity materializes in their strategic decision making and organizational performance (e.g., Hambrick and Mason (1984), Wiersema and Bantel (1992), Bertrand and Schoar (2003), Patzelt et al. (2009)). In general, such variety can positively reflect on performance due to access to more distinct resources or negatively as a consequence of higher communication cost (e.g., Horwitz and Horwitz (2007), Nielsen (2010)). A higher breadth of academic education increases the knowledge and skill pool of the team, while also adding a more diverse

[4]Source: Career Hiring in the Class of 2012 from Harvard Business School Recruiting Data & Statistics (http://www.hbs.edu/recruiting/data/) and Stanford GSB Employment Report in the Class of 2010-2011 (https://www.gsb.stanford.edu/organizations/recruit/employment-reports).

[5]We would expect a similar result from using individual grades or outcomes of standardized tests (e.g., GPAs or SAT scores), however, such data is typically not available for a cross-section of managers.

set of (world) views and wider access to (alumni) networks. For example, Bantel and Jackson (1989) find that innovation in banks is related to more educated teams and heterogeneity in functional expertise, while White et al. (2014) focus on the investor reaction to heterogeneity in the appointment of academic directors. MBA degrees can play an important role given their frequency in the private equity industry and as business schools are well known for their alumni network. They create platforms for social contacts that span not only across organizations but also industries and geographies. Managers are often able to capitalize on the size of their social network (e.g., Brown et al. (2012) and Engelberg et al. (2013) for corporate CEOs). On the other hand, such variety also reflects in higher communication cost when managers need to align on decision making (e.g., Knight et al. (1999)), which can lead to lower efficiency of the team.

We hypothesize that the benefits of variety outweigh its cost, and higher levels of academic variety in fund teams lead to better performance. Management teams in private equity are relatively small (3-4 partners) and decision making is highly institutionalized. For example, final investment decisions are often taken by an investment committee, which can even include individuals from outside the fund management team, and some firms hire partners only for specific roles (e.g., operating partners) to avoid a clash of different cultures. Such measures should ease concerns on conflict potential. Managers in the private equity space are therefore likely to benefit from academic variety, which we define by the breadth of the exposure and the heterogeneity within the team. The former can, for example, be reflected in the number of unique institutions represented within the team, and the latter through the team's heterogeneity of degree fields (i.e., interdisciplinarity). For example, the higher the number of represented institutions among the managers, the greater their access to a multitude of alumni networks from these schools.

3 Sample characteristics

3.1 Selection strategy

We start with all U.S. based buyout funds listed in the PitchBook database.[6] To be included in our sample, funds must meet the following filtering criteria: (i) non-missing values on fund size and sequence number, (ii) education data of at least one fund partner, and (iii) a vintage year between 1990 and 2010.[7] To increase data availability, we complement fund size and performance with data from Preqin (another proprietary database) in case of missing values or more recent information. This results in a sample of 1,173 funds from 595 unique firms (general partners).

Table 1 depicts a summary of the selection strategy (Panel A) and a breakdown of the sample by vintage year (Panel B). Biographies of the management team are available for 2,768 unique individuals. This results in 4,053 partner-fund pairs and an average team size of 3.5 (median: 3.0) since some partners work for multiple funds over time. The average fund has $766 million in committed capital (median: $314 million), is the 3.8th fund of the general partner (median: 2.0), and close to a third of funds are first-timers. After requiring performance data, the count reduces to 790 funds (390 firms) for TVPI multiples and 760 funds (365 firms) for IRRs.[8] The average fund over the sampling period returns

[6] PitchBook (www.pitchbook.com) is a proprietary database provider from the U.S. with a focus on M&A, private equity and venture capital data. Our focus on buyout funds excludes other types of private capital, such as venture capital, real estate, growth capital, or distressed debt.

[7] We restrict the sample to vintage years 1990 to 2010 since manager biographies are relatively sparse prior to that period and more recent vintage years do not allow for sufficient time for return measurement. To account for the cyclicality in the number of funds over time, and in particular the small number of observations in the first few years, the empirical models include vintage year fixed effects. We require performance information to be reported at least five years after the fund's vintage year to avoid distortions related to preliminary measurement during the fund's first years of performance reporting. The requirement on the availability of education data excludes a total of 37 funds for which partner(s) are tagged to the fund but no degree information is provided (3.2% of the final sample).

[8] Performance is measured on the fund-level and represents either a money multiple (total value to paid-in capital, or short TVPI) or an internal rate of return (IRR), which are net of fixed and performance fees and typically reported to the database operators by investors in the fund (limited partners). Similar to other studies in private equity, we have to rely on absolute performance measures due to a lack of cash-flow data in the databases. Thus, we are not able to calculate a public market equivalents (PME). Harris et al. (2014), however, note that both metrics also capture the majority of the variation in the PMEs, and furthermore recommend the TVPI multiple as a preferred measure to the IRR.

1.72 times of invested capital to limited partners (median: 1.64) and provides investors with an IRR of 13.5% (median: 12.4%). The performance sample, however, leans towards larger and more mature funds, and we undersample first-time funds.

[Table 1 about here]

Table 2 lists the frequency of the partners' degrees by institution, type, and field.[9] While every individual is only included once (irrespective on the number of fund pairs), the partners tend to have multiple degrees (e.g., undergraduate and MBA degree) and each of them is counted separately. We make the following observations. First, there is a significant concentration towards a small number of institutions, which represent the major source of recruitment in private equity. The most frequent institutions include all of the eight Ivy League schools as well as many of the universities that typically make up the top category in academic rankings. In particular, Harvard University stands out from which almost 15% of partners obtain a degree. This is followed by the University of Pennsylvania (9%) and Stanford University (6%). In total, the 20 most frequent institutions comprise around 60% of all degrees. Second, 57% of the partners hold an MBA degree, which indicates that such a degree likely holds value for the managers. The concentration on a selected number of business schools is even higher in this case. Harvard Business School heads the list with 31% of all MBA degrees, followed by the Wharton School with 12% and Stanford Graduate School of Business with 10%. The same 20 institutions as before account now for 87% of MBA degrees. Other advanced degrees, such as Masters (6% of degrees), JD/Law programs (4%) or PhD programs (1%) are less common in the private equity industry. Third, there is a high concentration on business, economics and finance related degree fields on the undergraduate level. On the other hand, degrees in the natural or social sciences are relatively sparse (however, we have to note that almost a quarter of observations is missing a degree specialization).

[9]Similar to other studies (e.g., Cohen et al. (2010)), we have degree year only available for a fraction of our sample. This prevents us from approximating the manager's tenure and age from this variable.

[Table 2 about here]

3.2 Summary statistics

We construct a set of variables to measure each fund's average exposure with regard to institutional quality, individual performance, and academic variety. Table 3 lists descriptive statistics for the variables that are referenced in the following discussion.

[Table 3 about here]

A. Institutional quality

We collect data in three categories: First, we use the average position of the partners' degrees in academic rankings as a measure of perceived quality in the education market. We collect data from the Times Higher Education (THE) Ranking, which lists 200 universities globally, the Academic Ranking of World Universities (ARWU) from the Center for World-Class Universities at Shanghai Jiao Tong University, which lists 500 universities globally, the Financial Times (FT) MBA Ranking, which lists 100 business schools globally, and the U.S. News and World Report for Business Schools, which lists 50 U.S. based business schools.[10] We use different rankings to avoid distortions related to differences between the providers regarding their scope and geography as well as methodology. The funds that do not have MBA graduates among the partner group are dropped from the respective analysis. We interpret a *lower* average ranking in the fund team (positions start at "1") as an indicator for *higher* institutional quality.

Second, we disentangle talent pool from schooling at the institutions. We use the average acceptance rate and composite SAT score as a proxy for the former, while in

[10] All ranking data is as of 2010, which represents the end of our sampling period, since most providers do not provide a sufficient and consistent time series of data. Furthermore, the graduation year is only available for roughly half of the degrees, which prevents an exact matching to graduation time. If an institution cannot be matched with the list of universities, we set its value to the sample mean.

the latter we separate between average professor salary and student/faculty ratio for teaching quality, and research contributions for the focus area of the school.[11] Research contributions are measured as the average position of the partners' degrees from rankings in finance, economics and business journals, and the number of noble prices received by affiliates of each institution.[12] The former include the Finance Research Rankings from the Arizona State University (ASU), the Business School Research Rankings from UT Dallas (UTD), and the Economics Rankings from Tilburg University.[13] The remaining data is collected from the Integrated Postsecondary Education Data System (IPEDS), which provides aggregated data on post-secondary institutions in the U.S. collected through surveys of the Department of Education.

B. Individual performance

We use the competitive hiring decisions of employers that have a reputation for attracting exceptional candidates to identify individual performance within the graduates of an institution. This approach allows us to differentiate among the graduates even without having access to their individual grades or outcomes of standardized tests (e.g., GPAs or SAT scores). In private equity, partners usually work for other firms before joining the industry and a significant share of them does so in either management consulting or investment banking. We restrict the work experience to firms from these two industries that can be regarded as highly selective in their recruitment and tend to hire only a small share of graduates even from top schools.[14]

[11]The data is only available for U.S. based institutions and thus we again use the sample mean of each variable for the remaining institutions. Following Chevalier and Ellison (1999), we calculate the composite SAT score *"as the average of the upper and lower bounds for the verbal score plus the average of the upper and lower bounds for the math scores"* (p.879) and divide the resulting value by 100.

[12]If an institution does not appear in the research rankings, we set the respective variable to the sample mean. In the case of noble prizes, we set the value to zero since this represents a complete list, which is taken from www.nobelprize.org/nobel_prizes/lists/universities.html (affiliations up to 2010).

[13]ASU: Publications in the Journal of Finance, Journal of Financial and Quantitative Analysis, Journal of Financial Economics, and Review of Financial Studies (1990-2010). Source: http://apps.wpcarey.asu.edu/fin-rankings/rankings/results.cfm. UTD: Top 100 Worldwide Business School Rankings (All Journals, 1990-2010). Source: http://jindal.utdallas.edu/the-utd-top-100-business-school-research-rankings/worldRankings#20122016. Tilburg: Publications in 70 leading economics journals (1990-2010). Source: https://econtop.uvt.nl. Web information last accessed on September 12, 2017.

[14]We restrict consulting firms to the three global management consulting firms, namely McKinsey &

We split the team then across the two dimensions "top-education" and "top-experience". To qualify for the former, a partners has to obtain a degree from a top-10 institution in one of the academic rankings. To qualify for the latter, a partner has to work for one of the top-firms. On average, 34% of the partners in a fund team work for such a high-profile firm and 45% obtain a degree from a top-10 institution (the latter based on the Shanghai ARWU ranking). The intersection of these two dimensions results in four distinct groups: one that meets both criteria (20%), two that only meet one criteria (25% for top-education and 14% for top-experience), and one that meets neither criteria. As a result, the 34% of partners with a top-experience split into 20% and 14% conditional on whether they have obtained a top-education, while the 45% of partners with a top-education split into 20% and 25% conditional on whether they have obtained a top-experience.

C. Academic variety

We investigate three generalized categories to measure variety in the educational background of the management team: First, the number of unique institutions represents a count of variety irrespective of frequency. It includes every institution from which at least one of the partners has obtained an academic degree exactly once. The variable can be interpreted as a measure of mindset heterogeneity and network access. The average fund team lists 2.8 unique undergraduate institutions (median: 2.0) and 1.5 different business schools (median: 1.0). We further split this variable by the position of the institution in academic rankings in order to capture a quality dimension of academic variety. We observe again a much higher concentration in the high-ranked business schools, while undergraduate institutions split more equally.

Second, degree composition is measured by the reverse Herfindahl-Hirschman index (1-HHI).[15] It incorporates the frequency of degree institutions and undergraduate fields and

Company, Boston Consulting Group, and Bain & Company. The list for top-tier investment banks is based on the top-tier financial adviser category in Golubov et al. (2012). These include Goldman Sachs, Merrill Lynch (now Bank of America Merrill Lynch), Morgan Stanley, JP Morgan, Citi/Salomon Smith Barney, Credit Suisse First Boston, Lehman Brothers (now Barclays Capital), and Lazard.

[15]The Herfindahl-Hirschman Index is defined as the sum of the squares of the university shares of the partners within a fund (standardized to zero to one).

measures its concentration as a relative share within each fund team. Thus, a *higher* value reads as a *higher* variety score. The breadth of the exposure to different undergraduate institutions (0.43) is much higher than for business schools (0.23). The variety score for degree fields is 0.27.

Third, we calculate the fraction of partners that have graduated from the same university. We use the institution with the largest number of degrees as baseline ("most frequent university"). For example, if a majority of degrees is from Harvard University, the variable represents the share of partners that have graduated from there (i.e., number of partners with such a degree divided by team size). On average, 63% of the managers hold a degree from the same institution (median: 50%), which indicates a relatively high level of homogeneity.

3.3 Fund performance

After having discussed the frequency of academic institutions in the private equity industry, we ask whether there are systematic differences in fund performance between the universities. We group graduates by degree institution and attach a performance measure to each partner-fund pair. If a partner has received multiple degrees, we include each as a separate observation (e.g., an undergraduate and an MBA degree). Similarly, if a partner works for several funds, we add performance data for all of them by replicating the degree affiliation.

Ideally, we would measure performance separately for each partner. However, we are only able to obtain fund-level performance data. Since fund teams are relatively small, we assume that individual contributions reflect in the overall success, and rely on the fund-level returns by attaching the same figure to every member of the team. Table 4 lists performance for the institutions with the highest number of observations (we cut-off at a minimum of 50 degrees). The number of observations, however, is lower compared to the previous frequency tables due to the reduced availability of performance figures,

Harvard University is by far the most frequently represented institution and provides on average a slightly higher return than the sample mean (TVPI multiple of 1.79 versus 1.64). At the top-end, we see the UC Los Angeles, and interestingly two institutions that do not offer MBA programs (Princeton University and Brown University). A graduate, who received a degree from the UC Los Angeles achieves on average a 21% higher return than a graduate from the University of Illinois (TVPI multiple of 1.88 versus 1.55). While the table presents by no means a comprehensive ranking, it gives some initial intuition on potential performance differences. In the next section, we analyze how different channels of educational background, namely institutional quality, individual performance, and academic variety, affect fund performance.

[Table 4 about here]

4 Empirical results

4.1 Institutional quality

We split the discussion into institutional quality traits and organizational identity. The former compare the institutions based on quality attributes, such as talent pool and schooling, while the latter focuses on the institution as an entire organization.

A. Talent pool and schooling quality

We start with characteristics of the academic institutions that set them apart from one another. These include the position in academic rankings, talent pool teaching quality, and research contribution. We estimate the impact of such attributes on fund performance based on the following cross-sectional specification

$$\begin{aligned} Performance_i &= \alpha + \beta\, Quality\, Characteristic_i + \\ &\quad \gamma\, Controls_i + \lambda\, Vintage_i + \varepsilon_i \ , \end{aligned} \tag{1}$$

where each observation represents one fund. The dependent variable is the fund-level IRR and TVPI multiple, respectively. The vector $Quality\,Characteristic_i$ represents the variables of interest and includes the average position in academic rankings, proxy variables for talent and teaching quality, and research contributions based on the degrees of the fund partners.[16] The vector $Controls_i$ includes fund size, sequence number, team size, and an indicator variable set to one if the fund is the first one for the general partner. Controlling for larger and more seasoned funds allows us to rule out a potentially lower motivation in their management teams as a consequence of past (financial) success, which may adversely reflect on performance. We add team size since larger teams have greater managerial capacity and therefore are able to put more effort into the fund, which can reflect in higher returns.[17] Lastly, we add vintage year fixed effects to account for performance differences related to the fund's inception period.[18]

Empirical results from estimating the model using ordinary least squares (OLS) are presented in Table 5. In Panel A, we provide directional evidence on the quality of institutions, measured as the average ranking position of the team's degrees. The higher the average ranking of the universities, which the fund partners attended (i.e. a *lower* ranking position), the higher the fund's performance. For example, a one standard deviation increase in the average position of the Times Higher Education ranking (28.83) is estimated at an additional return of capital of 6.6% to investors.[19] The evidence becomes weaker for the MBA degrees, where only the U.S. based business schools show a similar trend. Regarding the control variables, we note an inverse relationship between team size

[16]We use the logarithmic forms for rank and count variables throughout the study to account for long tails in the distributions.

[17]In order to mitigate concerns about omitted variables, which are correlated to both fund performance and educational background, we control for work experience in the next subsection. In addition, we do not consider the sociodemographic profile of the managers due to a high homogeneity. For example, only 90 of the 2,768 partners in our sample are female (i.e., 3.3%).

[18]Vintage fixed effects allow for a variation in risk exposures and factor premiums over time, and therefore can capture underlying market trends in leverage and credit conditions (e.g., Korteweg and Sorensen (2017)).

[19]We estimate the economic effect by re-running the model without the logarithmic transformation (results are qualitatively the same). The coefficient estimate for the TVPI multiple (–0.0023**) is multiplied with the standard deviation times minus one (28.83 * (-1)) to reflect that *lower* ranking positions indicate *higher* quality institutions.

(strongly positive) and fund size (strongly negative). On the other hand, higher sequenced and first-time funds seem not to be systematically different in their performance.

In Panel B1, the results for talent pool and teaching quality provide mixed evidence. While the average acceptance rate and average professor salary at the institution are significant at the 90% and 95% confidence level for the TVPI multiple, respectively, the composite SAT score and the student/faculty ratio show no effect. The economic effect is similar to the change in the ranking position. An increase of one standard deviation in the acceptance rate (0.15) is estimated at 5.6% and in the average salary level of professors at 5.9%.[20] We are, however, not able to replicate these results using the IRR instead of the multiple. The weaker results for the role of admission policy contrasts to similar evidence for (single-manager) mutual funds (e.g., Chevalier and Ellison (1999)) and hedge funds (e.g., Li et al. (2011)), where the SAT score provides strong evidence on performance of the managers. However, it is likely a result of the highly selective recruitment in the private equity industry and the strong concentration on relatively high-profile academic institutions that do not strongly differ in the kind of students to which they appeal. Furthermore, this interpretation is consistent with the literature on the economics of education that finds the returns of highly selective institutions to diminish after controlling for college selectivity (e.g., Dale and Krueger (2002)).

Finally, in Panel B2, we show that the institutions that specialized more in areas that are relevant to the buyout business model reflect positively on performance. The finance proxy shows the strongest effect, followed by the one for economics, while the general business research ranking and the number of nobel laureates have no significant effect (though both show signs as expected). It appears that schools that are more prone to finance as a research discipline equip their graduates with a suitable skill set.[21] The

[20] We estimate the effect again from a re-run of the model without the logarithmic transformation (–0.3010 * –0.1954 = 0.0588).

[21] We test for a variety of additional characteristics to rule out any omitted variables bias. We do not find strong evidence for the minimum and average distance between the fund's office location and the (closest) university from which a partner has graduated, student enrollment, number of faculty, the representation of female and international students, and the tuition levels at the institution.

economic effect is once more similar in magnitude to before (4.5% change in the TVPI multiple for a one standard deviation change in the ASU Finance rank).[22] Thus, the quality in the talent pool of graduates and the level of schooling at the institutions appear not to be a main driver for systematic differences in fund performance, but rather already a prerequisite for recruitment into the private equity industry.

[Table 5 about here]

B. Organizational identity

We now turn to differences among the universities as entire organizations. Besides varying talent pools and schooling quality, institutions follow their own paradigms, which have typically developed as part of their particular history. These can, for example, manifest in different "world-views" of their graduates (one example being liberal arts colleges). Since such factors are hard to capture in the cross-section, we measure the share of partners that have graduated from each institution separately to test for differences in performance. This also allows us to control for potentially omitted characteristics that are not taken into account in the previous analysis but correlate with performance. Some institutions are strongly represented in the private equity industry and this analysis allows us to test empirically whether their presence is good news for investors. We estimate the impact on fund performance based on the following cross-sectional specification

$$\begin{aligned} Performance_i &= \alpha + \beta\, Fraction\, University_i + \\ &\quad \gamma\, Controls_i + \lambda\, Vintage_i + \varepsilon_i \ , \end{aligned} \tag{2}$$

where each observation represents again a single fund. Dependent and control variables are defined as before. We regress each institution separately from each other and thus, benchmark it specifically against the collective that comprises all other institutions.

[22] We estimate the effect again from a re-run of the model without the logarithmic transformation (-0.00083 * -53.69 = 0.04456).

Empirical results from estimating the model using ordinary least squares (OLS) are presented in Table 6. We concentrate on high-ranked institutions and the ones with the highest representation in the industry. Specifically, we show the evidence for the 20 schools that have a sufficient number of observations to allow for meaningful inferences. The selection includes all eight Ivy League schools and the majority of the top-10 category in the academic and research rankings. In addition, the list represents around 60% of all degrees, which the partners have obtained.

[Table 6 about here]

We observe that some of the institutions that came on top (bottom) of our university list in Table 4 remain high (low) performing. For example, Princeton University and Brown University show again positive evidence on the influence of their graduates on performance, whereas New York University remains with a strong negative influence. Most surprisingly, Harvard University, which not only represents the most frequently represented institution but also was right about in the middle of the descriptive evidence, shows strong and positive performance across the specifications. However, besides these individual cases, the majority of presented institutions does not show clear evidence in either direction.

Since a majority of degrees in the private equity industry comes from high-ranked universities, the results on institutional quality can only provide directional evidence. In the upcoming subsections we therefore follow two other approaches to further investigate the educational background of the fund managers. First, we differentiate among graduates from the same institution. Second, we look at academic variety, which becomes of particular interest given the high level of concentration at top-schools.

4.2 Individual performance

The previous analysis does not allow us to distinguish between the graduates of a single institution since we do not have data on the individual performance of the students (e.g., their SAT scores or GPAs). In order to separate returns from education and talent within the pool of graduates, we use a combination of top-tier education and work experience for identification of individual performance.

We first intersect the two effects and benchmark the following groups with one another: (i) Partners that have attained an education at a high-ranked institution and worked for a high-profile employer. (ii) Partners that fulfill the education criterion but *not* the professional experience. (iii) Partners that do *not* fulfill the education criterion but the professional experience. The (omitted) residual group are the partners that qualify for neither criteria and the interpretation of the results is with respect to this group. We estimate the impact on fund performance based on the following cross-sectional specification

$$\begin{aligned} Performance_i &= \alpha + \beta_{12}\,(\textit{Top-10 Edu} \mid \textit{Top-Firm Exp})_i \\ &\quad + \beta_{1X}\,(\textit{Top-10 Edu} \mid \text{Not } \textit{Top-Firm})_i \\ &\quad + \beta_{X2}\,(\text{Not } \textit{Top-10} \mid \textit{Top-Firm Exp})_i \\ &\quad + \gamma\, Controls_i + \lambda\, Vintage_i + \varepsilon_i\ , \end{aligned} \tag{3}$$

where dependent and control variables are defined as in the previous subsection. The effect of interest is captured by β_{12}, which represents the intersection of top-education and top-experience, while β_{1X} and β_{X2} are the effects that qualify only for either criterion. The latter allow us to test whether it is sufficient to receive education from a top-ranked institution without having also worked for a top-firm (or vice versa).

In a second step, we control for the relevance of top-education and top-experience separately. If either criterion is sufficient to achieve outperformance, we should be able to

observe a significant effect. However, if only the combination of the two matters, which we hypothesize, we should not observe a significant difference. We estimate the impact on fund performance based on the following cross-sectional specification

$$\begin{aligned} Performance_i &= \alpha + \beta_1 \, (Top\text{-}10 \ Edu)_i \\ &\quad + \beta_2 \, (Top\text{-}Firm \ Exp)_i \\ &\quad + \gamma \, Controls_i + \lambda \, Vintage_i + \varepsilon_i \ , \end{aligned} \tag{4}$$

where we follow the same specification as in Eq. 3. The effect of top-education, which represents the share of partners that have graduated from a top-10 institution, is captured by β_1, while β_2 is the coefficient for top-experience, which represents the share of partners that have worked for a top-tier investment bank or management consulting firm.

In Panel A of Table 7, we show that the intersection between education and professional experience is the only effect that shows a positive and significant result. The economic impact is significant and it confirms our hypothesis that one has to differentiate between the graduates from top-institutions. A one standard deviation increase in the intersection variable is estimated at an additional return of 6.6–9.2% of capital (i.e. increase in TVPI multiple).[23] The other two groups reveal that simply having relevant professional experience without the previous signal from education or the other way around does not impact the fund performance. In Panel B, we show that the separate effects for top-tier education and work experience all carry a positive sign (as expected), but none is statistically significant.

These results are robust controlling for team size as well as fund attributes, such as fund size, sequence number, and first-timers. Furthermore, the two benchmark groups are sufficiently large to allow for reasonable inference. For example, while on average 20% fulfill both criteria, the respective fractions for either criteria are 20% and 25% (based on

[23]Economic effects are estimated by multiplying the regression coefficients of the explanatory variables with its standard deviation based on the full sample (according to Panel B of Table 3).

the Shanghai ARWU ranking, see Table 3).

From these observations, it appears that there is a group of individuals that outperform at different stages of their life. It strongly indicates that there is a talent factor involved, rather than simply training and experience, which supports these individuals in outperforming others. Investors in private equity can use such signals from education (i.e. admission policy of the institution) and work experience (i.e. recruitment decisions of highly selective firms) for their evaluation of management teams.

[Table 7 about here]

One concern in interpreting the evidence could be reverse causality. We do not think that this is a major issue for the following reasons. First, teams are hired at the fund's inception and remain largely stable over time (e.g., Cornelli et al. (2017)). Second, prior evidence from venture capital suggests that skill is concentrated within the partners rather than the organization (e.g., Ewens and Rhodes-Kropf (2015)). Third, while higher-reputation general partners likely receive more and potentially higher-quality applications (for example, if managers primarily apply to past top-performers in a believe in performance persistence at the firm), the firm's hiring decisions are based on their assessment of the manager's skill. Lastly, in order to provide empirical support for this argument, we repeat the analysis for the first-time funds in the sample, which do not yet have a reputation in the market. The evidence remains qualitatively similar.

4.3 Academic variety

In a last step, we test whether academic variety in the management teams matters for the performance of private equity funds. More variety in the educational background increases the knowledge and skill pool, and gives the partners access to a wider range of (alumni) networks. We estimate the impact of academic variety on fund performance

based on the following cross-sectional specification

$$\begin{aligned} Performance_i &= \alpha + \beta\, Academic\, Diversity_i + \\ &\quad \gamma\, Fund\, Attributes_i + \lambda\, Vintage_i + \varepsilon_i\ , \end{aligned} \tag{5}$$

where dependent and control variables are defined as in previous subsections with the exception of team size, which we exclude due to multicollinearity issues.[24] As Bantel and Jackson (1989) note, a positive correlation between team size and team heterogeneity is likely, in particular for relatively small teams since the theoretical maximum of heterogeneity increases with every new team member. However, due to the high correlation of the variables and since we already include fund size as a control variable (which also correlates positively with team size), we do *not* believe that the absence of team size introduces omitted variable bias since the main effect is likely still captured by the variety measure itself. Furthermore, we do not standardize academic variety since we are interested in the incremental effect of higher exposure to different institution. This makes interpretation of the results, however, more challenging since the effect can originate from the educational background, from other personality factors, and from an increase in managerial capacity (i.e., an additional partner). In an effort to disentangle these effects at least partially, we present empirical results estimated from ridge regressions in the Appendix (Table A.1).[25]

Empirical results from estimating the model using ordinary least squares (OLS) are presented in Table 8. In Panel A, we focus on the concentration of institutions and degree fields. First, the number of unique institutions from which the partners have graduated is positively related to fund performance. This holds particularly true for undergraduate institutions but not for business schools after controlling for the former. An increase of one additional school, which is not yet represented in the team, raises the fund's multiple

[24]The academic variety measures show a high correlation to team size and result in high variance inflation factors (VIF). For example, the correlation between team size and the number of unique undergraduate institutions is 91% and both variables have VIFs above five when estimated jointly.

[25]A significant effect remains for academic variety even after controlling for team size.

by around 2.8% and the expected annualized return by 0.53%.[26] For an average fund with $766 million in capital this translates into $22 million in additional distributions. This represents an economically meaningful value to the fund's investors. However, this effect does not fully accrue to pure academic variety but can also incorporate additional managerial resources and other benefits of variety in the personality of an individual.

Second, we come to the same conclusion using the HHI measure, which incorporates how concentrated the partners' education is on individual degree institutions and fields (e.g., interdisciplinarity). Our previous results do not yet control for magnitude or quality since each institution is equally weighted. For example, Harvard as the university with the highest share of fund partners is counted the same way as any other university. However, even after controlling for degree frequency with the HHI measure, the results show the same direction and similar quantitative effects. In addition, we find that a higher variety in the primary field of the undergraduate degrees appears to be beneficial to the team.[27] Lastly, a higher share of team members that has graduated from the same university is negatively related to performance, which confirms findings once more.

[Table 8 about here]

In Panel B, we turn to the sources of academic variety and decompose the number of unique institutions into different subsets based on ranking position. A university's position in the rankings is likely positively correlated with the quality of education and magnitude of its network. This is of particular interest as private equity funds tend to hire partners with an educational history from one of the top-ranked universities. However, it seems that this is not necessarily a disadvantage for the team since the source of variety can still come from another high-ranked institution. Results remain robust across all

[26] Economic effect estimated by multiplying the regression coefficients with the increase in the mean: $0.213 * log(1 + (1/2.8)) = 0.0282$ and $0.040 * log(1 + (1/2.8)) = 0.0053$.

[27] In unreported regressions, we also test the influence of non-traditional (i.e. non-business) backgrounds. We find a positive influence for the presence of a graduate from the social and arts, however, we cannot confirm the same for science, engineering and law degrees.

the four ranking schemes, i.e. two with a direct focus on the institution and two with a focus on business schools. While the MBA degrees shows identical trends, the decay in coefficients along the ranking categories is more prominent than in the overall measure. In additional robustness checks, we do not find a significant network effect, e.g., related to the size of the alumni network or the distance between the institutions and fund offices (see Table A.2 in the Appendix). In addition to network size (which we proxy by student enrollment), we test for network quality by using the number of directors listed in the BoardEx database for each academic institutions (unreported). However, this leaves results largely unchanged (with the quality effect becoming slightly weaker).

The findings indicate that fund teams should strive to diversify in particular among higher-ranked schools. It also shows that the pure addition of another partner without a high-quality education may not be a strong driver of our results. Our earlier results have indicated that educational history of fund partners is highly concentrated on a small number of top-ranked academic institutions and that among these institutions, dispersion of quality traits is relatively low (e.g., top schools have rather equal acceptance rates). However, we have also noted that organizational identity matters to some extent. This also reflects on the discussion of academic variety, which appears again to be driven by high-ranked institutions. Lastly, the lower-ranked schools may well complement the higher-ranked schools yet their total effect is not strong enough to significantly drive fund-level performance.

5 Concluding remarks

Management teams in private equity are relatively small but well aligned across the whole industry with their principal's objectives. The managers are highly educated and experienced professionals. Thus, it seems natural to assume that their success is primarily a function of their skill. In this study, we provide comprehensive evidence on the relevance of the management team's educational background for fund performance. We build on

the labor economics literature and focus specifically on differences in the quality of the graduate pool to identify top-talent within an institution (using post-degree experience from a highly selective employer). In addition, we investigate academic variety and show that funds with more access to different institutions and a broader educational profile perform better. This result also seems primarily driven by top-ranked universities.

Our findings extend similar efforts on the relevance of manager characteristics of mutual, hedge and venture capital funds. They are also a first step towards a characterization of successful managers in the private equity industry. The evidence suggests that investors can use the educational profile of the team as a tool in their evaluation of fund managers and that success in private equity is conditional on team resources. This can be a trigger for future research into the existence of "superstar" fund managers (similar to superstar CEOs, e.g., Malmendier and Tate (2009), Ammann et al. (2016)).

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Tables

Table 1: Selection strategy and breakdown by vintage year

The table shows summary statistics for a sample of U.S. based buyout funds with a vintage year between 1990 and 2010 from the PitchBook database. Only closed, fully invested, and liquidated funds are included for which committed capital and sequence number is available. In Panel A, the first entry in each cell depicts the sample mean, and the second entry its standard deviation (in parentheses). The column *US buyout* includes the full set of funds that fulfill the previous criteria, while the column *with partners* restricts the sample to funds for which the educational background of at least one member of the fund management team can be identified. It is further shown for the subset of funds for which performance information is available. *Fund Size* refers to the committed capital in millions of dollar, *Fund Sequence* indicates the number of funds the investment firm has raised including the current one, and *First Fund* is an indicator variable set to one if the fund is the first one for the investment firm. In Panel B, *Fund Count* reports the number of funds for which the management team and in addition a TVPI multiple and an IRR is available, respectively. *Fund Profile* lists the average number of partners tagged to the fund (i.e. team size) as well as the average and median fund size in millions of dollar. *Fund Performance* depicts the average and median TVPI multiple and IRR. Performance and size are winsorized at the 1% level.

Panel A: Selection strategy

	U.S. buyout	with partners	...and TVPI	...and IRR
No of Funds	1833	1173	790	760
No of Firms (GPs)	853	595	390	365
No of Partners (fund pairs)		4053	3213	3115
No of Partners (individuals)		2768	2244	2160
Fund Size	590	766	1010	1035
	(1070)	(1247)	(1425)	(1442)
Fund Sequence	3.58	3.83	4.47	4.52
	(4.67)	(5.02)	(5.74)	(5.78)
First Fund	0.31	0.28	0.22	0.21

Panel B: Breakdown by vintage year

	Fund Count			Fund Profile			Fund Performance			
Vintage Year	With Partner	and TVPI	and IRR	Avg Team	Avg Size	Med Size	Avg TVPI	Med TVPI	Avg IRR	Med IRR
1990	6	3	3	1.3	439	96	2.84	2.38	21.4	13.6
1991	4	4	4	1.0	207	196	2.35	2.51	22.0	27.1
1992	7	6	6	1.4	340	114	1.92	1.52	19.1	18.6
1993	11	10	10	1.7	586	312	2.50	2.17	30.2	26.6
1994	15	10	10	1.8	481	291	2.39	2.14	23.6	23.1
1995	17	12	12	2.2	404	188	2.38	2.36	28.9	26.5
1996	34	22	21	1.9	450	230	1.48	1.30	9.0	6.0
1997	43	26	27	1.9	708	315	1.41	1.33	6.7	7.5
1998	66	42	42	2.4	563	258	1.50	1.44	7.2	8.2
1999	68	38	39	2.5	561	268	1.69	1.69	10.7	11.8
2000	94	67	64	3.2	937	348	1.98	1.83	14.5	11.8
2001	58	38	39	3.2	645	230	2.05	2.06	19.6	19.3
2002	47	30	31	3.2	691	410	1.86	1.81	18.6	17.0
2003	42	32	33	3.8	812	320	1.80	1.70	17.8	16.0
2004	74	41	41	2.8	629	285	1.76	1.61	13.5	11.7
2005	99	78	70	4.5	848	350	1.57	1.56	10.1	10.0
2006	126	95	88	4.0	1040	372	1.57	1.58	9.3	9.3
2007	137	92	86	4.4	945	314	1.74	1.62	13.5	12.6
2008	101	69	60	4.2	898	325	1.57	1.53	15.1	14.4
2009	63	36	36	4.2	816	325	1.77	1.71	17.6	17.3
2010	61	39	38	3.8	420	300	1.42	1.52	11.0	13.2
Total	1173	790	760	3.5	766	314	1.72	1.64	13.5	12.4

Table 2: Educational background of fund managers

The table characterizes the educational profile of fund partners in the private equity industry. *Academic Institution* refers to the universities, colleges, and (business/law/etc.) schools from which the academic degree is received. *Degree Type* details the category of the educational achievement. *Undergraduate Field* refers to the primary specialization of the undergraduate degree. Missing values are marked as such at the bottom of the respective column. Fund partners represent the individuals that are part of the management team. If a partner has obtained multiple degrees, each one represents a separate observation. However, each individual is presented only once even in case the partner works for several funds. The list covers the 20 most frequent institutions and presents all other institutions as an aggregate.

Academic Institution	N	%	Degree Type	N	%	Undergraduate Field	N	%
Harvard University	733	14.62	Undergraduate	2505	49.96	Economics	584	23.31
University of Pennsylvania	424	8.46	MBA	1572	31.35	Finance/Accounting	389	15.53
Stanford University	286	5.70	Graduate	298	5.94	Social/Arts	300	11.98
Northwestern University	151	3.01	JD	216	4.31	Business/Management	272	10.86
Columbia University	143	2.85	PhD	62	1.24	Engineering	217	8.66
University of Chicago	140	2.79	Other	24	0.48	Sciences	122	4.87
Yale University	114	2.27				Other	21	0.84
Dartmouth College	112	2.23						
University of Virginia	100	1.99						
Princeton University	89	1.78						
New York University	75	1.50						
University of Michigan	74	1.48						
Cornell University	70	1.40						
Duke University	69	1.38						
University of Texas	68	1.36						
Georgetown University	63	1.26						
University of Notre Dame	58	1.16						
UC Los Angeles	49	0.98						
University of Illinois	49	0.98						
Brown University	48	0.96						
Other	1928	38.45						
Missing	171	3.41	Missing	337	6.72	Missing	600	23.95
No of Degrees	5014							
No of Partners	2768							

Table 3: Summary statistics of key variables

The table shows summary statistics of key variables. The sample includes U.S. based buyout funds with a vintage year between 1990 and 2010 from the PitchBook database. It is restricted to closed, fully invested, and liquidated funds for which committed capital, sequence number, and the educational background of at least one member of the management team is available. In *Panel A*, three categories of variables related to institutional quality are presented. First, it depicts the average *position in academic ranking* from the Times Higher Education World University Rankings, the Academic Ranking of World Universities (ARWU) from Shanghai Jiao Tong University, the U.S. News Business School Ranking, and the Financial Times MBA Ranking. Second, it presents proxy variables for talent and teaching quality by the institution's average *acceptance rate*, *composite SAT score*, *professor salary level*, and the *student-to-faculty ratio*. Third, it measures the *research contribution* of the institutions based on the average position in three rankings and the number of nobel Laureates. The former include the Finance Research Rankings from the Arizona State University (ASU), the Economics Rankings from Tilburg University, and the Business School Research Rankings from UT Dallas (UTD). In *Panel B*, *Top-Exp* measures the share of fund partners that has worked for a top-tier investment bank or management consulting firm (we refer to Section 4.2), while *Top-Edu* measures the share of fund partners that has graduated from a top-10 ranked institution as defined in the respective ranking. In *Panel C*, variables are defined as follows: *No of undergrad unis* and *No of business schools* are logarithmic counts on the number of unique academic institutions from which the partners have graduated for the respective degree type. *1-HHI (...)* represents the reverse Herfindahl index based on the frequency of undergraduate institutions, business schools, and degree fields, respectively. *Share most frequent universities* measures the percentage of partners that has graduated from the most frequently represented institution in the respective management team. In addition, the number of unique undergraduate institutions and business schools are split by ranking position.

	N	Mean	St. Dev.
Panel A: Institutional quality			
Position in academic rankings			
Times Higher Education	1,173	51.43	28.83
Shanghai ARWU	1,173	109.99	73.77
U.S. News MBA	961	7.78	7.90
Financial Times MBA	961	15.33	17.42
Talent pool and teaching quality			
Acceptance Rate	1,173	0.31	0.15
Composite SAT	1,173	13.53	0.79
Professor Salary	1,173	151,634	19,544
Student/Faculty	1,173	10.87	2.95
Research quality			
ASU Finance	1,173	68.69	53.69
Tilburg Economics	1,173	123.91	117.84
UTD Business	1,173	114.51	103.27
Nobel Laureates	1,173	8.15	6.61
Panel B: Individual performance			
Top-Exp	1,173	0.34	0.36
Times Higher Education			
Top-Edu	1,173	0.39	0.38
Top-Edu | Top-Exp	1,173	0.18	0.28
Top-Edu | *Not*-Exp	1,173	0.21	0.31
Not-Edu | Top-Exp	1,173	0.17	0.27
Shanghai ARWU			
Top-Edu	1,173	0.45	0.38
Top-Edu | Top-Exp	1,173	0.20	0.30
Top-Edu | *Not*-Exp	1,173	0.25	0.33
Not-Edu | Top-Exp	1,173	0.14	0.25
U.S. News MBA			
Top-Edu	1,173	0.46	0.38
Top-Edu | Top-Exp	1,173	0.21	0.29
Top-Edu | *Not*-Exp	1,173	0.25	0.32
Not-Edu | Top-Exp	1,173	0.14	0.24
Financial Times MBA			
Top-Edu	1,173	0.39	0.37
Top-Edu | Top-Exp	1,173	0.18	0.28
Top-Edu | *Not*-Exp	1,173	0.21	0.30
Not-Edu | Top-Exp	1,173	0.16	0.26
Panel C: Academic variety			

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Table 3 – *Continued from previous page*

No of undergrad unis	1,173	2.80	2.26
No of business schools	1,173	1.53	1.27
1-HHI undergrad unis	1,173	0.43	0.33
1-HHI business schools	1,173	0.23	0.28
1-HHI undergrad fields	1,173	0.27	0.29
Share most freq. uni	1,173	0.63	0.29
Times Higher Education			
Top 1-10	1,173	1.07	1.14
Top 11-25	1,173	1.02	1.07
Top 26-100	1,173	0.87	1.12
Not Top-100	1,173	1.59	1.77
Shanghai ARWU			
Top 1-10	1,173	1.21	1.16
Top 11-25	1,173	0.75	0.86
Top 26-100	1,173	0.87	1.09
Not Top-100	1,173	1.74	1.87
U.S. News MBA			
Top 1-10	1,173	1.15	1.07
Top 11-25	1,173	0.17	0.41
Top 26-50	1,173	0.05	0.25
Not Top-50	1,173	0.15	0.41
Financial Times MBA			
Top 1-10	1,173	0.95	0.93
Top 11-25	1,173	0.23	0.48
Top 26-50	1,173	0.13	0.35
Not Top-50	1,173	0.22	0.51

Table 4: Educational background and fund performance

The table shows fund performance by academic institution. The sample includes U.S. based buyout funds with a vintage year between 1990 and 2010 from the PitchBook database. It is restricted to closed, fully invested, and liquidated funds for which committed capital, sequence number, and the educational background of at least one member of the management team is available. Performance metrics include the fund's TVPI multiple and IRR, respectively. Partners are grouped by the degree institution from which they have graduated, and a performance measure is attached to each partner-fund pair. If a partner has received multiple degrees, each of them is included as a separate observation (e.g., an undergraduate and an MBA degree). If multiple partners of the same fund team have obtained a degree from the same institution, all are included as separate observations. Similarly, if a partner works for several funds, performance data is replicated for each of the degree affiliations. Only institutions with at least 50 observations in either metric are shown, with the remaining summarized at the bottom of the table. Performance is winsorized at the 1% level. The table is sorted by a decreasing mean TVPI multiple.

	TVPI			IRR		
Institution	N	Mean	Median	N	Mean	Median
UC Los Angeles	63	1.88	1.83	64	17.0	14.0
Princeton University	105	1.87	1.84	102	15.0	14.0
Stanford University	353	1.86	1.72	355	14.4	13.1
Brown University	65	1.84	1.76	62	14.8	12.2
Harvard University	997	1.79	1.74	985	14.4	13.1
Georgetown University	78	1.77	1.65	77	14.6	12.9
Columbia University	172	1.76	1.72	163	14.2	12.4
Yale University	134	1.73	1.71	132	12.8	13.1
Duke University	78	1.72	1.72	75	14.5	13.7
Cornell University	86	1.72	1.61	89	11.2	10.2
University of Michigan	88	1.71	1.70	80	14.4	13.3
Northwestern University	157	1.71	1.58	143	13.3	12.1
University of Pennsylvania	509	1.70	1.67	506	13.3	12.1
University of Texas	87	1.70	1.61	85	12.3	12.5
University of Chicago	179	1.69	1.67	171	13.6	12.3
Boston College	52	1.69	1.73	49	15.0	14.5
University of Notre Dame	63	1.69	1.58	61	11.8	11.2
University of Virginia	106	1.68	1.61	96	12.9	12.6
Dartmouth College	143	1.68	1.60	135	13.8	11.8
Williams College	56	1.67	1.59	56	11.6	10.3
New York University	92	1.55	1.54	82	11.4	12.2
University of Illinois	57	1.55	1.54	54	13.1	11.8
Other	2003	1.64	1.62	1913	11.9	11.7
Observed Degrees	5723	1.64	1.63	5535	12.0	12.0
Missing Degrees	159	1.74	1.71	155	13.8	11.8
Unique Partners	2244			2160		
Unique Funds	790			760		

Table 5: Institutional quality traits and fund performance

The table shows results of cross-sectional regressions of fund performance on institutional quality. The sample includes U.S. based buyout funds with a vintage year between 1990 and 2010 from the PitchBook database. It is restricted to closed, fully invested, and liquidated funds for which committed capital, sequence number, and the educational background of at least one member of the management team is available. The dependent variable is the TVPI multiple and the IRR, respectively. Three categories of variables related to institutional quality are presented. *Panel A* depicts the average position in academic ranking from the Times Higher Education World University Rankings, the Academic Ranking of World Universities (ARWU) from Shanghai Jiao Tong University, the U.S. News Business School Ranking, and the Financial Times MBA Ranking. Funds that do not have MBA graduates among the partner group are dropped from the respective model. *Panel B1* presents proxy variables for talent and teaching quality by the institution's average acceptance rate, composite SAT score, professor salary level, and the student-to-faculty ratio. *Panel B2* measures the research contribution of the institutions based on the average position in three rankings and the number of nobel Laureates. The former include the Finance Research Rankings from the Arizona State University (ASU), the Economics Rankings from Tilburg University, and the Business School Research Rankings from UT Dallas (UTD). Control variables are defined as follows: *Team Size* denotes the natural logarithm of the number of partners in the management team of the fund. *Fund size* is the natural logarithm of committed capital in millions of dollar. *Fund sequence* is the natural logarithm of the number of funds the investor has already raised including the current one. *First fund* is an indicator variable set to one if the fund is the investor's very first fund. Performance and size variables are winsorized at the 1% level. Each model includes vintage year fixed effects. The table depicts coefficients estimated with Ordinary Least Squares (OLS) and standard errors clustered on investor level (in brackets).

	Dependent variable:							
	TVPI				IRR			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Position in academic rankings								
Times Higher Edu.	−0.073**				−0.012*			
	(0.036)				(0.007)			
Shanghai ARWU		−0.059**				−0.009*		
		(0.027)				(0.005)		
U.S. News MBA			−0.084**				−0.012*	
			(0.037)				(0.007)	
Fin. Times MBA				−0.027				−0.007
				(0.034)				(0.006)
Team Size	0.208***	0.216***	0.205***	0.196***	0.029***	0.030***	0.028***	0.027***
	(0.044)	(0.045)	(0.046)	(0.046)	(0.008)	(0.008)	(0.008)	(0.008)
Fund Size	−0.111***	−0.111***	−0.121***	−0.112***	−0.015***	−0.015***	−0.014**	−0.013**
	(0.031)	(0.032)	(0.035)	(0.034)	(0.005)	(0.005)	(0.005)	(0.005)
Fund Seq.	0.010	0.009	0.013	0.021	0.005	0.005	0.004	0.005
	(0.041)	(0.041)	(0.045)	(0.045)	(0.008)	(0.008)	(0.008)	(0.008)
First Fund	0.042	0.039	0.016	0.019	0.014	0.014	0.013	0.013
	(0.091)	(0.091)	(0.099)	(0.099)	(0.015)	(0.015)	(0.016)	(0.016)
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	668	668	760	760	644	644
Adjusted R^2	0.111	0.112	0.130	0.123	0.126	0.127	0.151	0.148
Panel B1: Talent pool and teaching quality								
Acceptance Rate	−0.374*				−0.034			
	(0.204)				(0.038)			
Composite SAT		0.055				0.007		
		(0.036)				(0.007)		

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Table 5 – *Continued from previous page*

Professor Salary			0.432**				0.060	
			(0.216)				(0.041)	
Student/Faculty				−0.007				−0.002
				(0.010)				(0.002)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	760	760	760	760
Adjusted R^2	0.111	0.109	0.111	0.107	0.123	0.124	0.125	0.124
Panel B2: Research quality								
ASU Finance	−0.012**				−0.050*			
	(0.005)				(0.028)			
Tilburg Economic		−0.010**				−0.049**		
		(0.004)				(0.022)		
UT Dallas Business			−0.007				−0.022	
			(0.004)				(0.022)	
Nobel Laureates				0.003				0.039
				(0.006)				(0.035)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	760	760	760	760	790	790	790	790
Adjusted R^2	0.127	0.131	0.129	0.123	0.109	0.113	0.112	0.108

Note: *p<0.1; **p<0.05; ***p<0.01

Table 6: Organizational identity and fund performance

The table shows results of cross-sectional regressions of fund performance on individual academic institutions. The sample includes U.S. based buyout funds with a vintage year between 1990 and 2010 from the PitchBook database. It is restricted to closed, fully invested, and liquidated funds for which committed capital, sequence number, and the educational background of at least one member of the management team is available. The dependent variable is the TVPI multiple and IRR, respectively. Each cell represents a separate regression from which only the coefficient on the percentage share of fund partners that have obtained a degree from the respective institution is reported (i.e. the number of individuals with the respective degree divided by team size). Control variables in each model include: *team size*, which denotes the natural logarithm of the number of partners in the management team of the fund, *fund size*, which denotes the natural logarithm of committed capital in millions of dollar, *fund sequence*, which denotes the natural logarithm of the number of funds the investor has already raised including the current one, and *first fund*, which denotes an indicator variable set to one if the fund is the investor's very first fund. Performance and size variables are winsorized at the 1% level. Each model includes vintage year fixed effects. The table depicts coefficients estimated with Ordinary Least Squares (OLS) and standard errors clustered on investor level (in brackets).

	Dependent variable:							
	TVPI				*IRR*			
	All degrees		*MBA degrees*		*All degrees*		*MBA degrees*	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Harvard University	0.191**	0.091	0.245**	0.096	0.028*	0.015	0.040**	0.017
University of Pennsylvania	−0.091	0.106	−0.209	0.147	−0.000	0.021	−0.027	0.024
Stanford University	0.101	0.169	0.267	0.201	−0.014	0.028	0.009	0.034
Northwestern University	−0.139	0.179	−0.309	0.261	−0.022	0.034	−0.070	0.048
Columbia University	−0.179	0.206	0.023	0.249	−0.030	0.026	−0.036	0.038
Chicago University	0.001	0.150	−0.064	0.149	0.004	0.022	−0.000	0.023
Yale University	−0.204	0.227	−0.324	0.735	−0.029	0.029	−0.171*	0.089
Dartmouth College	−0.091	0.197	−0.137	0.395	−0.018	0.038	−0.048	0.042
University of Virginia	0.214	0.431	0.636	0.505	−0.047	0.058	0.105	0.066
Princeton University	0.667**	0.323			0.070	0.053		
New York University	−0.862***	0.223	−0.679***	0.257	−0.132**	0.061	−0.060	0.047
University of Michigan	−0.192	0.203	−0.521	0.382	−0.002	0.042	−0.124*	0.065
Cornell University	0.116	0.165	−0.432	0.743	−0.036	0.030	−0.135	0.097
Duke University	0.015	0.257	0.396	0.256	0.041	0.033	0.049	0.046
University of Texas	−0.186	0.226	−0.340	0.301	−0.066*	0.038	−0.081***	0.026
Georgetown University	0.122	0.410	1.027*	0.599	0.057	0.072	0.132***	0.033
University of Notre Dame	−0.074	0.300	−4.331***	0.721	−0.061	0.057	−0.704***	0.103
UC Los Angeles	0.618*	0.360	0.606	0.523	0.067*	0.040	0.009	0.049
University of Illinois	−0.417	0.257	0.479**	0.224	−0.015	0.056	0.057	0.057
Brown University	0.583**	0.237			0.085**	0.040		

*p<0.1; **p<0.05; ***p<0.01

Table 7: Individual performance and fund performance

The table shows results of cross-sectional regressions of fund performance on the concentration of top-tier education and work experience. The sample includes U.S. based buyout funds with a vintage year between 1990 and 2010 from the PitchBook database. It is restricted to closed, fully invested, and liquidated funds for which committed capital, sequence number, and the educational background of at least one member of the management team is available. The dependent variable is the TVPI multiple and IRR, respectively. *THE* refers to the Times Higher Education World University Rankings, *ARWU* to the Academic Ranking of World Universities from Shanghai Jiao Tong University, *FT* to the Financial Times MBA Ranking, and *NEWS* to the U.S. News Business School Ranking. *Top-Exp* measures the share of fund partners that has worked for a top-tier investment bank or management consulting firm (we refer to Section 4.2 for a list of firms), while *Top-Edu* measures the share of fund partners that has graduated from a top-10 ranked institution as defined in the respective ranking. In *Panel A*, the two dimensions are intersected to separate partners that either fulfill both criteria or just one of them. The residual group are the partners that qualify for neither criteria, which are omitted from the regression. In *Panel B*, the two effects are shown separately. Control variables in each model include: *team size*, which denotes the natural logarithm of the number of partners in the management team of the fund, *fund size*, which denotes the natural logarithm of committed capital in millions of dollar, *fund sequence*, which denotes the natural logarithm of the number of funds the investor has already raised including the current one, and *first fund*, which denotes an indicator variable set to one if the fund is the investor's very first fund. Performance and size variables are winsorized at the 1% level. Each model includes vintage year fixed effects. The table depicts coefficients estimated with Ordinary Least Squares (OLS) and standard errors clustered on investor level (in brackets).

	Dependent variable:							
	TVPI				IRR			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ranking	THE	ARWU	NEWS	FT	THE	ARWU	NEWS	FT
Degrees	All	All	MBA	MBA	All	All	MBA	MBA
Panel A: Intersection of top-education and -experience (%)								
Top-10 Edu | Top-Firm Exp	0.270**	0.305***	0.228*	0.316***	0.037*	0.043**	0.034*	0.046**
	(0.116)	(0.116)	(0.118)	(0.118)	(0.020)	(0.020)	(0.019)	(0.019)
Top-10 Edu | *Not* Top-Firm	0.048	0.007	0.061	0.068	−0.001	−0.009	−0.007	−0.001
	(0.107)	(0.099)	(0.098)	(0.102)	(0.017)	(0.016)	(0.017)	(0.017)
Not Top-10 | Top-Firm Exp	0.079	−0.027	0.126	0.025	0.009	−0.012	0.001	−0.006
	(0.140)	(0.149)	(0.157)	(0.150)	(0.023)	(0.025)	(0.027)	(0.025)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	760	760	760	760
Adjusted R^2	0.113	0.117	0.111	0.115	0.125	0.130	0.126	0.129
Panel B: Separation of top-education and -experience (%)								
Top-10 Edu	0.100	0.116	0.074	0.143	0.009	0.011	0.005	0.017
	(0.085)	(0.081)	(0.085)	(0.088)	(0.014)	(0.014)	(0.015)	(0.015)
Top-Firm Exp	0.143	0.143	0.148	0.131	0.022	0.022	0.023	0.020
	(0.096)	(0.094)	(0.094)	(0.095)	(0.016)	(0.016)	(0.016)	(0.016)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	760	760	760	760
Adjusted R^2	0.113	0.114	0.112	0.115	0.125	0.126	0.125	0.126
Note:								*p<0.1; **p<0.05; ***p<0.01

Table 8: Academic variety and fund performance

The table shows results of cross-sectional regressions of fund performance on academic variety. The sample includes U.S. based buyout funds with a vintage year between 1990 and 2010 from the PitchBook database. It is restricted to closed, fully invested, and liquidated funds for which committed capital, sequence number, and the educational background of at least one member of the management team is available. The dependent variable is the TVPI multiple and IRR, respectively. In *Panel A*, variables are defined as follows: *No of undergrad unis* and *No of business schools* are logarithmic counts on the number of unique academic institutions from which the partners have graduated for the respective degree type. *1-HHI (...)* represents the reverse Herfindahl index based on the frequency of undergraduate institutions, business schools, and degree fields, respectively. *Share most frequent universities* measures the percentage of partners that has graduated from the most frequently represented institution in the respective management team. In *Panel B*, the number of unique undergraduate institutions and business schools are split by ranking position. *THE* refers to the Times Higher Education World University Rankings, *ARWU* to the Academic Ranking of World Universities from Shanghai Jiao Tong University, *FT* to the Financial Times MBA Ranking, and *NEWS* to the U.S. News Business School Ranking. Fund attributes in each model include: *fund size*, which denotes the natural logarithm of committed capital in millions of dollar, *fund sequence*, which denotes the natural logarithm of the number of funds the investor has already raised including the current one, and *first fund*, which denotes an indicator variable set to one if the fund is the investor's very first fund. Performance and size variables are winsorized at the 1% level. Each model includes vintage year fixed effects. The table depicts coefficients estimated with Ordinary Least Squares (OLS) and standard errors clustered on investor level (in brackets).

	Dependent variable:							
	TVPI				IRR			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Variety of institutions and degrees								
No of undergrad unis	0.213**				0.040***			
	(0.083)				(0.014)			
No of business schools	0.072				−0.006			
	(0.081)				(0.015)			
1-HHI undergrad unis		0.347**				0.072***		
		(0.135)				(0.023)		
1-HHI business schools		0.080				−0.020		
		(0.123)				(0.021)		
1-HHI undegrad fields			0.327***				0.053***	
			(0.102)				(0.018)	
Share most freq. uni				−0.199*				−0.034*
				(0.108)				(0.019)
Panel B: Sources of institutional variety								
Ranking	THE	ARWU	NEWS	FT	THE	ARWU	NEWS	FT
No of Top 1-10	0.231***	0.227***	0.197***	0.238***	0.021**	0.022**	0.022**	0.029***
	(0.058)	(0.060)	(0.064)	(0.068)	(0.010)	(0.010)	(0.011)	(0.011)
No of Top 11-25	0.128**	0.150**	0.139	0.003	0.034***	0.034***	0.006	−0.008
	(0.065)	(0.059)	(0.111)	(0.079)	(0.012)	(0.012)	(0.018)	(0.014)
No of Top 26-100/50	0.107	0.126**	−0.189*	0.100	0.015	0.026**	−0.016	−0.0001
	(0.065)	(0.063)	(0.108)	(0.127)	(0.011)	(0.012)	(0.026)	(0.019)
Residual Institutions	0.052	0.052	−0.005	0.072	0.001	−0.001	−0.005	0.005
	(0.050)	(0.053)	(0.102)	(0.084)	(0.009)	(0.009)	(0.021)	(0.016)
Fund Attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	760	760	760	760
Note:								*p<0.1; **p<0.05; ***p<0.01

Appendix

Table A.1: Robustness on academic variety using ridge regressions

The table represents a robustness check on the cross-sectional regressions of fund performance on academic variety from Table 8. Specifications follow the original specifications with the exception of the addition of team size as a control variable (in its logarithmic form). Reported are scaled coefficient estimates and scaled standard errors obtained from ridge regressions. Inference and implementation is based on Cule et al. (2011) and Cule and De Iorio (2013). The dependent variable is the TVPI multiple and IRR, respectively. Fund attributes in each model include *Fund Size*, *Fund Sequence*, and *First Fund*, which are defined in Table 8. Performance and size variables are winsorized at the 1% level. Each model includes vintage year fixed effects.

	Dependent variable:							
	TVPI				IRR			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Variety of institutions and degrees								
No of undergrad unis	0.904**				0.204**			
	(0.391)				(0.100)			
No of business schools	0.733				−0.021			
	(0.472)				(0.110)			
1-HHI undergrad unis		0.200*				0.256**		
		(0.111)				(0.104)		
1-HHI business schools		0.103				−0.103		
		(0.120)				(0.109)		
1-HHI undegrad fields			0.834*				0.197	
			(0.499)				(0.122)	
Share most freq. uni				0.198				0.013
				(0.503)				(0.119)
Team Size	0.850**	0.187*	1.445***	1.937***	0.212**	0.220**	0.276**	0.392***
	(0.387)	(0.108)	(0.492)	(0.495)	(0.100)	(0.104)	(0.122)	(0.124)
Panel B: Sources of institutional variety								
Ranking	THE	ARWU	NEWS	FT	THE	ARWU	NEWS	FT
No of Top 1−10	1.564***	1.487***	0.969**	1.292**	0.112	0.117	0.033	0.029*
	(0.575)	(0.574)	(0.515)	(0.520)	(0.110)	(0.095)	(0.024)	(0.0166)
No of Top 11−25	0.759	0.899	0.466	−0.225	0.243**	0.224**	0.008	−0.005
	(0.580)	(0.574)	(0.515)	(0.520)	(0.109)	(0.095)	(0.025)	(0.017)
No of Top 26−100/50	0.411	0.654	−0.771	0.178	0.056	0.151	−0.027	−0.005
	(0.579)	(0.578)	(0.515)	(0.517)	(0.110)	(0.096)	(0.025)	(0.018)
Residual Institutions	−0.212	−0.467	−0.103	−0.012	−0.096	−0.114	−0.026	−0.010
	(0.573)	(0.573)	(0.515)	(0.516)	(0.112)	(0.094)	(0.025)	(0.018)
Team size	1.548***	1.576***	1.567***	1.496***	0.291**	0.214**	0.041*	0.026*
	(0.563)	(0.557)	(0.505)	(0.510)	(0.120)	(0.089)	(0.022)	(0.016)
Fund Attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	760	760	760	760
Note:								*p<0.1; **p<0.05; ***p<0.01

Table A.2: Robustness on academic variety with additional control variables

The table shows a robustness check on the cross-sectional regressions of fund performance on academic variety from Table 8. In *Panel A*, we introduce three new control variables: (i) the *average position* in academic rankings, (ii) the *average enrollment* to approximate the size of the alumni network of the institutions from which the partners have graduated, (iii) the *minimum distance* between the fund partner's offices and the closest university from which at least one partner has graduated. In *Panel B*, we add the number of unique pairs between a top-10 university and a top-tier investment bank or management consulting firm to introduce another dimension of variety into the specification. *THE* refers to the Times Higher Education World University Rankings, *ARWU* to the Academic Ranking of World Universities from Shanghai Jiao Tong University, *FT* to the Financial Times MBA Ranking, and *NEWS* to the U.S. News Business School Ranking. The dependent variable is the TVPI multiple and IRR, respectively. Fund attributes include *Fund Size*, *Fund Sequence*, and *First Fund*, which are defined in Table 8. Performance and size variables are winsorized at the 1% level. Each model includes vintage year fixed effects. The table depicts coefficients estimated with Ordinary Least Squares (OLS) and standard errors clustered on investor level (in brackets).

	Dependent variable:							
	TVPI				IRR			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Features of academic institutions								
No of undergrad unis	0.040***	0.041***	0.040***	0.041***	0.222**	0.228**	0.196**	0.210**
	(0.015)	(0.015)	(0.015)	(0.015)	(0.089)	(0.089)	(0.089)	(0.090)
No of business schools	−0.008	−0.008	−0.017	−0.021	0.068	0.071	0.064	0.011
	(0.016)	(0.016)	(0.020)	(0.020)	(0.083)	(0.083)	(0.114)	(0.114)
Average ranking position†	−0.009	−0.007	−0.010	−0.005	−0.067*	−0.054*	−0.085**	−0.023
	(0.007)	(0.006)	(0.007)	(0.006)	(0.040)	(0.030)	(0.040)	(0.036)
Average uni enrollment	0.011	0.010	0.017	0.018	−0.015	−0.026	0.038	0.047
	(0.016)	(0.016)	(0.017)	(0.017)	(0.097)	(0.097)	(0.102)	(0.103)
Min distance to uni	−0.001	−0.001	−0.001	−0.001	−0.001	−0.001	−0.006	−0.005
	(0.002)	(0.002)	(0.002)	(0.002)	(0.014)	(0.014)	(0.015)	(0.015)
†Ranking classification	THE	ARWU	NEWS	FT	THE	ARWU	NEWS	FT
Fund Attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	760	760	644	644	790	790	668	668
Adjusted R^2	0.122	0.122	0.147	0.145	0.106	0.106	0.119	0.112
Panel B: Variety effects among top talent								
No of undergrad unis	0.179**	0.166**	0.196**	0.190**	0.036**	0.033**	0.036**	0.036**
	(0.084)	(0.084)	(0.084)	(0.084)	(0.014)	(0.014)	(0.014)	(0.014)
No of business schools	0.048	0.033	0.035	0.025	−0.009	−0.012	−0.014	−0.014
	(0.083)	(0.082)	(0.086)	(0.084)	(0.016)	(0.016)	(0.016)	(0.016)
No of Top-Edu/Top-Exp†	0.129***	0.164***	0.089	0.130**	0.015*	0.022**	0.018	0.021**
	(0.050)	(0.052)	(0.060)	(0.059)	(0.009)	(0.009)	(0.011)	(0.010)
†Ranking classification	THE	ARWU	NEWS	FT	THE	ARWU	NEWS	FT
Fund Attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F.E. Vintage	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	760	760	760	760
Adjusted R^2	0.113	0.117	0.107	0.111	0.124	0.128	0.124	0.125
Note:								*p<0.1; **p<0.05; ***p<0.01