Should Investors Care Where Private Equity Managers Went To School?

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Abstract

In this paper, we investigate whether the educational background of private equity managers, which represents an important part of their human capital, impacts fund performance. In particular, we explore three potential channels of how their educational background may influence fund performance: (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.

Keywords: *Performance, Buyout, Teams, Education, University*
JEL Codes: G11, G15, G24, G34

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Abstract

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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)). The literature uses education as an 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 leads to a particular talent pool. Second, it expresses expectations about the graduate's knowledge and skill set acquired at a specific university. 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 individual contributions and team composition as well as complementariness. More precisely, we analyze the institutional quality of universities, the individual performance of managers from a combination of high-quality education and functional experience, and academic variety of fund teams as potential drivers of fund performance.

The success of management companies of private equity partnerships (general partners, GPs) mainly relies on the abilities of its senior employees (thereafter called "partners"). The partners acquire majority stakes in mature enterprises and subsequently implement various financial and operational levers to create value for investors. They have significant discretion about the fund's strategic decisions and actively engage in the management of their portfolio companies. Thus, 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 in the U.S. buyout industry have attended high-quality universities (e.g., Ivy League schools) and worked for a group of highly

selective employers (e.g., investment banks) before joining a private equity fund. For example, only 20 educational institutions account for around 60% of academic degrees and 87% of MBA degrees of the fund partners in our data sample, with 15% of academic degrees and 31% of MBA degrees awarded by Harvard University alone.

Furthermore, institutional investors, such as pension funds, trust the partners with the management of often hundreds of millions of dollars, and the capital is typically bound for 8-12 years within the private equity fund. While prior studies argue and empirically show that manager skill matters, the characteristics that embody a successful manager remain unclear.[1] A particularity of the private equity industry is that partners profit from fund returns disproportionately compared to other segments of the labor market (e.g., corporate managers). Compensation arrangements are highly standardized across the industry and usually provide the partners with a 20% share in profits. Thus, for each additional dollar in capital gains, the fund partners receive 20 cents, which is referred to as the carried interest. The carried interest is paid out to the fund partners after the investment (i.e., portfolio company) is successfully divested following a typical holding period of three to five years, and a capital gain is realized. This incentive structure essentially subsumes governance for investors as the partners only receive the carried interest if the investments are sold, thus promoting 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 sample 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 from PitchBook, a proprietary database. These funds represent a significant share of the U.S. private equity market with an aggregate $898 billion

[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 individual's human capital can significantly better explain venture capital performance than the firm's organizational capital is able to (Ewens and Rhodes-Kropf (2015)). Recently, Cornelli et al. (2017) find positive effects from turnover in private equity teams.

in capital.[2] The average size of the management team is 3.5 individuals (median: 3.0) and some managers work for multiple funds over time. We obtain performance data for around two-thirds of the funds measured in terms of total value to paid in (TVPI) and internal rate of return (IRR). This allows us to test the relevance of team characteristics on fund returns that are ultimately relevant to 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 partner 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 and its impact on fund returns.

Our findings can be summarized as follows. First, with regard to academic quality, we find a positive relationship between fund-level performance and the average position in academic rankings of the universities (e.g., Times Higher Education) that the fund partners have attended. A change of one standard deviation in the average ranking position of the universities increases the fund's TVPI by 6.6%. When distinguishing between talent pool (e.g., the institution's SAT scores) and schooling quality (e.g., student/faculty ratios), we find mixed evidence for systematic differences across the institutions. However, the stronger an institution's focus on finance topics (e.g., through more research publications), the more positively it reflects 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 after leaving university, 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 high-ranked institutions, and thus we regard such a career track as an additional quality signal. We find strong outperformance for the partners who meet both criteria. A one standard deviation increase of their representation in the average private equity team

[2]PitchBook estimates that U.S. PE assets under management total $1,179 billion as of 2010 and are managed by 1,655 active U.S. PE firms (Source: PitchBook (2017)).

is estimated to positively impact the fund's TVPI by 6.6–9.2%.

Third, we find that academic variety on the fund level entailed by different (undergraduate) institutions and interdisciplinarity skills (e.g., different fields of study) drive performance. The addition of another university, which is not yet represented, to the educational background of the management team through an additional degree or partner increases a fund's returns by 2.8%. For an average fund with $766 million in capital, this translates into $22 million more in distributions to limited partners over the typical fund lifetime of 10 years in the private equity industry. The strongest contribution comes once again from graduates of high-ranked institutions (estimated at 3.1%).

Our contributions to the existing literature are as follows. We focus on the private equity industry, which 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 in 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 underline that the buyout model is ultimately not only a capital play, but that team resources are also important return drivers.

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.

Additionally, 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 for 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). Furthermore, the frequency of particular career paths allows us to identify individual performance within the graduates of a single institution even without proprietary information such as 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 signal of manager ability for investors (e.g., Acharya et al. (2013), Siming (2014)).

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 of 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. We focus on the top management team (TMT) within private equity firms, which we define as the set of partners who are responsible for the management of an individual fund.[3] The TMT represents the dominant coalition within the organization and

[3]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

functions as its decision-making group (Hambrick and Mason (1984)). In private equity, partners are employed by a management company (general partner) and responsible for the identification of take-over targets, as well as for the improvement of the financing structure, governance and operations of the portfolio companies of (a) particular fund(s).

2.1 Institutional quality

There may be systematic differences between management teams of different funds with regard to their educational background. Universities differ from one another on an institutional level, for example through their history, geographic location, or teaching paradigms. The choices managers make regarding a university and a field of study are therefore a reflection of their personalities, attitudes, and preferences. At the same time, each institution follows its own selection strategy through its admission policy. Consequently, the talent pool and schooling quality are particular to each institution.[4]

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 this is particularly driven by managers from high-ranked MBA programs who tend to outperform. Furthermore, Graham et al. (2012) show that CEO compensation is a function of education quantity (i.e., highest degree achieved). Interestingly, Ivashina and Lerner

within the team (e.g., as a lead partner or board member).

[4] 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.

(2017) recently report that there is at best limited influence from the partners' educational background on the compensation of private equity managers (e.g., in terms of MBA degrees or high-quality institutions).

The private equity task is highly dependent on human capital. During the due diligence process prior to the investment decision, 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 college.

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 then reinforce institutional quality since ranking methodology includes inputs such as employability after graduation and research output. We further distinguish between factors that are related to cognitive abilities (e.g., acceptance rate) and the influence from schooling (e.g., student/faculty ratio and research focus). In summary, we hypothesize that institutional quality and fund performance are positively correlated.

2.2 Individual performance

University and program choice typically impact the prospect of future career paths. The payoff for students who attend the same (selective) academic institutions, however, is not homogeneous (e.g., Dale and Krueger (2002)). In order to capture such heterogeneity within the graduate pool of a particular school, we consider subsequent employment with a selective firm. If a graduate joins a prestigious firm after graduation, we argue that this career step signals individual performance as fellow students are not selected.

With regard to private equity, two particular industries stand out – investment banking and management consulting – which suffice both the theoretical argument as to why they are relevant for the private equity task and a significant source of recruitment to the industry. Siming (2014), for example, documents that 59% of private equity professionals have worked for a financial adviser before moving to private equity, and that 12% have worked in a consulting firm. Furthermore, in recent batches more than half of MBA graduates of the Harvard and Stanford business schools are hired by finance and consulting firms.[5] 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) highlights that former 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 this professional experience allows us to distinguish between graduates of the same academic institution even without having access to individual student data (e.g., their grades and test results). 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 who 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 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

[5]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/). Data last accessed on August 17th, 2017.

and work experience.[6] 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 managing a private equity fund is 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 it can reflect negatively as a consequence of higher alignment 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 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. On the other hand, variety can also cause higher communication cost (e.g., Knight et al. (1999)), and thus lead to lower efficiency of the team.

Furthermore, MBA degrees can play an important role given their frequency in the business world and as business schools are well known for their alumni network. They create platforms for social contacts that span not only 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).

We hypothesize that the benefits of variety outweigh its cost, and higher levels of

[6] 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.

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, which may help them to better source investment opportunities.

3 Sample characteristics

3.1 Selection strategy

We start with all U.S.-based buyout funds listed in the PitchBook database.[7] 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.[8] To increase data availability, we complement fund size and performance with data from Preqin (another proprietary

[7]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.

[8]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).

database) in cases where values are missing or for more recent information. This results in a sample of 1,173 funds from 595 unique firms (general partners). After controlling for performance data, the count reduces to 790 funds (390 firms) for TVPI multiples and 760 funds (365 firms) for IRRs.[9]

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 partners work on average for 1.5 different funds. 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.

Performance is measured on the fund-level as a TVPI multiple and an IRR, which are net of fixed and performance fees and typically reported to the database operators by investors in the fund (limited partners). The average fund over the sampling period returns 1.72 times of invested capital to limited partners (median: 1.64) and provides investors with an IRR of 13.5% (median: 12.4%).[10] 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.[11] 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

[9]Despite our requirement for biography and performance data, the sample size remains large compared to other studies. For example, Harris et al. (2014) find that the main databases report between 598 and 776 buyout funds with return information (but do not restrict funds to available management information).

[10]The 598 funds from Burgiss used in Harris et al. (2014) have an average investment multiple of 1.97 (median: 1.81) and an average IRR of 14.2% (median: 13.0%). The authors further note that both metrics also capture the majority of the variation in the public market equivalents (PME), which we cannot calculate due to a lack of sufficient cash-flow data in the PitchBook database.

[11]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.

significant concentration towards a small number of institutions that 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 comprise the top category of different 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 Master's (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 economics, finance, and other business-related degree fields at the undergraduate level (23%, 16%, and 11%, respectively). On the other hand, degrees in the natural or social sciences are relatively sparse (14% and 12%, respectively). However, we have to note that the degree specialization is missing for almost a quarter of observations.

[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.[12] 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 separate between talent pool and schooling at the institutions. We use the average acceptance rate and composite SAT score as a proxy for the former, while in 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.[13] 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.[14] The former include the Finance Research Rankings from the Arizona State University (ASU), the Business School Research Rankings from UT Dallas

[12]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.

[13]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.

[14]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).

(UTD), and the Economics Rankings from Tilburg University.[15] 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 Department of Education surveys.

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, with a significant share of them joining from 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.[16]

We split the team across two dimensions: "top-education" and "top-experience". To qualify for the former, a partner 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 each (25% for top-

[15] 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 economics journals (1990-2010). Source: https://econtop.uvt.nl. Web information last accessed on September 12, 2017.

[16] We restrict consulting firms to the three global management consulting firms, namely Bain & Company, Boston Consulting Group, and McKinsey & 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.

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, we look at the number of unique institutions that are represented in the educational background of the fund partners, which represents a count of variety irrespective of frequency. It includes every institution from which at least one partner 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). The lower count for MBA degrees is likely also driven by the fact that only about half of partners have obtained such a degree. We further split the count of unique universities by the position of the institution in academic rankings to capture a quality dimension within academic variety. We observe again a much higher concentration in the high-ranked business schools, while undergraduate institutions are distributed more equally. For example, while the majority of variation within the Financial Times MBA ranking comes from top-10 schools, the largest contribution in the Times Higher Education ranking is from schools below the top-100 institutions.

Second, degree composition is measured by the reverse Herfindahl-Hirschman index (1-HHI).[17] It incorporates the frequency of degree institutions and undergraduate fields and 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). In addition, we calculate a variety score for degree fields to measure interdisciplinarity (0.27).

[17]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).

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 the baseline ("most frequent university"). For example, if a majority of degrees are 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 of the same private equity fund hold a degree from the same institution (median: 50%), which indicates a relatively high level of homogeneity. A strong driver for this are MBA degrees, since 73% of the overlap originates from a common business school background.

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 count performance data of all of them by replicating the degree affiliation.

Ideally, we would measure performance separately for each partner and on the deal-level. However, we are only able to obtain fund-level performance data. Since fund teams are relatively small, we assume that individual contributions are reflected in the overall success, and rely on the fund-level returns by attaching the same figure to every member of the team. Additionally, limited partners investing in a fund entrust their capital to the whole fund team and not to individual partners. Table 4 lists the performance metrics of 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 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 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 and IRR of 17.0% versus 11.4%). While the table presents by no means a comprehensive ranking or multivariate approach, 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 following discussion into institutional quality traits and organizational identity. The former compares 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 these 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 i represents one fund. The dependent variable is the fund-level TVPI multiple and IRR, respectively. The vector $Quality\,Characteristic_i$ represents the variables of interest. It includes the average position in academic rankings (Times Higher Education, Shanghai ARWU, U.S. News MBA, and Financial Times MBA), proxy variables for talent pool (i.e., acceptance rate and SAT score), teaching quality (i.e., professor salary and student/faculty ratio), and research contributions (ASU Finance, Tilburg Economics, UT Dallas Business, and Nobel Laureates).[18] The vector $Controls_i$ includes team size, fund size, sequence number, and an indicator variable set to one if the fund is the general partner's first. Controlling for larger and more seasoned funds allows us to rule out that experience or a potentially lower motivation in the management teams as a consequence of past (financial) success 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 be reflected in higher returns.[19] Lastly, we add vintage year fixed effects to account for performance differences related to the fund's inception period.[20]

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 is estimated at an additional return of capital of 6.6% to investors.[21] The evidence becomes

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

[19] 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 socio-demographic 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%).

[20] 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)).

[21] 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

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 (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, 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 levels for the TVPI multiple, respectively, the composite SAT score and the student/faculty ratio are statistically not distinguishable from zero. The economic effect is similar to the change in the ranking position. An increase of one standard deviation in the acceptance rate is estimated at 5.6% and in the average salary level of professors at 5.9%.[22] We are, however, not able to replicate these results using the IRR instead of the TVPI 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. It is likely a result of highly selective recruitment in the private equity industry and the strong concentration on relatively high-profile academic institutions that show little variation in the profile of students they appeal to. Furthermore, this interpretation is consistent with the literature on the economics of education, which finds that the payoff from highly selective institutions diminishes 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 impact

multiplied with the standard deviation times minus one (28.83 * (-1)) to reflect that *lower* ranking positions indicate *higher* quality institutions.

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

(though both show coefficient 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.[23] The 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).[24] 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). Given that such factors are hard to capture in the cross-section, we separately measure (for each fund) the share of partners that have graduated from each institution 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 empirically test whether their presence is good news for investors. We estimate the impact on fund performance based on the following cross-sectional

[23] We test for several additional characteristics to rule out that omitted variables bias impacts the evidence: minimum (and average) geographic distance between the fund's office location and the (closest) university from which a partner has graduated as well as student enrollment, number of faculty, the representation of female and international students, and the tuition levels at the respective institution.

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

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 i represents again a single fund. Dependent and control variables are defined as before. We run regressions for each institution separately and thus, benchmark it specifically against the collective that comprises all other institutions.

Table 6 presents empirical results. 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 obtained by the partners.

[Table 6 about here]

We observe that some of the institutions that came out on top (at the bottom) of our university list in Table 4 remain high (low) performing. For example, Princeton University and Brown University again show positive evidence on the influence of their graduates on performance, whereas New York University retains a strong negative influence. Most surprisingly, Harvard University, as the most frequently represented institution and the one that was close to the mean of the descriptive performance statistics, 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 the 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 top-tier work experience for identification of individual performance.

We first intersect the two dimensions and thus 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; and (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

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

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 (and 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 impact. The economic effect 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., an increase in TVPI).[25] The other two groups reveal that simply having relevant professional experience without top-tier education or the other way around does not impact 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.[26]

[25]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).

[26]In unreported regressions, we also confirm that the main effect remains positive and highly significant when the two control groups that only suffice one criterion are removed from the model. In addition, when only the baseline group of partners without top-tier education and work experience is included, the

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 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 also indicates that there is a talent factor involved, rather than simply training and experience. Furthermore, it is likely that the two effects reinforce each other. For example, talented partners could benefit more from their professional experience. Investors in private equity might use such signals from the combination of education (i.e., admission policy of selective institutions) and work experience (i.e. recruitment decisions of selective firms) for their evaluation of management teams.

[Table 7 about here]

One concern in interpreting the evidence could be reverse causality. However, we do not think that this is a major issue for the following reasons. First, teams are hired at fund 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 believing in performance persistence at that 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 in unreported regressions for the first-time funds in the sample, which do not yet have a reputation in the market. The evidence remains qualitatively similar.

coefficient signs become negative as expected and insignificant in almost all cases.

4.3 Academic variety

In a last step, we test whether academic variety in the management team matters for the performance of private equity funds. More variety in the educational background may increase the knowledge and skill pool, and give 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

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

where dependent and control variables are defined as in previous subsections with the exception of team size, which we exclude due to multicollinearity issues.[27] *Academic Variety* measures the concentration of the educational background within the team (e.g., as the number of unique academic institutions). 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 an omitted variable bias. 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 institutions. This makes the 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

[27] 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.

results estimated from ridge regressions in the Appendix (Table A.1).[28]

Table 8 presents empirical results. In Panel A, we focus on the level of concentration from different 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 TVPI by around 2.8% and the expected annualized return by 0.53%.[29] For an average fund with $766 million in capital, this translates into $22 million in additional distributions over the fund's lifetime. 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 with regard to 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.[30] 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]

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

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

[30] 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 sciences and arts, however, we cannot confirm the same for science, engineering and law degrees.

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. Results remain robust across all 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 institution (unreported). 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. They also show that the pure addition of another partner without a high-quality education may not be a strong driver of our results in Panel A. Our earlier results have indicated that the educational history of fund partners is highly concentrated on a small number of top-ranked academic institutions and that among these institutions, the 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 is also reflected in 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 show that the higher the average university ranking of the management team, the higher its fund performance. Furthermore, 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 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 and the determinants of their success (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 buyout funds with a vintage year between 1990 and 2010. Only closed, fully invested, and liquidated funds are included for which committed capital and sequence number are available. Panel A reports sample mean and standard deviation (in parentheses). The first columns includes U.S.-based buyout funds. The second column includes only funds for which the educational background of at least one member of the fund management team is available. The third and fourth columns further limit funds to the subset for which performance information is available. *Fund Size* refers to the committed capital in millions of dollars, *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 management team and performance is available, respectively. *Fund Profile* lists the average number of partners as well as the average and median fund size in millions of dollars. *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 team	...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 team	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 if 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-Hirschman 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

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Table 3 – *Continued from previous page*

Panel C: Academic variety			
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 dollars. *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 dollars, *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 criterion, 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 dollars, *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-Hirschman 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. MBA rankings are capped at the top-50 (instead of top-100). Fund attributes in each model include: *fund size*, which denotes the natural logarithm of committed capital in millions of dollars, *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