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Is Destiny Worth the Distance? On Private Equity in Emerging Markets*

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(Preliminary Version)

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Abstract

We study the performance determinants of private equity investing in emerging markets (EM) compared to developed markets (DM) using a novel dataset. Using a multilevel linear model specification, our results suggest that performance in emerging markets is highly dependent on geographical and cultural proximity. The effect is significantly higher for GPs investing in both markets compared to pure DM- and EM-players respectively. Cross-cultural and geographical effects are enhanced when the GP investment teams are also culturally close using different measures. Our results also show that the realized returns are highly dependent on the investment period, the investment style and the GP's experience on each market.

Keywords: Private Equity investing, Private Equity performance, Emerging Markets

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“Much of the growth of venture capital and private equity activity is going to take place in emerging markets”.

Josh Lerner, The Future of Private Equity, European Financial Management, Vol. 17, Issue 3, pp. 423-435, 2011.

1. Introduction

Recent years have seen steady growth of private equity (PE) investing in emerging markets (EM), attracted by the growing population, the steadily developing middle-class and GDP growth perspectives. In the aftermath of the financial crisis, many of the industry’s giants were tempted by the potential of these markets, where financial markets and banking systems are often not sufficiently developed to meet local companies financing needs, and where capital markets offer more exit opportunities with the growing numbers of IPOs. Mediated examples include KKR and Carlyle, who struck multi-million dollar deals in Africa among other emerging markets destinations. Additionally, according to EMPEA’s LP survey², 75% of limited partners (LPs) with private equity allocation to emerging markets-focused funds declare still eyeing investments in these markets.

Vendor databases and the business press note the growing interest in emerging markets private equity, with mitigated results about their prospected outperformance³. Research on private equity in emerging markets has long been challenged by the scarcity of data. Most existing studies use country-level data (e.g. Mexico

² 2017 Limited Partners Survey, EMPEA (Emerging Markets Private Equity Association).

³ See Preqin Special Reports, “Private Equity in Emerging Markets”, July 2017 and Forbes, “Private Equity shifting gears in emerging markets”, April 22, 2014, among others.

(Charvel, 2012), India (Gohil, 2014), Brazil (Minardi et al., 2014) with mitigated results on private equity performance in those countries. More recent research looks at larger sets of emerging markets economies Johan and Zhang (2016) and Lerner and Baker (2017).

In this paper, we aim to contribute to the growing body of literature on emerging markets in general (Karolyi, 2016) and in private equity in particular; using opportunities offered by new data. We aim to investigate if there are any substantial performance differentials between private equity in developed markets (DM) and private equity in emerging markets (EM), then define the investment determinants and performance drivers of such observed differences.

This research contributes to the existing literature on private equity in general, and on private equity in emerging markets in particular, in three ways. First, we place our focus at the portfolio company by studying performance at the deal level. As pointed out by Braun et al. (2016) and Braun et al. (2017), uncovering underlying investments rather than looking at the funds is a substantial advantage when studying private equity performance.

Second, our study is large scale. Private equity is a dynamic asset class in a naturally growing global investment universe. Comparing realized returns across GPs, countries and portfolio companies is subject to provide insights into how these dynamics are shaped within the structuring of a fund and in the backing channel. Moreover, the gross return as a measure is in our view a good point estimates in a context of increased demand for lower fees and growing direct investments by a private equity LPs⁴.

⁴ A Private Equity International article (dated January 25th, 2018) and an interesting analysis by Carlyle's David Rubenstein in Reuters' November 17th, 2017 article can be found here:

<https://www.privateequityinternational.com/buyout-firms-unfazed-by-competition-from-lps-on-deals/>

<https://www.reuters.com/article/carlyle-group-loans/lpc-private-equity-to-face-competition-from-investors-carlyle-co-ceo-idUSL8N1NN3LT>

Third, we contribute to the nascent body of literature on emerging markets given availability of new data and through a new lens. Using a sample of 2733 exits in 35 emerging markets, Johan and Zhang (2016) show that successful private equity exits are conditioned by better business and legal environments. Using a transaction-level TVPI measure, Lerner and Becker (2017) show that there is less dispersion in emerging markets private equity returns compared to developed markets returns. In this paper, we try to join both efforts by uncovering private equity investment determinants and performance outcomes using proximity and direction of fund flows indicators. We argue that even though private markets are more and more global, and even within seemingly homogenous economic groups (EMs or DMs), geographical or cultural differences may have a role in shaping business relationships and in encouraging investment flows from a country to another. Moreover, we argue that beyond countries, individual qualities, such as culturally proximate investment teams for example, may further accentuate this effect. This view further extends the one in Johan and Zhang (2016) by adding up to the conclusions drawn on the effect of institutional quality at the country level on achieving better exits. We examine culture and geography as ex-ante investment determinants from observing realized returns ex-post, controlling for performance differentials factors. We also regard both markets (DMs and EMs) geographically as already set diversified portfolios for investors. As discussed earlier, seemingly homogenous investment universes vary greatly in local cultural dimensions, which might offer diversification benefits combined to geography. Nevertheless, the risks associated with any new investment requires experience and *proximity* from the GPs, which we are able to measure with granularity in the detail of the backing channel: private equity investments are first and foremost investments made in passionate people (VCs) or successful corporations (buyouts), by seasoned investment individuals

(investment professionals). We interact those dimensions and have them in the focus of our lens throughout the study.

We collect data from various databases on private equity fund, investments, GPs and individual managers and augment them with cultural and geographical data. We structure our data from all sources in a way that allows us to cleanly observe the investment channel: LP > GP > Fund > Portfolio Company. We are also able to observe the profiles of the individual managers within the GPs at most investment periods and the geographical locations of each GP, fund and portfolio company. We use a multilevel linear model approach to account for this hierarchy in our data structure and also to separate each level's effect on performance (in a top down approach, starting from the base : portfolio company effects, country effects and GP effects). We group the GP's and portfolio companies' countries geographically as local, nearby or distant depending on whether the GP's and portfolio company's countries are located in the same country, do, or do not share a maritime or land border respectively. We also use textual analysis to process the profiles of investment individuals and cross-interact them with country-level cultural and geographical dimensions to uncover effects of closer (respectively more distant) teams culturally on farther (respectively closer) investments geographically. We also test whether previous geographical concentration of the GP prior to the follow-on investments affects the outcome of those investments, using a Hirschman-Herfindahl measure of geographically allocated capital across countries.

Our results indicate that there are significant cultural and geographical effects that shape the investment directions of private capital flows, alongside previously documented performance drivers in the private equity literature (notably the *money chasing deals hypothesis*, Gompers and Lerner, 2000). Our results are especially true for the most significant economic sub-period on both markets (i.e. investments made after 2000) and show

predictability over time. These results are robust to a correction for possible gaps in deal sequences and to the use of other performance measures (multiple of invested capital and successful exit rates at the fund level).

The rest of the paper is organized as follows: section 2 provides the background of our study and discusses some of the literature that relates to our setting, section 3 describes the methodology of our study, section 4 discusses some of the summary statistics from our sample. Empirical findings are provided in section 5 and section 6 concludes.

2. Background

2.1. Emerging markets and Private Equity performance

The definition of an emerging market is central to our research question and is relatively problematic given that there is no consensus on what an emerging market is. The term *emerging market* was first mentioned by Dutch economist Antoine W. Van Agtmael in 1981 and was picked up since to loosely designate a country with low income per capita and high expected economic growth. There is no official listing of emerging markets, but investment professionals usually refer to one of the following five listings: the international monetary fund (23 countries), Morgan Stanley Capital International (also 23 countries), the Dow Jones (22 countries), Standard and Poor's (21 countries), and Russel (also 21 countries).

The recent years witnessed growing interest in emerging markets among investors in an attempt to leverage on the growth perspectives of these markets in a highly matured developed economy. However, the risks associated with those markets on the one hand, and the needed adjustment effort from foreign GPs on the other hand⁵, lead to mitigated investment experiences and mixed conclusions among investors on how emerging markets are exactly an investment opportunity⁶. In the literature, issues related to scarcity and quality of data often held back the development of this yet interesting research field, with most studies often restricted to single-country level studies (Charvel, 2012, Gohil, 2014, Minardi et al., 2014 among others).

⁵ E.g. KKR stepped out of the African market when it failed to source sufficiently sizeable deals, and the Carlyle Group, historically a buyout firm, shifted to growth strategies and minority positions in some of emerging markets most conservative, family-dominated countries.

⁶ See for example the Financial Times' November 6th, 2017 article: *Private Equity turns to Asia's frontier market for growth*, <https://www.ft.com/content/8db6c03e-b497-11e7-aa26-bb002965bce8> (Visited December 20th, 2017)

Recent efforts initiated larger-scale studies (Johan and Zhang, 2016, Lerner and Becker, 2017), offered by new data opportunities. This paper is in the continuum of this nascent literature and aims to take advantage of the granularity of a newly structured dataset to disentangle GP, country and deal characteristics' effects on private equity performance.

2.2. Geography, Culture, and Private Equity performance

2.2.1. Investment performance and geographical influences

There is an extensively grown body of literature on distance and investment performance in the asset management literature. Coval and Moskowitz (2001) show that mutual fund managers earn higher returns from nearby investments compared to distant investments. Investors also prefer geographically proximate investments and they overweigh domestic holdings in their portfolios (Coval and Moskowitz, 1999). In equity analysis, Malloy (2005) shows that US equity analysts are better at earning forecasts for nearby than for distant firms. Instances of geographical preferences in a private equity setting are documented in Chen et al. (2010), where the authors show increased geographical concentration of VC investors and VC-backed portfolio companies in three major US cities, and that VC investments outperform where VC firms are in VC centers. The scopes of such studies increased both in terms of geographical focus and country coverage. Using Korean data, Choe et al. (2005) show that local investors outperform foreign investors in trading local stocks. The same conclusion is drawn in a European market: local traders have an edge over foreign traders in Germany (Hau, 2001). Along the lines of the findings of Malloy (2005) in the US market, Bae et al. (2008)

show that local analysts issue better earnings forecasts than geographically distant analysts, using data on 32 countries. An interesting side-result is that the observed effect is stronger for emerging markets, where they argue firms are highly opaque and disclose less information. In the hedge fund literature, Teo (2009) documents significant outperformance of hedge funds which are geographically proximate to their investments.

Besides differences induced by geographical effects, the literature has also documented cultural influences on investment performance.

2.2.2. Investment performance and cultural influences

In a general setting, countries have been shown to significantly impact investment and doing business in the seminal papers of Shleifer and Vishny (1997) and La Porta et al. (1997, 2012), depending on factors such legal origin or the level of investor protection. Subsequent literature has shown that these values are shaped by cultural dimensions (Licht, Goldschmidt, and Schwartz, 2005, 2007).

As culture is a complex and multi-dimensional construct, researchers often rely on models and scores developed in sociology to gauge the complexity of cultural values. There instances of usually four cultural models, Hofstede's (2001) dimensions, Schwartz's (1994) cultural model, The World Value Survey and The Global Leadership & Organizational Behavior Effectiveness (GLOBE) study (House et al. 2004).

Instances of the use of language as a driver for cultural values has been used in the asset management literature : traders from outside Germany in non-speaking German cities underperform traders located in Germany and in financial centers such as Frankfurt (Hau, 2005). Teo (2009) also documents that hedge funds

with native speaking managers in the Asian market overperform. We base our use of language at the individual level as a proxy for cultural proximity within the investment teams of the GPs in our private equity setting and rely on Schwartz's cultural dimensions as a more appropriate model for our country level characteristics subset (Ng et al. 2006).

3. Methodology

3.1. Sample Structure

To assess performance differentials between emerging markets private equity and developed markets private equity, we focus on GPs with investment experience on both markets (treatment group) and study their investment determinants and performance relative to GPs with investment histories solely in either developed markets or emerging markets (control groups). To this end, we start by geographically grouping the GPs and the portfolio companies based on their respective headquarters location. To classify countries as either a developed or emerging market, we source the previously cited EM listings dynamically over time and cross-reference them with the World Bank's Income Groups (i.e. economic regions) to account for the most common criteria of each EM listing. We consider only the World Bank sovereign member countries (189 out of 196 currently).

[Figure 1 about here]

As we hypothesize about cultural proximity being a driver of private equity performance in emerging markets (and also possibly within developed markets), we give special care to within-country cultural differences and

assign GPs and portfolio companies geographically by city when applicable⁷ and where the amount of invested capital is significant.

Next, we establish a *deal direction* measure and an *investment direction* measure. The deal direction takes the values DMtoDM, DMtoEM, EMtoDM and EMtoEM following the regional location of the origin of capital (GP) and the destination of capital (portfolio company). Next, we aggregate the Deal Directions by GP to establish an investment direction, which takes the values DMtoDM, DMtoDM&EM, DMtoEM for DM-based GPs, and EMtoDM, EMtoEM for EM-based GPs. Naturally, the Investment Direction depends on observed instances of one or multiple deal directions for each GP.

We note the treatment group DMtoDM&EM (i.e. DM-based GPs with investment history in DM and EM), and the control groups respectively DMtoDM (i.e. DM-based GPs with observable investment history in DM only) and EMtoEM (i.e. EM-based GPs with observable investment history in EM only). Cases where EM-based GPs invest exclusively in developed markets (EMtoDM), or those headquartered in DM with observed investments in EM only (DMtoEM) are excluded from the analysis because of their lack of economic significance (11 DM-based GPs with less than 10 million dollars invested in EM over the sample period, and 6 EM-based GPs with an aggregated 7 million dollars investments in DM). Figure 1 provides a visual for our sample structure by deal and investment directions.

These groupings allow us to assess whether performance differentials pertain to GP characteristics -in which case significant effects would be noted in the cross-section of GPs between the treatment group and the control group- or to other intrinsic characteristics : the portfolio company, the country and/or region. In the

⁷ In developed markets, examples include English- vs. French-speaking Canada, or Wallonia and Flanders in Belgium. In emerging markets, an example is India, where Hindi and English are both considered official languages (as stated by the Official Languages Act, 1963 – amended 1987, viewed on the Indian Ministry of Electronics and Information Technology.)

latter case, significant performance differentials would be observed in the cross-section of investments within the treatment group, controlling for GP, country, and company characteristics.

3.2. Data and variable definition

Our database contains detailed information on the geography of managers and portfolio companies, as well as financing data and performance metrics. We source performance data from Pitchbook and Preqin on managers, private equity funds and portfolio companies, with more details on the latter from Orbis-BvD, SDC and Zephyr-BvD, along descriptive data from Thomson Financials. The quality and relevance of these datasets to private equity performance studies are discussed in Ain Tommar and Darolles (2017).

With regards to investment determinants, we conjecture whether proximity plays a role in targeting these markets. We use two measures for proximity: geographical proximity and cultural proximity. Geographical proximity is measured using a category variable on whether the GP is local, nearby or distant to/from their investment, following common land or maritime borders shared by the headquarter countries of the GP and the portfolio company. Cultural proximity is proxied in linguistic and reference model terms. Using language, we look for target-investment-country language speakers in the investment teams of the GP at the time of the deal. On the target country side, we collect information on locally spoken languages from the World Fact Book⁸. An interesting feature of these data is that it provides the *lingua franca* and the *commonly understood* languages for each country alongside the official languages⁹. On the GP side, we start by looking for

⁸ <https://www.cia.gov/library/publications/the-world-factbook/fields/2098.html>, visited on June 6th, 2017.

⁹ Another interesting feature is that languages come with the history and heritage of countries and are subject to tens if not hundreds of years in order to change, which works against endogeneity among other issues.

investment professionals with the “deal makers” tag in the universe of Capital IQ’s People Intelligence Database and we name-match the companies in their employment histories to our list of GPs, accounting for name changes, AKAs, FKAs¹⁰ and M&As between GPs. We also cross-reference the obtained list of GP investment professionals to their available biographies from Pitchbook¹¹. We analyze the probability for an investment professional to speak the language of the target country at two level: the name level and the biography level. Using names, we use a language identification API to textually process the names of the investment professionals and assess their *resonance* in order to establish native languages. We also assume that the investment professionals speak the languages of where every company in their employment history is located. Using biographies, we mainly look for the educational background of each investment professional to establish the location of their schools and therefore the language of the country where they are located. the People Intelligence database also gives the employment start dates and end dates. When available, we cross-reference these dates to the deal making window at the portfolio company level to assess how the presence of a language-proficient team member within the GP investment teams can close a possible cultural gap in the deal making process.

We use three measures to assess the intensity of cultural proximity at the GP level. A dummy variable for whether there is a language proficient speaker among the teams of the GP at the time of the deal. A level variable for the number of language proficient speakers in the GP’s investment teams, and a concentration variable for a Hirschman-Herfindahl measure of the number of language proficient team members relative to the investment team size. Appendix 1 provides a detailed review of all used variables and table 8 shows

¹⁰ « Also Known As » and « Frequently Known As ».

¹¹ Pitchbook lists the investment professionals at the fund level. Given our data structure we are able to identify them to GPs and deals respectively.

the correlations between the GP characteristics, between the country characteristics and between the portfolio company characteristics.

Using a reference cultural model, we base our analysis on Schwartz's (1994, 2004) cultural dimensions and we focus on values which are more likely to reflect institutional quality: embeddedness, hierarchy, mastery and intellectual intelligence. Definitions of these cultural dimensions are given in appendix 1 and their scores are available for 80 countries on the author's webpage¹². We use the difference of these scores between the country where the GP is located and the country of the portfolio company as independent variables at the country level.

With regards to performance, we use performance measures both at the fund and portfolio company levels using measures from the previous literature on private equity performance given in table 1.

[Table 1 about here]

Given the setting of our study and challenges associated with data availability and quality, we mainly focus on the deal-level PME as the primary measure and provide results using the multiple of invested capital and successful exit rates in the robustness checks in tables 14 and 15. Our results generally hold although with not as much a significant economic amplitude in the exit rate or the multiple of invested capital compared to deal-level PMEs.

¹²https://www.researchgate.net/publication/304715744_The_7_Schwartz_cultural_value_orientation_scores_for_80_countries, visited on February 3rd, 2018.

As highlighted before, our estimation of performance is two-fold. We investigate whether private equity returns in emerging markets are substantially different from those in developed markets across different groups of GPs and within the same group of GPs that have investment experience on both markets.

To assess whether returns are sensitive to the GP's choice of investing in emerging markets compared to investing in their home countries, we estimate a multilevel linear model of our return measures against GP, country, and portfolio company level characteristics respectively, augmented by other possible performance drivers and investment determinants variables.

3.3. A Multilevel linear model

Motivations for a multilevel linear model empirical specification is simultaneously driven by the structure of the data and the nature of the study. First, our data is multilevel. Portfolio companies are nested in 165 countries which are either developed or emerging and are differently “proximate” to GPs. At the GP level, we have 11,807 GPs for up to 50 years. At the country level, companies are nested in 165 countries and at the portfolio company level, GP firms are invested in 70,696 companies. To separate the within-country and across-country effects of GP-level variables such as EM-investment vs. DM-investment on GP performance, we use the following multilevel linear model specification.

$$y_{ijkt} = \alpha_{jk} + \mathbf{x}'_{it} \beta + \varepsilon_{ijkt}$$

$$\alpha_{jk} = \nu_k + \mathbf{w}'_j \gamma + u_{jk}$$

$$\nu_k = \mathbf{z}'_k \gamma + \eta_k$$

Where y_{ijkt} is the deal-level performance measure of GP i in country j and company k at time t , x_{it} is a vector of GP-level characteristics, α_{jk} is a country-level intercept term, w_j is a vector of country-level characteristics including distance measures, v_k is a company-level intercept term and z_k is a vector of company characteristics. The portfolio companies within countries represent the base-level observations, the countries and the GPs the upper-level observations. Table 7 shows the explained variance in private equity returns, measured as the deal level PME, across the studied GP groups.

[Table 7 about here]

A multilevel linear model specification comes with a number of advantages in our setting. First, we are able to capture the GP-level (within country) relation between x_{ijkt} and performance in β by removing the country means of performance measures from all GP-level observations in x_{ijkt} . We include these means alongside the country-level variables to capture the country-level relation between w_j and the country intercept term α_j in γ . We proceed the same way for portfolio companies by averaging their relevant variables by industry at the country level. Emerging markets are not a homogenous group and an EM region is often regarded as an already set diversified portfolio by investors (e.g. same continent countries such as Russia and China are not regarded the same although both Asian). By decomposing the GP-level variables in x_{ijt} into country means of returns and deviations from these means across GPs, then adding these means to the country characteristics in w_j , we are able to separate the within-country and across-country effects at the GP level (Bell and Jones, 2015). Furthermore, multilevel linear models correct for false positives in coefficient significance induced by pooled OLS. Indeed, varying sample sizes of GP investments across countries may

falsely weigh in coefficients at the country level simply because of higher observation numbers, whereas multilevel linear models weigh in the coefficients by the precision of the sample observations at each level, which is for example inversely related to the its invested portfolio size within a country for the GP-level. Multilevel linear models are also better in correctly estimating and allow for better interpretation of interaction terms when using mean-centered independent variables (Aiken et al., 1991).

4. Descriptive statistics

Our data spans investments in both developed and emerging countries since 1930. In order to focus on the most significant period, we restrict the sample to investments starting from 1980 (years in which private equity institutionalized in developed markets) to 2010; and exited up to 2016¹³. Figure 2 shows fundraising and investment trends of private equity in developed and emerging markets with regards to the investment flow. Although allocation of private equity capital to emerging markets accounts for only 10% of global allocated capital in our sample period¹⁴, the invested capital in these markets represents 59% of capital inflows to these markets. That is, local GPs contribute to less than half the private capital on these markets, where foreign generalist funds count a 63% market share, alongside VC and Buyout funds which total 42% and 55% of invested capital over the sample period respectively.

[Figure 2 about here]

We clearly identify each private equity deal to each company it involves, the relevant fund's and GP's names and characteristics and their LPs. While 68% of funds in developed markets are organized into independent private partnerships in our sample, emerging markets funds are structured this way in only 44% of the cases, and about equally this figure into structures financed by DFIs. Both occurrences are observed for foreign

¹³ In our data, the maximum time to exit an investment on both markets averages 6 years (5,8 in median terms). Our investment period is then 1980-2010 and our performance measurement period is 1986-2016.

¹⁴ Accounting for all investment styles. On average, for illustrative purposes, 7% is allocated to VC funds and 6% to buyout funds in emerging markets across our sample period.

private equity investing in these markets with structures being 57% independent private partnerships and 23% being backed by DFIs.

We collect valuation data and performance metrics at the deal level, and timed cashflows at the fund level. Tables 2 to 6 highlight some of the characteristics of private equity investing and performance following the investment direction, figure 2 describes the evolution of raised and deployed private capital by origin and destination market, and figure 3 shows the distribution of return measures by deal and investment directions.

[Figure 3 about here]

Private equity in emerging markets is showing similar growth curves to that in developed markets, in terms of both fundraising and deployed capital. DMtoEM investors have higher-pace trajectories compared to pure EM-players, where growth trajectories are just shy of those observed in developed markets in the early 1980's. As shown in table 2, local emerging markets private equity only boomed in the late 1990's – early 2000's, although with some setbacks (EMtoEM), boosted by contribution from DM-based GPs.

Table 3 shows the average and median returns of private equity investments by style and GP groups. Almost all average and median GPs invested in both markets outperform pure local GPs on almost all styles and across different return measures. As highlighted in table 4, The same group of GPs also takes longer to invest in a portfolio company and has equivalent or higher holding periods than the average or typical local GP on both markets. Table 5 presents the frequency of exit routes for GP groups by investment and deal directions, where we observe higher proportions of trade sales in local developed markets (62%) compared to local emerging markets (41%). GPs investing in both markets fall in between with 57% exits in trade sales in

developed markets versus 46% in emerging markets. IPOs are a dynamic exit strategy for local EM-based GPs with about half the total exits across the sample period, compared to only 26% in developed markets. Again, GPs with presence on both markets show higher proportions of IPO exits than their pure DM-based counterparts, with 31% and 41% proportions of exits in IPO on DMs and EMs respectively.

Fund and portfolio sizes are also significantly higher for the treatment group compared to locals. As shown in table 6, average buyout and venture capital funds are more than twice higher than those of pure DM or EM players, and portfolio sizes are also 40% to 80% higher for buyouts, almost equivalent on DM markets for VC investments but twice the size of portfolios in EMs. DMtoDM&EM GPs invest in younger buyout companies compared to the local GPs on average and to similarly aged companies for VC investments.

[Tables 2 to 6 about here]

5. Findings

In this section, we discuss the results of our estimation analysis with regards to the possible effects of geographical and cultural proximity on private equity returns

5.1. The geography of private equity performance

We estimate our multilevel linear model by adding the characteristics and level means progressively at each specification level and show the results in table 9.

[Table 9 about here]

Accounting for all GP, country and portfolio company characteristics, our results show persistent significance of the affiliation variable, highlighting a negative and significant association between being part of a local professional private equity organization and deal performance. This impact amounts to up to a -1.5 impact on deal level PME's compared to non-membership to a PE association, suggesting that deals that are concluded via this channel (networks amongst those associations notably) are not quality deals. Another possible explanation is that less experienced or lower skilled GPs which fail to spot interesting deals by their own means and networks, source lower quality deals within PE associations. This effect is negative and significant for DMs and EMs alike, but is insignificant for GPs investing on both markets within their EM portfolio. Likewise, Investment and exit speeds (time to exit and time to invest) are only relevant to pure

players and to the DM investments of the treatment group. Longer exit times are associated with up to a -0.48 impact on deal-level PME for each additional holding year in developed markets, both for pure players and GPs with investments on both markets. In emerging markets, longer holding periods do not affect performance either for local or foreign GPs. Similar conclusions can be drawn for investment speed (time to invest) with the same significance level but in opposite signs, as higher investment speed in developed markets is associated with higher returns in developed markets for both groups of DM-based GPs. There is no significant impact of higher investment speed on returns for DM-based GPs investing in emerging markets, unlike the local EM-based GPs for whom a one year waiting time to invest results in a significant 3% lower deal-level PME compared to the public benchmark.

Consistent with Gompers and Lerner (2000), at the country level, the money chasing hypothesis seems to hold in developed markets. The significant and negative effect of higher fund flows in matured developed markets results in higher valuations as a consequence of growing competition and scarcity of deals. This shows up in lower returns once the markets have cooled down by the time investments are exited. However, this effect is only observed in DM-based GPs investing in developed markets and is reversed for their EM holdings: a log dollar increase in fund inflows to emerging markets results in a positive and significant 0.7 higher PME compared to the public benchmark of where the GP is located, almost twice the similar observed effect observed for local emerging markets GPs.

Surprisingly, farther investment locations reflect positively in realized returns in DM-based GPs who are diversified geographically in developed markets. This result is inconsistent with what is documented in the asset management literature for example on hedge funds: geographically proximate hedge funds outperform geographically distant hedge funds (Teo, 2009).

Out of the four cultural dimensions, distance in hierarchy scores between the GP and target company countries reflect significantly in returns with the expected negative sign. Managers which are free from the order and complexity of hierarchical organizations in developed countries might be faced with the often rigid and inflexible nature of regulations within other developed countries. Alongside the hierarchy in administrative procedure and the general doing business environment, the effect is surprisingly reversed for local EM GPs, suggesting that sister EM-countries with higher managerial or administrative order and complexity welcome the free values of less hierarchical management.

At the portfolio company level, higher deal sequences are associated with significantly higher returns in emerging markets, with the effect being twice as important for locals compared to GPs investing in both DMs and EMs despite its small magnitude (0.003 and 0.006 increase in Deal-level PME from a deal to the next for the treatment group in emerging markets compared to local GPs respectively). For pure player DM-based GPs, higher deal sequences are associated with lower returns. Investing in companies which never had prior PE-backing for the first time negatively impacts GPs in DMs, the opposite expected effect shows in the club deal variable, suggesting that the risk of investing in a private portfolio company is often mitigated by risk-sharing between the GPs in a club deal. Unlike what has been documented in Choe et al. (2005), we generally do not see evidence of local emerging markets investors overperforming foreign investors.

5.1.1. Are there any crossed geographical and cultural effects between the GPs and the investment countries?

We introduce two interaction terms at the country level of GP characteristics with possible accentuated effect on the observed differences across groups of GPs based on their geographical investment focus. The first term is the Hirschman-Herfindahl measure for the GP's geographical concentration in a given country prior to the time of the investment relative to other countries, in terms of invested capital. This measure is considered high (respectively low) when the GP's capital allocation to companies in a considered country exceeds (respectively falls below) 50% of the relevant fund size. The second term is the cultural proximity of individuals within the investment teams of the GP. We use three measures to assess the effect of growing individual cultural proximity at the time of the deal: (i) a (static) dummy variable for whether the GP's investment teams count a speaker of the target country's language, (ii) a level variable for the number of language proficient teams within the investment team of the GP at the time of the deal, and (iii) a concentration measure of language proficient individuals in the investment teams of the GPs.

We interact those variables respectively with the geographical measure at the country level and investigate how higher previous geographical concentration of the GP interacts with a follow-on investment in the same geography, and how do culturally proximate individuals within the GP's investment team may close possible gaps or difficulties in deal making, occasioned by geographically distant investments. Results are given in table 10.

[Table 10 about here]

With regards to pure geographical interaction terms, investing in nearby countries with previous high GP presence is only relevant to foreign GPs on emerging markets and local EM-based GPs, where positive and significant effects on performance are noted. The opposite effect (low concentration in follow-on nearby invested countries) is reversely negative and significant, highlighting a possible shortfall from missing investment opportunities in nearby emerging markets destinations. In distant investment locations, overweighing capital allocation while being previously heavily invested in those locations results in significantly negative returns for pure DM-based players and foreign GPs investing in emerging markets, while the opposite effect is only noted for DM-invested GPs.

Simultaneous cultural and geographical distance interactions do not seem to affect returns within developed markets countries, suggesting more harmony and homogeneity in cultural values in these countries. For GPs present on both markets and local emerging markets GPs, having culturally closer investment teams in distant investment destinations positively and significantly reflects in realized returns.

5.1.2. Do private equity returns change geographically over time?

Because private equity investments are highly cyclical (Robinson and Sensoy, 2016), and as markets mature, we re-run our regressions by differentiating investments by sub-periods. Following table 2, and in order to focus on significant investment periods for both EM and DM markets, we split the sample period to investments prior to 2000 and those after 2000 (included).

[Table 13 about here]

The results show consistency in the observed effect of affiliation to a local private equity association. Interestingly, having prior EM investment experience positively and significantly reflects on returns after 2000 for GPs invested on both markets, but only for subsequent DM deals. Similar conclusions to the baseline estimation results can be drawn for the 2000-forward period, where most of the previously highlighted effects are noted, suggesting that those effects came with the maturing private equity markets.

5.1.3. Does change in investment style when targeting emerging markets affect performance?

Given the previously highlighted cultural differences between countries, chances are GPs may deviate from their historically observed investment style and deal structures to better facilitate deal flow on culturally distant investment destinations. To this end, we use a style shift measure that is equal to one if the deal structure is the least observed in what is known of the GP in their investment history. Table 14 shows the results of the multilevel model estimates on this measure controlling for GP-, country- and portfolio company characteristics.

[Table 14 about here]

Shifting from known deal structures to GPs reflects negatively and significantly in deal-level PMEs and multiples of invested capital, but offers the GP better chances of exiting via IPO or M&A. This might be

explained by the lack of GP experience in structuring new deal forms, which might result in either a pressure to successfully exit the investment or higher demand for this new deal structure among follow-on buyers.

5.2. The geography of private equity performance and return predictability

In this section, we examine whether success on a previous deal in a geography conditions success in the follow-on deal in the same geography. As this is often studied in the private equity literature under the term *persistence* in private equity returns, we are careful in using this terminology as our data are combined from several datasets which, even given their good quality as discussed previously, may not contain the full sequence of private equity deals for a given GP in a geography. Therefore, we analyze the performance of observed deal sequences in our dataset (sorted by investment dates, controlling for relevant fund vintages), and use the switch from a market to another in the DMtoDM&EM GP subgroup as robustness. Figure 4 illustrates the deal sequences in our sample by investment direction and deal direction.

[Figure 4 about here]

Table 11 shows the multilevel linear model estimates of the deal-level PME returns on the lagged deal-level PME returns by investment and deal directions. The results point out a significant positive relation between the previous deal return and the follow-on deal return for all GP groups in all markets. Assuming a causal relation, for DM-based GPs investing in DMs, a 1% higher return on the previous deal (relative to the public benchmark) is associated with 0.5 to 0.6 increase in the following deal in sequence, controlling for GP-, country- and company-level characteristics. The effect is significantly higher for EM-based GPs (0.7 higher return on the next deal for a 1% increase in the previous deal return) and interesting for DM-based GPs

investing in EMs, who have similar predictions to pure players in DMs even with lower predictions in the next returns compared to locals in EMs.

[Table 11 about here]

With regards to the effects of other GP-, country-, and portfolio company-level characteristics, they globally remain the same compared to the main specification estimates apart from a few changes. At the GP level and for the local EM-GPs, successful previous deals relax the investment speed (time to invest) on the follow-on deals and alleviate its significance along with the club deals indicator. This might be related to a lower need for a GP to compete or co-invest with another GP on a deal once they have a track-record for success on previous deals. At the country level, success on previous deals also minimizes the impact of the *money chasing deals* effect in emerging markets and further suppresses the significance in hierarchy distance. A possible explanation might be that previous deals build the experience and reputation of a given EM GP in ways that allows them to invest in other emerging markets without having to abide by the hierarchy of those markets each time or incur the effect of overvalued investments from flooding fund flows into those markets. At the portfolio company level, success in previous realized deals alleviates the significance of the negative impact associated with investing in venture capital deals in developed markets for GPs investing in both markets, but also significantly and positively weigh in the impact of higher deal sequence on overall follow-on returns for DMtoDM&EM GPs.

As pointed out earlier, because we may not have the full sequence of deals for each GP, we control our results using the DMtoDM&EM GP subsample. One reason why GPs list on databases is to generate deal

flow, which is often associated with tendency to list only successful deals or funds on commercial databases for investors to see. We argue however that there is a little chance for GPs to list deals with attention paid to how subsequent (or previous) deals on different markets and different fund vintages compare. To this end, we rearrange the deal order by GP in the DMtoDM&EM group by sequence within a fund in a market and we keep the deal associated with the first observed investment date. A fund is considered EM or DM-focused based on the highest frequency observed for either EM or DM within its portfolio companies' locations. We focus on first investments as they may reflect for either EMs or DMs a pressure to spend capital (Arcot et al., 2014). Then, we sort the funds on their vintage years in the fund family of each GP. We assign a sequence number for first investments this way and re-run the regressions of Deal-level PME on lagged deal-level PME using these new sequence numbers (See figure 5 for a visual).

[Figure 5 about here]

Our results are consistent with the previously documented positive effect and therefore assert for a positive relation between previous and next deal performance.

[Table 12 about here]

6. Conclusion

This paper investigates the performance drivers of private equity investing in emerging markets. Using a uniquely structured dataset and novel data, we show that cultural and geographical effects especially shape the investment directions of private equity capital flows into emerging markets, alongside previously documented performance drivers in the private equity literature. This effect is especially true for GPs investing in both markets compared to pure DM- and EM-players respectively. Our results are more consistent in the post-2000 investment period, and show predictability in returns along deal sequences on both markets and using different return measures. Cross-cultural and geographical effects are enhanced when the at the individual level for GPs, where investment teams are also culturally close using language as an indicator for cultural values. As the drawn conclusions can not be further extended to the entire global population of GPs, given that multilinear model estimates can only be interpreted within the studied groups and levels, we work in future versions on using Bayesian hierarchical modelling and other frequentist multilevel modelling techniques to extend the findings to larger populations of private equity GPs.

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Table 1 : Selected Literature on Private Equity performance

Study	Sample size	Time period	Performance measures	Main findings
Panel A: At the fund level				
Robinson and Sensoy (2016)	Data on 837 funds from one large LP	1984-2008	PME and tailored PME ¹⁵	Private equity performance is cyclical. Funds raised in boom times underperform funds raised in bad times. Fund investors earn a liquidity premium in bad times.
Harris, Jenckinson and Kaplan (2015)	781 US buyouts invested by 300 LPs + 300 European buyouts	1984-2010	PME	Private equity funds outperform the S&P500 and is persistent in time. However, private equity performance is declining: net outperformance before 2006, but performance became roughly equal to that of the S&P500 from 2006 onward.
Harris, Jenckinson and Kaplan (2014)	1,400 US buyouts and VC funds invested by 200 LPs	1984-2008	PME	
Phalippou and Gottschalg (2009)	1,345 funds	1980-1993	Profitability Index (PI), Adjusted IRR, and Portion of investments that are successfully exited through an IPO or a sale to another company	Private equity's superior performance documented in previous studies drops to -3.83% per annum compared to the S&P500 after correcting for data bias.
Kaplan and Schoar (2005)	1,841 funds	1980-1997	IRR and PME	Returns net-of-fees to private equity investors are equal to the S&P500. Performance is persistent in time and is cyclical, with top performing funds being less sensitive to cyclicity effects.
Panel B: At the firm level				
Braun, Jenckinson and Stoff (2017)	Data derived from three large fund-of-fund managers: 13,523 portfolio company investments by 865 buyout funds	1974-2010	GPME ¹⁶	Performance of private equity persistence has significantly declined as the industry has matured and competition grew for interesting deals.
L'Her, Stoyanova, Shaw, Scott, and Lai (2016)	Company data invested by 906 US buyout funds	1986-2014	Tailored PME	Private equity performance is consistent with previous literature findings using the PME, but private equity funds fail to outperform the market using tailored PME.
Kaplan and Stromberg (2009)	17,171 worldwide leveraged buyout transactions	1985-2007	Vintage year return, and annual capital commitment to U.S. private equity funds as a fraction of the U.S. stock market	Private equity fund returns tend to decline with increasing capital commitments, and capital commitments decline when realized returns decline
Hochberg, Ljunqvist and Lu (2007)	3,469 VC funds managed by 1,974 VC firms, involving 16,315 portfolio companies	1980-1999	Portion of investments that are successfully exited through an IPO or a sale to another company	Better-networked VC firms have better performance, and portfolio companies of better-networked VCs are significantly more likely to survive after the exit.

¹⁵ Kaplan and Schoar's (2005) Public Market Equivalent. It compares the return on the invested capital for private equity to what the investors would have earned for the same invested amount in the S&P500. Tailored PME is calculated using other public benchmarks. Tailored PME compares private equity performance to that of other market indices of publicly-traded companies which are similar to those invested by private equity funds.

¹⁶ Generalized PME, [Korteweg and Nagel \(2016\)](#).

Appendix 1: Variable definition

Variable	Definition
Performance Metrics	
Deal-level PME	Tailored public market equivalent calculated at the deal level using regional MSCI indices of where the GP is located (North America, Europe, Asia, Pacific and Emerging Markets).
Multiple of Invested Capital	Total proceeds from exited investments to total invested capital, scaled by fund size.
Exit Rate	Number of exited investments by way of IPO or Trade Sale to total exited investments.
GP-level Characteristics	
Size	Log of each deal's relevant fund size.
Local Affiliation	Indicator variable for whether the GP is affiliated with a local private equity organization (professional association or network of professionals).
GP Direct Investment	Indicator variable for whether the deal is a direct investment by the GP.
Co-investment	Indicator variable for whether the GP offered the deal for co-investment with the LP.
Pre-EM Experience	Number of deals in the GP track-record prior to its first EM investment date.
Time to Exit	The difference between the company's exit date and its investment date.
Time to Invest	The difference between the company's investment date and the relevant fund's first capital call date.
Country-level Characteristics	
Capital Inflow	Log of total capital allocated to private equity funds during the vintage year of each deal's relevant fund by country.
<i>Geographical Distance</i>	
Local	Indicator variable for whether the GP's HQ country and the invested company's HQ country are the same.
Nearby	Indicator variable for whether the GP's HQ country and the invested company's HQ country share a land or a maritime border.
Distant	Indicator variable for whether the GP's HQ country and the invested company's HQ country do not share a land or a maritime border.
<i>Cultural Distance using Schwartz's Cultural model, with scores available for 80 countries from Shalom H Schwartz's website</i>	
Embeddedness	Sustaining the social order, of avoiding change and retaining tradition. Our variable is the embeddedness distance, measured as the difference between the Embeddedness scores of the GP's and company's respective HQ countries.
Mastery	Success through individual personal action (as opposed to group action). Our variable is the mastery distance, measured as the difference between the mastery scores of the GP's and company's respective HQ countries.
Hierarchy	Existence of clear social order, with people in superior positions and others in inferior positions. Our variable is the hierarchy distance, measured as the difference between the hierarchy scores of the GP's and company's respective HQ countries.
Intellectual Autonomy	Independence and openness of ideas and thoughts (individual, political, etc.) Our variable is the intellectual autonomy distance, measured as the difference between the intellectual autonomy scores of the GP's and company's respective HQ countries.
Company-level Characteristics	
First Time Deal	Indicator variable for whether the company has never been previously PE-backed
VC Dummy	Indicator variable for whether the deal is Venture Capital
Age	Log of company age at financing in years
Invested Capital	Log of invested capital in deal
Deal Sequence	The Sequence of the deal in the GP fund program
Club Deal Dummy	Indicator variable for whether the deal is invested by more than one PE firm
Other variables	
Style Shift	Indicator variable for whether the company's investment style characteristics (e.g. VC vs. Buyout, minority stake vs. majority stake, etc.) are the least observed deal structure characteristics compared the GP's historical deals.
<i>GP-level geographical proximity measures</i>	
HH GP Geo Concentration	Hirschman-Herfindahl measure for a GP's geographical concentration in a country relative to other countries in the same group (EM or DM), in terms of total allocated private equity capital. The measure is considered High (respectively Low) when the GP capital allocation to companies in the considered country exceeds (respectively falls below) 50% of the fund size through which investments were made.
<i>GP-level cultural proximity measures</i>	
Language Speakers Dummy	Indicator variable for whether the GP has an investment professional who speaks the language of the target company's country at the time of the deal.
Language Speakers	Number of investment professionals in the investment teams of the GP at the time of the deal.
HH Language Speakers	Hirschman-Herfindahl measure for culturally proximate professionals within the investment team of the GP at the time of the deal.

Figure 1: Sample Structure. The figure shows the structure of our sample groups following investment and deal directions, and nesting properties by geography and culture. GPs and companies are either DM-based or EM-based following their respective headquarters locations. Following this classification, we first establish a *deal direction*, from the GP to the Portfolio company: DMtoDM, DMtoEM, EMtoDM and EMtoEM. We further aggregate the deal directions by GP to establish an *investment direction*, that is groups of GPs who are observed to either invest in DMs only, in EMs only, or in both (solid line groups in the figure). We have instances of DM-based GPs investing solely in EMs and of EM-based GPs investing solely in DMs (dashed line groups in the figure), but we do not consider those as they are not important in number or in invested capital, nor economically significant. Our distance measure is twofold: a geographical distance and a cultural distance. See appendix 1 for distance variable definitions.

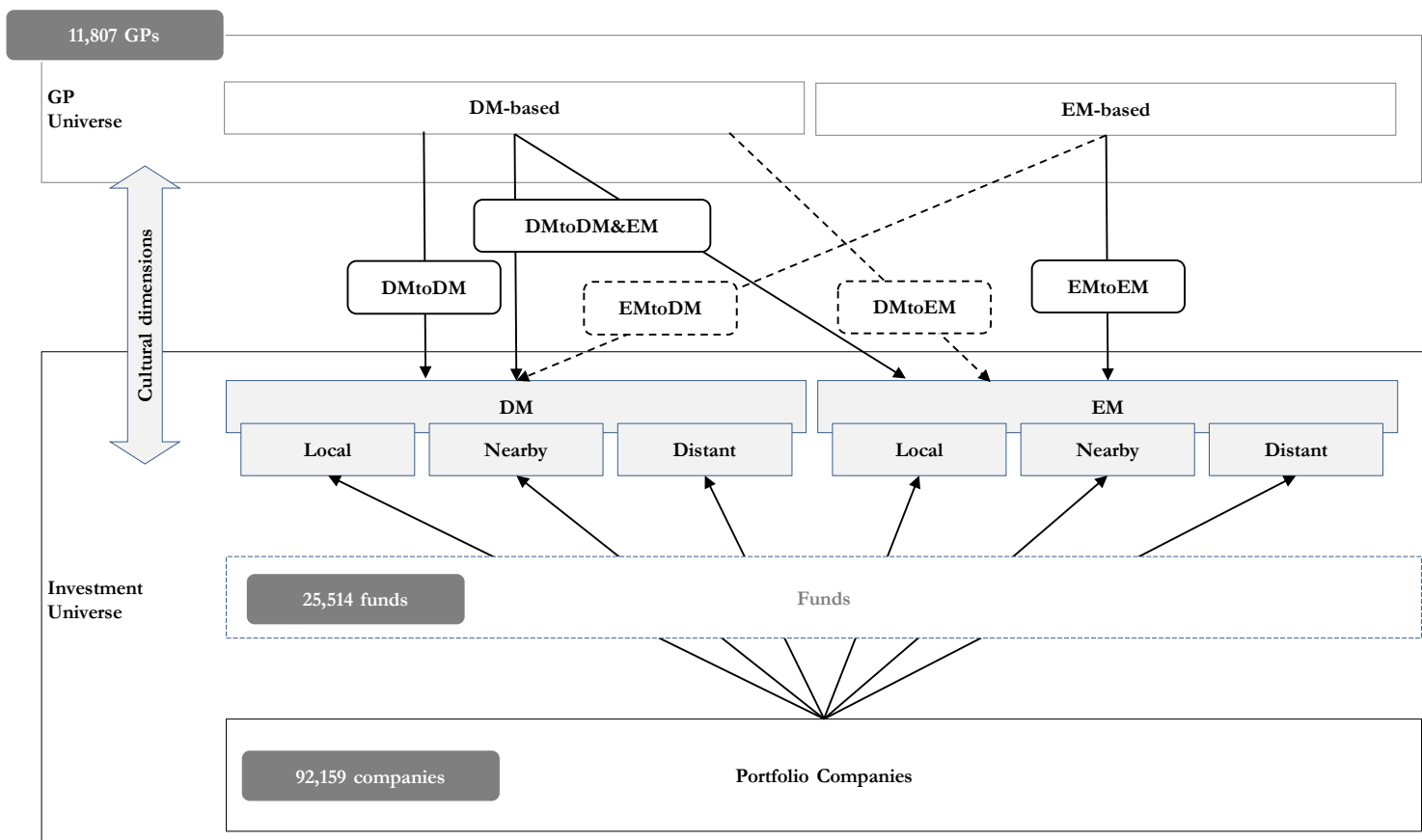


Figure 2: Private Equity Fundraising and Investing by Investment Direction. The plot shows our aggregated database figures for raised and deployed capital by investment direction: *DMtoDM* denotes investments by DM-based GPs in developed markets, *DMtoEM* investments by DM-based GPs in emerging markets, *EMtoEM* investment by EM-based GPs in emerging markets, and *EMtoDM* investments by EM-based GPs in developed markets.

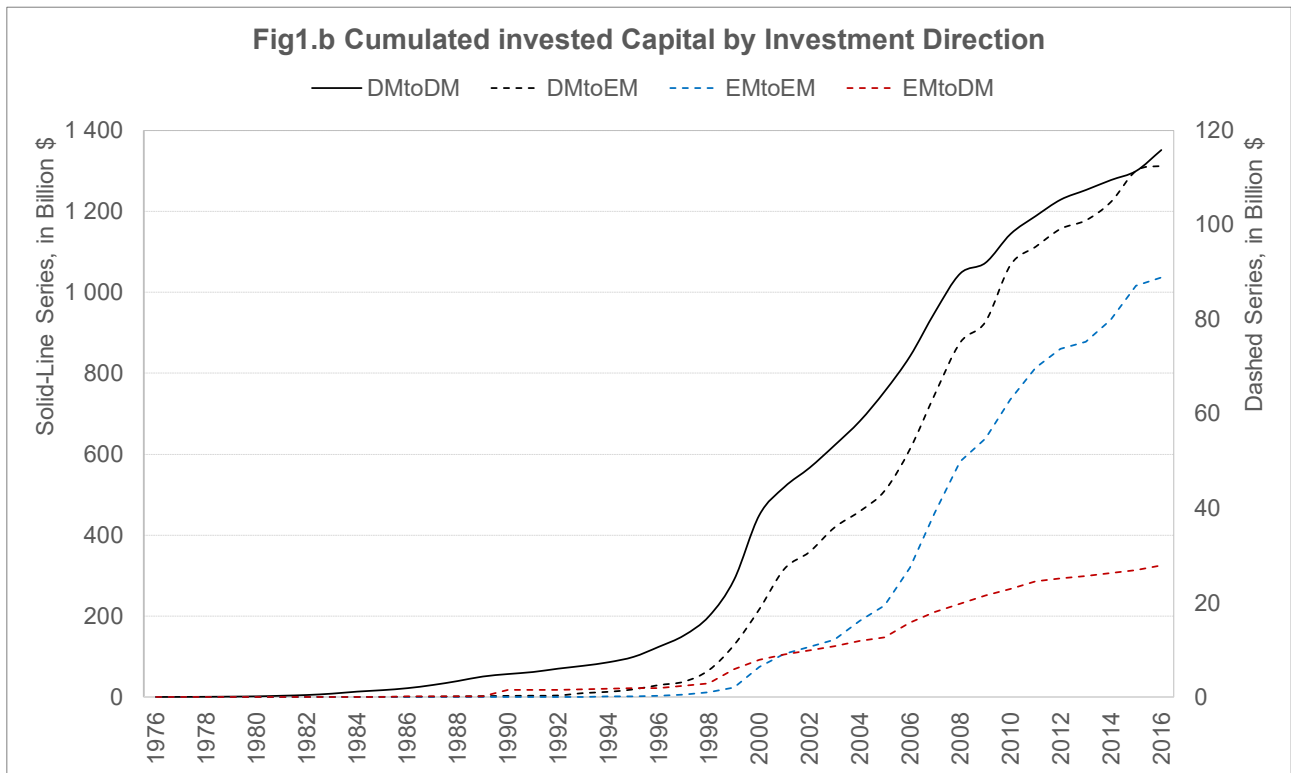
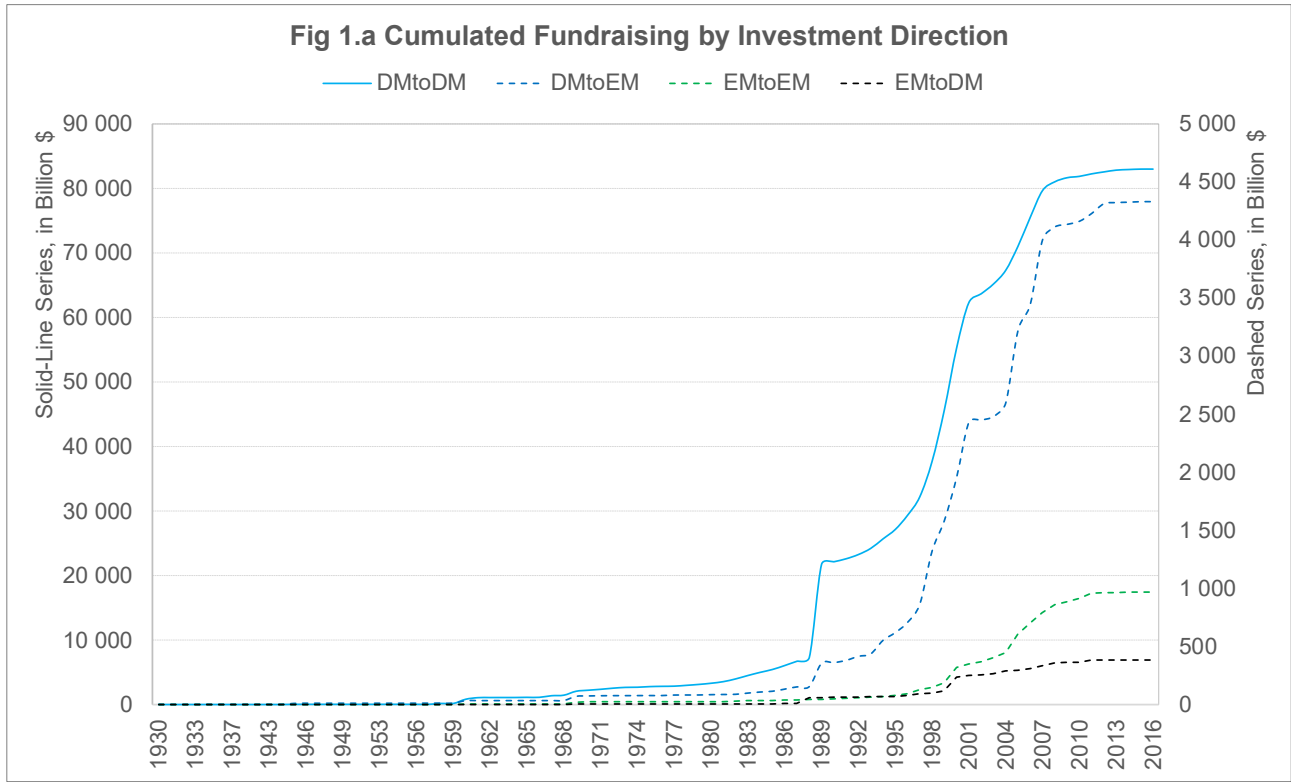


Table 2 : Summary Statistics – Number of deals by Investment year, Investment Direction and Deal Direction. The Deal Direction describes the GP investment flow based on where the GP and the target company are headquartered respectively (i.e. from a DM-based (resp. EM-based) GP to a DM-based (resp. EM-based) target company). The Investment Direction is established by aggregating the observed deal directions of each GP (i.e. GPs who invest in DMs only, in EM only, or in both).

Investment year	Investment Direction and Deal Direction			
	DMtoDM	DMtoDM&EM		EMtoEM
		DMtoDM	DMtoEM	
Pre-1980	1 768	1 713	8	2
1980	586	562	1	1
1981	1 021	1 113	4	
1982	1 511	1 606	15	
1983	2 449	2 427	19	3
1984	2 880	2 673	12	
1985	2 664	2 451	33	
1986	2 966	2 879	27	
1987	3 050	2 987	32	2
1988	2 747	2 549	100	2
1989	2 644	2 761	67	8
1990	2 097	2 266	55	12
1991	1 797	1 846	10	23
1992	2 146	2 495	22	43
1993	1 799	2 225	36	50
1994	1 918	2 476	65	84
1995	2 213	2 902	116	107
1996	3 246	4 272	258	172
1997	4 197	4 939	229	174
1998	4 958	6 172	234	248
1999	7 189	9 277	348	597
2000	11 990	13 912	760	1 779
2001	8 616	8 679	459	820
2002	6 146	5 576	255	577
2003	6 850	6 225	340	712
2004	7 841	7 343	390	730
2005	7 404	7 069	505	797
2006	7 559	6 704	718	905
2007	8 315	7 103	887	1 243
2008	7 868	6 437	812	1 303
2009	3 130	2 569	223	486
2010	5 223	4 041	512	1 001
2011	3 649	3 260	291	529
2012	2 892	2 599	209	288
2013	2 049	1 885	124	153
2014	1 243	1 227	106	126
2015	839	841	76	86
2016	353	315	34	35
Total	147 813	148 376	8 392	13 098

Table 3 : Summary Statistics – Average and median returns by Investment Style, Investment Direction and Deal Direction. Only fully exited investments are taken into account. See appendix 1 for variable definitions.

Panel A : Deal-level PMEs, by Investment Style, Investment Direction and Deal Direction								
		Investment Direction and Deal Direction						
		DMtoDM	DMtoDM&EM		EMtoEM	Total		
Style			DMtoDM	DMtoEM		DMtoDM	DMtoEM	EMtoEM
Buyout	Mean	4.63	6.50	4.47	3.67	5.30	4.47	3.67
	Median	4.00	7.22	4.27	3.77	5.68	4.27	3.77
Venture Capital	Mean	5.22	5.28	4.73	4.97	5.24	4.73	4.97
	Median	5.36	4.96	4.77	4.90	5.26	4.77	4.90
Fund of Funds	Mean	4.99	3.92	5.35	4.06	4.51	5.35	4.06
	Median	4.36	2.81	5.75	5.21	2.88	5.75	5.21
Generalist Private Equity	Mean	5.29	6.07	5.55	4.77	5.60	5.55	4.77
	Median	4.94	6.85	5.19	4.92	5.69	5.19	4.92
Mezzanine	Mean	6.00	6.57	3.50	5.25	6.23	3.50	5.25
	Median	5.95	7.14	1.15	5.83	7.00	1.15	5.83
Other Private Equity	Mean	6.53	4.04	3.90	2.39	5.28	3.90	2.39
	Median	6.08	2.67	2.67	0.71	5.61	2.67	0.71
Total	Mean	5.10	5.64	4.79	4.78	5.29	4.79	4.78
	Median	5.21	5.75	4.77	4.84	5.40	4.77	4.84

Panel B : Value Multiples by Investment Style, Investment Direction and Deal Direction								
		Investment Direction and Deal Direction						
		DMtoDM	DMtoDM&EM		EMtoEM	Total		
Style			DMtoDM	DMtoEM		DMtoDM	DMtoEM	EMtoEM
Buyout	Mean	2.14	2.70	2.65	1.59	2.43	2.65	1.59
	Median	1.62	2.10	2.33	0.95	1.88	2.33	0.95
Venture Capital	Mean	3.51	4.06	3.24	3.07	3.79	3.24	3.07
	Median	2.93	3.58	2.30	2.82	3.48	2.30	2.82
Fund of Funds	Mean	2.15	2.66	2.78	3.61	2.45	2.78	3.61
	Median	1.38	3.64	2.45	3.02	2.42	2.45	3.02
Generalist Private Equity	Mean	2.59	2.97	2.56	2.12	2.85	2.56	2.12
	Median	1.64	2.69	1.57	1.67	2.09	1.57	1.67
Mezzanine	Mean	2.44	3.33	2.31	1.82	2.67	2.31	1.82
	Median	1.64	2.62	0.93	1.72	1.67	0.93	1.72
Other Private Equity	Mean	2.10	1.49	1.06	1.96	1.81	1.06	1.96
	Median	1.43	1.17	0.23	1.86	1.17	0.23	1.86
Total	Mean	3.25	3.75	2.97	2.86	3.51	2.97	2.86
	Median	2.62	3.41	2.30	2.60	3.11	2.30	2.60

Panel C : Exit Rates by Investment Style, Investment Direction and Deal Direction								
		Investment Direction and Deal Direction						
		DMtoDM	DMtoDM&EM		EMtoEM	Total		
Style			DMtoDM	DMtoEM		DMtoDM	DMtoEM	EMtoEM
Buyout	Mean	0.30	0.36	0.30	0.13	0.33	0.30	0.13
	Median	0.29	0.36	0.31	0.11	0.33	0.31	0.11
Venture Capital	Mean	0.51	0.56	0.39	0.20	0.53	0.39	0.20
	Median	0.57	0.60	0.39	0.17	0.58	0.39	0.17
Fund of Funds	Mean	0.30	0.37	0.26	0.23	0.34	0.26	0.23
	Median	0.32	0.46	0.22	0.29	0.41	0.22	0.29
Generalist Private Equity	Mean	0.30	0.42	0.32	0.21	0.38	0.32	0.21
	Median	0.27	0.43	0.29	0.19	0.39	0.29	0.19
Mezzanine	Mean	0.34	0.30	0.14	0.19	0.33	0.14	0.19
	Median	0.33	0.30	0.06	0.15	0.31	0.06	0.15
Other Private Equity	Mean	0.33	0.34	0.31	0.12	0.33	0.31	0.12
	Median	0.32	0.35	0.31	0.02	0.34	0.31	0.02
Total	Mean	0.46	0.51	0.35	0.20	0.49	0.35	0.20
	Median	0.51	0.54	0.33	0.17	0.53	0.33	0.17

Table 4 : Summary Statistics – Average and median Investment and Holding Periods by Investment Style, Investment Direction and Deal Direction. Investment Period is the time in years between the fund first capital call date and the company investment date. Holding Period is the time in years that a GP takes to exit the investment, measured as the difference between the exit date and the company investment date.

Panel A : Investment Periods by Investment Style, Investment Direction and Deal Direction - in years								
Style		Investment Direction and Deal Direction				Total		
		DMtoDM	DMtoDM&EM		EMtoEM	DMtoDM	DMtoEM	EMtoEM
			DMtoDM	DMtoEM				
Buyout	Mean	7.36	9.24	8.03	6.29	8.27	8.03	6.29
	Median	4.00	4.00	3.04	2.92	4.00	3.04	2.92
Venture Capital	Mean	6.51	8.03	8.72	5.85	7.26	8.72	5.85
	Median	4.25	4.50	4.17	3.05	4.39	4.17	3.05
Fund of Funds	Mean	4.83	4.99	4.46	3.18	4.93	4.46	3.18
	Median	3.00	3.33	2.41	2.06	3.22	2.41	2.06
Generalist Private Equity	Mean	11.84	18.11	19.91	11.43	15.91	19.91	11.43
	Median	8.29	15.76	13.50	4.57	13.33	13.50	4.57
Mezzanine	Mean	4.82	5.31	5.11	3.87	4.95	5.11	3.87
	Median	3.50	3.94	3.09	2.58	3.60	3.09	2.58
Other Private Equity	Mean	5.06	6.16	6.37	2.50	5.53	6.37	2.50
	Median	3.30	3.64	4.28	1.54	3.46	4.28	1.54
Total	Mean	6.87	9.17	10.58	6.37	8.02	10.58	6.37
	Median	4.31	4.77	4.45	3.15	4.50	4.45	3.15

Panel B : Holding Periods by Investment Style, Investment Direction and Deal Direction - in years								
Style		Investment Direction and Deal Direction				Total		
		DMtoDM	DMtoDM&EM		EMtoEM	DMtoDM	DMtoEM	EMtoEM
			DMtoDM	DMtoEM				
Buyout	Mean	5.78	6.11	5.40	4.11	5.94	5.40	4.11
	Median	5.10	5.40	5.10	3.80	5.20	5.10	3.80
Venture Capital	Mean	6.64	6.56	5.89	4.44	6.60	5.89	4.44
	Median	6.00	6.00	5.35	3.90	6.00	5.35	3.90
Fund of Funds	Mean	6.96	6.70	6.17	4.59	6.81	6.17	4.59
	Median	6.60	6.40	5.70	3.95	6.50	5.70	3.95
Generalist Private Equity	Mean	6.18	6.27	4.86	4.92	6.24	4.86	4.92
	Median	5.60	5.60	4.30	4.40	5.60	4.30	4.40
Mezzanine	Mean	6.46	6.04	4.67	4.02	6.34	4.67	4.02
	Median	5.50	5.10	4.50	3.80	5.40	4.50	3.80
Other Private Equity	Mean	5.04	5.08	4.43	6.12	5.06	4.43	6.12
	Median	4.20	4.10	3.95	6.40	4.10	3.95	6.40
Total	Mean	6.50	6.48	5.53	4.45	6.48	5.53	4.45
	Median	5.90	5.80	5.10	3.90	5.90	5.10	3.90

Table 5 : Summary Statistics – Exit Strategies by Investment Direction and Deal Direction.

Exit Type	DMtoDM	DMtoDM&EM		EMtoEM	Total		
		DMtoDM	DMtoEM		DMtoDM	DMtoEM	EMtoEM
Buyback	0.01	0.00	0.01	0.01	0.00	0.01	0.01
IPO	0.26	0.31	0.41	0.49	0.29	0.41	0.49
Reverse Takeover	0.01	0.01	0.00	0.02	0.01	0.00	0.02
Secondary Sale	0.06	0.05	0.10	0.06	0.06	0.10	0.06
Trade Sale	0.62	0.57	0.46	0.41	0.59	0.46	0.41
Write Off	0.05	0.05	0.01	0.01	0.05	0.01	0.01

Table 6 : Summary Statistics – Average fund size (in USD millions), portfolio size (in number) and age of invested companies (in years), by Investment Direction and Deal Direction. This table shows sample average fund size, average portfolio size and average portfolio company age at financing by investment style, investment direction and deal direction. Variable definitions are detailed in appendix 1.

Investment Style		DMtoDM		DMtoDM&EM	EMtoEM	Total		
		DMtoDM	DMtoEM	DMtoDM	DMtoEM	EMtoEM	DMtoDM	DMtoEM	EMtoEM
Buyout	Fund Size	419.25	1143.37	1043.03	301.07	787.14	1043.03	301.07
	Portfolio Size	61.44	111.04	69.97	49.71	85.48	69.97	49.71
	Age of company at financing	20.66	18.76	16.66	21.84	19.73	16.66	21.84
Venture Capital	Fund Size	99.32	294.20	443.67	72.01	197.23	443.67	72.01
	Portfolio Size	216.88	292.79	431.01	240.60	254.17	431.01	240.60
	Age of company at financing	6.13	5.59	9.15	8.09	5.86	9.15	8.09
Fund of Funds	Fund Size	285.76	637.14	438.22	81.21	501.31	438.22	81.21
	Portfolio Size	53.17	72.85	36.74	59.08	64.66	36.74	59.08
	Age of company at financing	9.07	7.09	6.35	8.99	7.95	6.35	8.99
Generalist Private Equity	Fund Size	151.94	3616.49	2754.92	156.39	2294.90	2754.92	156.39
	Portfolio Size	129.39	406.03	292.36	88.78	307.27	292.36	88.78
	Age of company at financing	13.34	11.23	13.26	14.94	11.98	13.26	14.94
Mezzanine	Fund Size	218.33	542.74	387.65	220.07	296.82	387.65	220.07
	Portfolio Size	167.07	373.71	205.76	1138.10	220.19	205.76	1138.10
	Age of company at financing	17.64	22.91	14.98	12.70	19.02	14.98	12.70
Other Private Equity	Fund Size	456.27	1413.39	1063.58	194.84	884.85	1063.58	194.84
	Portfolio Size	20.84	28.24	23.41	9.81	24.02	23.41	9.81
	Age of company at financing	11.72	13.01	10.70	13.61	12.28	10.70	13.61
Total	Fund Size	146.63	571.96	799.96	100.62	361.47	799.96	100.62
	Portfolio Size	187.24	278.31	326.00	214.27	232.87	326.00	214.27
	Age of company at financing	8.66	7.88	11.31	9.95	8.26	11.31	9.95

Figure 3: Distribution of return measures by Investment and Deal Directions.

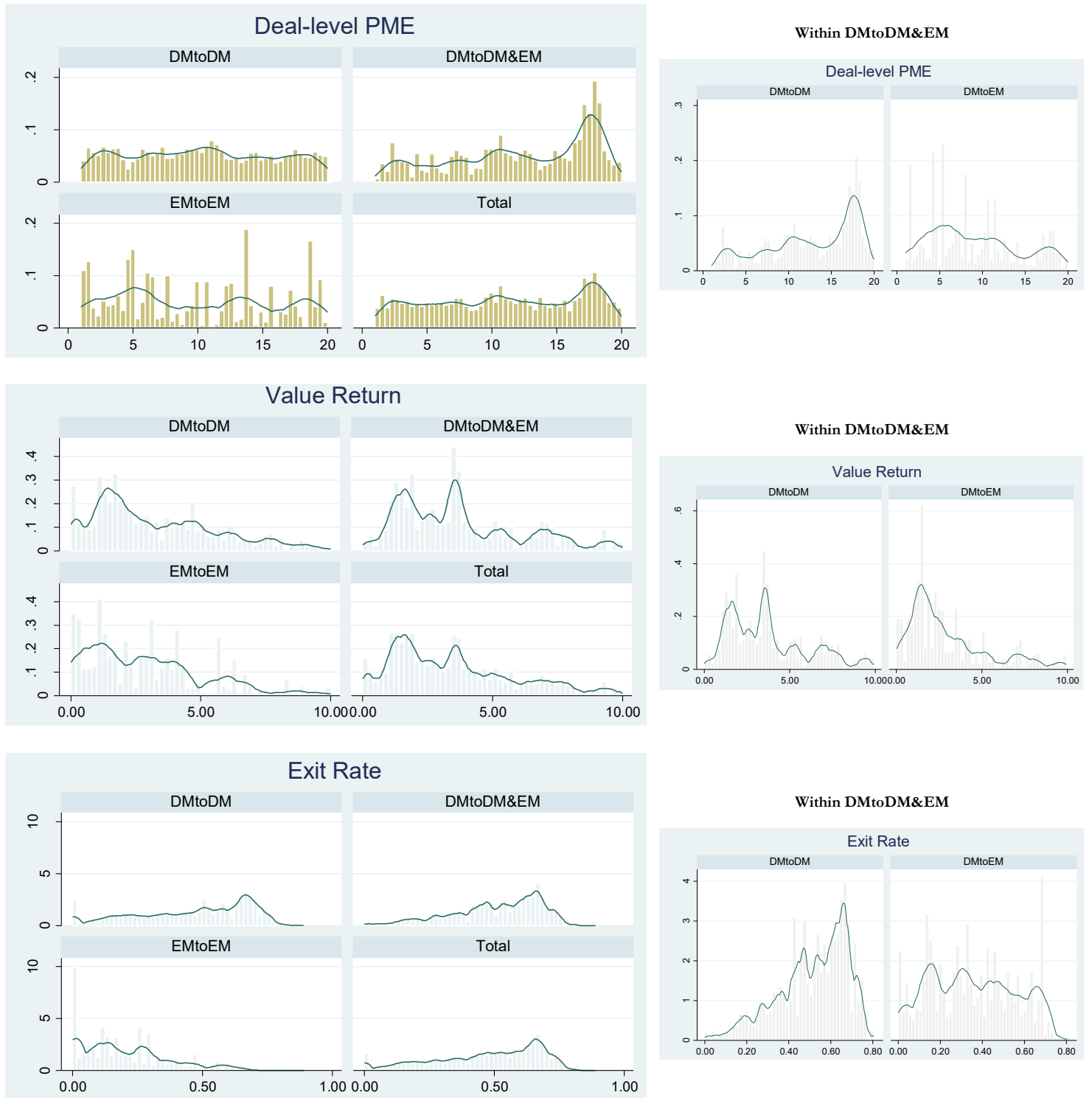


Table 7 : Percentage of explained variance in returns by level. This table shows the percentage of explained variance pertaining to each data level using ANOVA variance decomposition. Return measures are detailed in appendix 1.

	DMtoDM			DMtoDM&EM			EMtoEM		
	Overall								
	GP	Country	Company	GP	Country	Company	GP	Country	Company
Exit Rate	17%	19%	64%	9%	23%	67%	1%	72%	27%
Value Return	43%	9%	48%	30%	19%	51%	8%	29%	63%
Deal-level PME	9%	11%	80%	1%	13%	86%	6%	16%	78%
	DMtoDM								
Exit Rate				22%	15%	63%			
Value Return				53%	5%	42%			
Deal-level PME				7%	20%	73%			
	DMtoEM								
Exit Rate				22%	16%	62%			
Value Return				13%	58%	59%			
Deal-level PME				3%	22%	75%			

Table 8 : Correlation tables of GP, Country and Company level characteristics. This table shows the correlations between the GP-level characteristics, the Country-level characteristics, and the Company-level characteristics. Variable definitions are given in Appendix 1.

Panel A : Correlations between GP-level characteristics							
	Size	Local Affiliation	GP Direct Investment	Co-investment	Pre-EM Experience	Time to Exit	Time to Invest
Size	1.0000						
Local Affiliation	0.2874	1.0000					
GP Direct Investment	0.0472	0.0221	1.0000				
Co-investment	0.0488	0.0207	-0.0160	1.0000			
Pre-EM Experience	0.2176	0.3919	-0.0278	-0.0283	1.0000		
Time to Exit	-0.0181	-0.0110	-0.0054	-0.0032	0.0129	1.0000	
Time to Invest	-0.0203	0.0139	0.1618	0.1443	0.0433	0.0678	1.0000

Panel B : Correlations between Country-level characteristics and GP means of Country-level variables										
	Capital Inflow	Nearby	Distant	Embeddedness distance	Hierarchy distance	Mastery distance	Intellectual autonomy distance	GP Mean Exit Rate	GP Mean Multiple of Invested Capital	GP Mean Deal PME
Capital Inflow	1.0000									
Nearby	-0.0408	1.0000								
Distant	-0.0972	-0.0631	1.0000							
Embeddedness distance	-0.0140	0.2743	0.1384	1.0000						
Hierarchy distance	0.0406	0.1677	0.1830	0.5059	1.0000					
Mastery distance	-0.0683	0.1416	-0.0159	0.5027	-0.3867	1.0000				
Intellectual autonomy distance	-0.0628	0.0264	-0.0710	-0.0618	-0.7273	0.7407	1.0000			
GP mean Exit Rate	0.1725	-0.1904	-0.2288	-0.1012	-0.1040	-0.0029	0.0729	1.0000		
GP mean Multiple of Invested Capital	-0.0106	-0.0990	-0.1187	-0.0746	-0.0889	0.0051	0.0509	0.1587	1.0000	
GP mean Deal PME	0.0206	-0.1917	-0.2594	-0.1725	-0.1830	-0.0141	0.0767	0.2756	0.9312	1.0000

Panel C : Correlations between Company-level Characteristics and Country means of Company-level variables (by company industry)									
	First Time PE deal	VC dummy	LN Age at financing	LN invested capital	Deal Sequence	Club deal dummy	Country mean Exit Rate	Country mean Multiple of invested capital	Country mean Deal PME
First Time PE deal	1.0000								
VC dummy	-0.0009	1.0000							
LN Age at financing	-0.0023	-0.2666	1.0000						
LN invested capital	-0.1037	-0.0138	-0.0163	1.0000					
Deal Sequence	-0.1307	0.0538	-0.0488	0.0895	1.0000				
Club deal dummy	-0.0125	0.1546	-0.0888	0.3532	0.0400	1.0000			
Country mean Exit Rate	0.0063	0.2209	-0.1619	0.2333	0.1021	0.2366	1.0000		
Country mean Multiple of invested capital	0.0090	0.2631	-0.1760	0.2088	0.1034	0.2084	0.7670	1.0000	
Country mean Deal PME	0.0127	0.2262	-0.1639	0.2359	0.1118	0.2293	0.9126	0.8751	1.0000

Table 9 : Multilevel Linear Model Estimates for GP, Country and Portfolio Company effects on Deal-level PME. Variable definitions are given in Appendix 1. T-statistics are given between brackets. One, two and three asterisks denote a 10%, 5% and 1% significance level respectively.

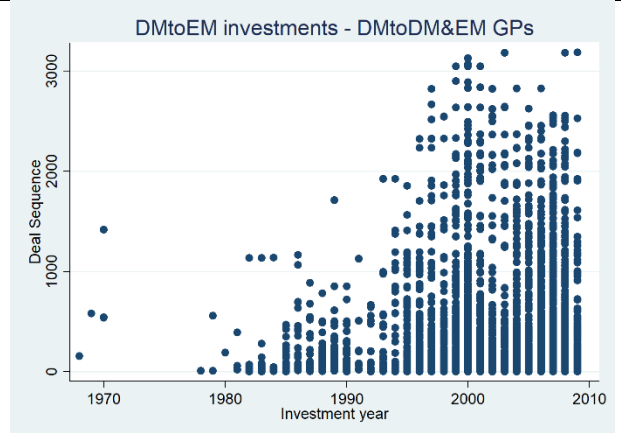
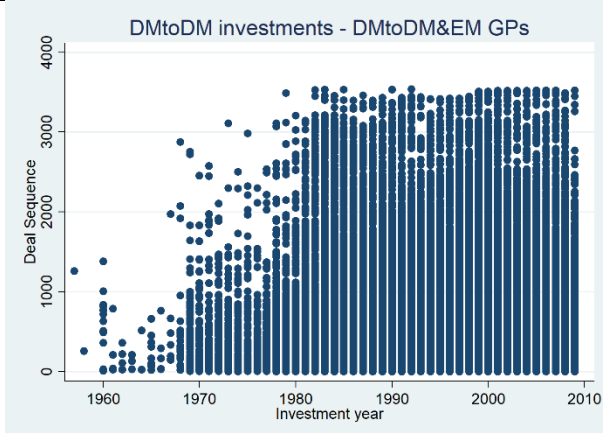
GP Characteristics	Within GPs				Across Countries						Across Companies				
	DMtoDM	DMtoDM&EM			EMtoEM	DMtoDM	DMtoDM&EM			EMtoEM	DMtoDM	DMtoDM&EM			EMtoEM
	Overall	DMtoDM	DMtoEM	EMtoEM	Overall	DMtoDM	DMtoEM	EMtoEM	Overall	DMtoDM	DMtoEM	EMtoEM			
Size	0.0959 (1.06)	-0.0362 (-0.54)	-0.0544 (-0.79)	0.546*** (3.34)	-0.0275 (-0.63)	0.178 (1.67)	0.131 (1.79)	0.116 (1.56)	0.297 (1.43)	-0.131* (-2.16)	0.244* (2.11)	0.0648 (0.83)	0.0478 (0.60)	0.107 (0.49)	-0.117 (-1.87)
Local Affiliation	-1.367*** (-4.45)	-1.635*** (-6.11)	-1.688*** (-6.18)	0.140 (0.19)	-0.429** (-3.16)	-1.459*** (-4.25)	-1.491*** (-5.29)	-1.538*** (-5.37)	0.348 (0.39)	-0.485** (-2.63)	-1.511*** (-4.16)	-1.525*** (-5.21)	-1.555*** (-5.23)	-0.129 (-0.14)	-0.901*** (-4.50)
GP Direct Investment	-0.780 (-0.87)	-0.388 (-0.53)	-0.459 (-0.61)	1.361 (1.00)	0.164 (0.59)	-0.815 (-0.80)	-0.393 (-0.50)	-0.446 (-0.55)	1.412 (0.87)	0.356 (0.93)	-0.716 (-0.68)	-0.584 (-0.72)	-0.604 (-0.73)	1.439 (0.92)	0.274 (0.69)
Co-investment	-0.474 (-0.54)	-0.460 (-0.61)	-0.488 (-0.63)	0.472 (0.34)	0.419 (1.54)	-0.481 (-0.48)	-0.380 (-0.47)	-0.415 (-0.50)	1.106 (0.68)	0.518 (1.40)	-0.328 (-0.32)	-0.461 (-0.56)	-0.486 (-0.58)	1.322 (0.83)	0.534 (1.38)
Pre-EM Experience		0.000153 (1.07)	0.000162 (1.12)	-0.0516** (-2.89)			0.000211 (1.40)	0.000243 (1.59)	-0.0438* (-2.21)			-0.000153 (-0.58)	-0.0000166 (-0.06)	1.057 (0.50)	
Time to Exit	-0.394*** (-6.28)	-0.274*** (-4.64)	-0.277*** (-4.48)	-0.148 (-1.33)	-0.00955 (-0.36)	-0.443*** (-5.93)	-0.303*** (-4.65)	-0.300*** (-4.43)	-0.194 (-1.34)	-0.0241 (-0.66)	-0.483*** (-5.95)	-0.305*** (-4.32)	-0.298*** (-4.06)	-0.165 (-1.09)	-0.0317 (-0.82)
Time to Invest	0.151*** (7.66)	0.143*** (9.24)	0.145*** (9.23)	0.0227 (0.56)	-0.0115 (-1.43)	0.163*** (7.54)	0.153*** (9.46)	0.156*** (9.48)	0.00500 (0.11)	-0.0247* (-2.32)	0.165*** (7.16)	0.140*** (8.04)	0.142*** (8.05)	-0.00550 (-0.12)	-0.0268* (-2.43)
Country Characteristics															
Capital Inflow						-0.0276 (-0.21)	-0.757*** (-6.87)	-0.804*** (-7.13)	0.507 (1.82)	0.111 (1.61)	0.226 (1.48)	-0.657*** (-5.19)	-0.696*** (-5.39)	0.717* (2.18)	0.262* (2.54)
Nearby						1.582 (1.17)	3.698*** (3.79)	3.711*** (3.72)	1.023 (0.28)	-2.031 (-1.59)	1.076 (0.69)	4.151*** (3.91)	4.421*** (4.06)	1.761 (0.50)	-1.968 (-1.51)
Distant						0.934 (1.20)	1.704** (2.59)	1.781* (2.55)	-1.443 (-1.35)	0.0368 (0.03)	0.694 (0.78)	2.111** (2.97)	2.280** (3.03)	-0.331 (-0.31)	0.0200 (0.02)
Embeddedness distance						1.514 (0.24)	3.265 (1.15)	5.828 (1.27)	-0.845 (-0.35)	0.103 (0.10)	2.584 (0.38)	4.452 (1.48)	5.418 (1.12)	-0.0879 (-0.04)	0.368 (0.35)
Hierarchy Distance						-1.945 (-1.24)	-2.317** (-3.10)	-2.920* (-2.52)	4.044 (1.15)	1.190** (2.73)	-1.780 (-1.06)	-2.693*** (-3.33)	-3.015* (-2.47)	3.461 (1.00)	1.295** (2.89)
Mastery Distance						1.293 (0.20)	2.398 (0.88)	0.280 (0.06)	-4.726 (-0.70)	-0.164 (-0.15)	-0.472 (-0.07)	1.174 (0.41)	1.129 (0.24)	-3.614 (-0.54)	-0.550 (-0.51)
Int. Autonomy Distance						-3.176 (-1.44)	-2.097 (-1.83)	-1.700 (-1.25)	-1.115 (-0.42)	0.460 (0.41)	-1.839 (-0.74)	-1.989 (-1.54)	-2.447 (-1.58)	-2.296 (-0.87)	0.713 (0.64)
Company Characteristics															
First Time Investment											-0.829** (-2.64)	-0.802** (-2.68)	-0.812** (-2.67)	-0.0743 (-0.08)	0.269 (1.46)
VC Dummy											0.484 (0.97)	-0.795* (-2.10)	-0.834* (-2.15)	-0.240 (-0.29)	-0.0133 (-0.05)
Age											0.0895*** (3.95)	0.149*** (7.55)	0.157*** (7.69)	-0.0194 (-0.43)	0.0116 (1.03)
Invested Capital											-1.076*** (-4.46)	-1.201*** (-5.34)	-1.297*** (-5.54)	-1.005* (-2.36)	-0.189 (-1.74)
Deal Sequence											-0.0150*** (-7.99)	0.000706 (1.67)	0.000503 (1.14)	0.00346*** (4.35)	0.00611*** (5.22)
Club Deal Dummy											2.169 (1.69)	2.717* (2.35)	3.102* (2.53)	1.489 (0.92)	0.648* (2.01)
Intercept											Yes	Yes	Yes	Yes	Yes
Investment year FE											Yes	Yes	Yes	Yes	Yes
Industry FE											Yes	Yes	Yes	Yes	Yes
Number of Countries											26	47	25	22	20
Number of Companies											9 677	9 885	9 437	448	687
Number of observations											44 351	53 578	52 523	1 055	1 353

Table 10 : Multilevel Linear Model Estimates for GP, Country and Portfolio Company effects on Deal-level PME, with cross-level effects of Distance measures at the country and GP levels. This table shows the interaction between the geographic distance of the company's country from the GP's country and the intensity of cultural proximity of the GP investment teams on the one hand, and the interaction between the geographic distance of the company's country from the GP's country and the geographical investment concentration of the GP in the portfolio company country on the other hand. Variable definitions are given in Appendix 1. T-statistics are given between brackets. One, two and three asterisks denote a 10%, 5% and 1% significance level respectively.

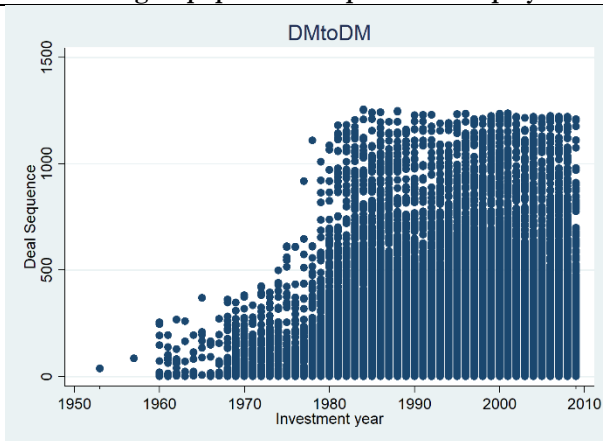
	DMtoDM	DMtoDM&EM		EMtoEM	
		Overall	DMtoDM	DMtoEM	
GP Characteristics	YES	YES	YES	YES	
Country Characteristics	YES	YES	YES	YES	
Cross-level interactions					
<i>GP geographical concentration vs. investment country geographical distance</i>					
Nearby x HH GP Geo Concentration Low	0.58 (1.22)	1.42 (0.89)	-0.26 (-0.68)	-0.68* (-1.99)	-1.02* (-2.20)
Nearby x HH GP Geo Concentration High	0.49 (0.56)	0.94** (2.83)	0.48 (1.04)	1.59** (2.53)	1.03** (2.82)
Distant x HH GP Geo Concentration Low	0.78* (2.03)	1.02** (2.65)	0.52** (2.81)	0.84 (0.21)	0.74 (0.08)
Distant x HH GP Geo Concentration High	-0.54* (-2.33)	0.24 (1.23)	-0.65 (-0.01)	-0.52* (-2.37)	-0.41 (-0.89)
<i>GP cultural proximity vs. investment country geographical distance</i>					
Nearby x Lang. Speakers Dummy	-1.367 (-1.72)	1.02* (2.02)	-0.071 (-0.01)	1.56*** (4.86)	1.20** (2.79)
Distant x Lang. Speakers Dummy	-0.091 (-1.37)	0.31* (2.36)	0.305 (0.33)	1.183 (1.13)	0.43** (2.52)
Nearby x Lang. Speakers	-0.017 (-0.15)	2.03* (2.49)	2.01*** (6.23)	1.06*** (5.21)	1.08** (2.67)
Distant x Lang. Speakers	-0.027 (-0.35)	1.02* (2.39)	1.24*** (5.37)	0.98*** (4.03)	1.02** (2.68)
Nearby x HH Lang. Speakers	-1.01 (-1.84)	1.85*** (3.44)	1.74*** (3.90)	1.86*** (7.40)	2.65*** (4.16)
Distant x HH Lang. Speakers	-1.06 (-0.49)	1.52*** (3.06)	2.05** (2.39)	1.41*** (6.66)	1.35*** (3.06)
Company Characteristics	YES	YES	YES	YES	YES
Intercept	Yes	Yes	Yes	Yes	Yes
Investment year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Number of Countries	26	47	25	22	20
Number of Companies	9 677	9 885	9 437	448	687
Number of observations	44 351	53 578	52 523	1 055	1 353

Figure 4 : Deal Sequences sorted on GPs and investment year by investment and deal directions. This figure shows the sequence number of the sample deals by GP group and investment year.

Treatment group: GPs with investment history on both emerging and developed markets



Control group: pure developed markets players



Control group: pure emerging markets players

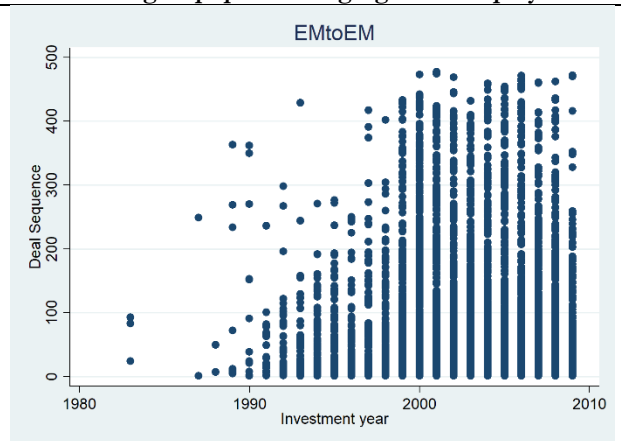


Table 11 : Multilevel Linear Model Estimates for GP, Country and Portfolio Company effects on Deal-level PME, accounting for previous deal performance on follow-on deals performance. Variable definitions are given in Appendix 1. T-statistics are given between brackets. One, two and three asterisks denote a 10%, 5% and 1% significance level respectively.

	DMtoDM	DMtoDM&EM		EMtoEM	
		Overall	DMtoDM	DMtoEM	
Lagged Deal-level PME	0.575*** (19.09)	0.551*** (13.63)	0.551*** (12.02)	0.249*** (13.27)	0.755*** (47.64)
GP Characteristics					
Size	0.00432 (0.05)	-0.0540 (-1.05)	-0.0669 (-1.28)	0.114 (0.54)	-0.0169 (-0.51)
Local Affiliation	-0.680** (-2.74)	-0.806*** (-4.20)	-0.822*** (-4.22)	-0.245 (-0.29)	-0.341*** (-3.36)
GP Direct Investment	-0.535 (-0.75)	-0.563 (-1.06)	-0.573 (-1.06)	1.054 (0.72)	-0.00504 (-0.02)
Co-investment	-0.111 (-0.16)	-0.239 (-0.44)	-0.255 (-0.46)	0.676 (0.45)	0.0184 (0.09)
Pre-EM Experience		-0.000147 (-0.83)	-0.0000545 (-0.30)	1.574 (0.86)	
Time to Exit	-0.279*** (-5.69)	-0.141*** (-3.33)	-0.143** (-3.25)	-0.103 (-0.78)	-0.0219 (-1.50)
Time to Invest	0.110*** (6.88)	0.0906*** (7.93)	0.0927*** (7.99)	0.00299 (0.07)	-0.00496 (-0.82)
Country Characteristics					
Capital Inflow	-0.117 (-1.11)	-0.217** (-2.59)	-0.240** (-2.81)	0.848** (2.68)	0.0311 (0.60)
Nearby	-1.068 (-1.04)	1.629* (2.35)	1.714* (2.41)	2.271 (0.71)	-0.324 (-0.58)
Distant	-0.349 (-0.58)	0.986* (2.11)	1.140* (2.31)	0.110 (0.11)	-0.0334 (-0.08)
Embeddedness distance	3.551 (0.78)	1.368 (0.73)	3.667 (1.21)	-1.005 (-0.48)	-0.0901 (-0.16)
Hierarchy Distance	-1.378 (-1.21)	-1.076* (-2.11)	-1.653* (-2.14)	2.502 (0.85)	0.399 (1.72)
Mastery Distance	-2.560 (-0.56)	0.854 (0.48)	-0.957 (-0.32)	-1.956 (-0.34)	-0.838 (-1.46)
Intellectual Autonomy Distance	-0.263 (-0.16)	-0.935 (-1.14)	-0.730 (-0.74)	-2.061 (-0.89)	0.757 (1.33)
Company Characteristics					
First Time Investment	-0.652** (-2.99)	-0.773*** (-3.91)	-0.782*** (-3.90)	0.174 (0.20)	0.173 (1.69)
VC Dummy	0.0447 (0.13)	-0.0316 (-0.13)	-0.0584 (-0.23)	0.540 (0.69)	0.0269 (0.21)
Age	0.0595*** (4.20)	0.0682*** (5.64)	0.0711*** (5.72)	0.00961 (0.25)	0.00224 (0.53)
Invested Capital	-0.361* (-2.39)	-0.522*** (-3.79)	-0.533*** (-3.73)	-1.151** (-2.99)	-0.0197 (-0.40)
Deal Sequence	-0.00823*** (-6.47)	0.000647* (2.33)	0.000506 (1.75)	0.00284*** (3.94)	0.00117* (2.26)
Club Deal Dummy	0.677 (0.84)	1.623* (2.30)	1.809* (2.42)	1.553 (1.10)	0.117 (0.89)
Intercept	Yes	Yes	Yes	Yes	Yes
Investment year FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Number of Countries	25	47	25	22	20
Number of Companies	9 268	9 665	9 243	422	601
Number of observations	18 994	25 357	23 179	30 399	23 067

Figure 5 : Re-arranged deal sequences sorted on first investments and vintage years of each fund within DMtoDM&EM subgroup of GPs. This figure shows the methodology for establishing new deal sequences to control for possible sequence gaps within reported deals. A fund is considered DM or EM based on the most observed frequency for either EM or DM within its portfolio companies' locations. Deals are sorted within each fund based on their investment dates. Funds are sorted for each GP in the DMtoDM&EM subgroup by vintage year.

New Sequence For Lagged Deal-level PMEs	1	1 st Deal = EM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	EM Fund 1
	2	1 st Deal = DM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	EM Fund 2
	3	1 st Deal = DM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	EM Fund 3
	4	1 st Deal = EM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	DM Fund 1
	5	1 st Deal = EM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	DM Fund 2
	6	1 st Deal = DM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	EM Fund 4
	i	1 st Deal = DM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	EM Fund n
	j	1 st Deal = DM Deal	2 nd Deal = EM Deal	3 rd Deal = DM Deal	.....	DM Fund m

Table 12 : Multilevel Linear Model Estimates for GP, Country and Portfolio Company effects on Deal-level PME, accounting for previous EM deal performance on follow-on DM deal performance. This table shows the regression results for deal-level PMEs on lagged deal-level PMEs with the new sequence numbers (See figure 5). Variable definitions are given in Appendix 1. T-statistics are given between brackets. One, two and three asterisks denote a 10%, 5% and 1% significance level respectively.

	DMtoDM&EM		
	Given any DM/EM Deal Order	Given the first DM deal Followed by a DM deal After the last EM deal (EM-DM-DM sequence)	Given the first DM deal Followed by an EM deal After the last EM deal (EM-DM-EM sequence)
Lead DM Deal PME	0.547*** (202.91)	0.545*** (200.48)	0.583*** (25.53)
GP Characteristics			
Size	-0.0864 (-1.60)	-0.0931 (-1.70)	-0.0786 (-0.50)
Local Affiliation	-1.027*** (-5.12)	-1.032*** (-5.06)	-0.971 (-1.52)
GP Direct Investment	-0.390 (-0.70)	-0.413 (-0.72)	0.936 (0.83)
Co-investment	-0.359 (-0.63)	-0.359 (-0.62)	0.506 (0.43)
Pre-EM Experience	0.0000381 (0.21)	0.000119 (0.63)	0.218 (0.16)
Time to Exit	-0.154*** (-3.68)	-0.155*** (-3.56)	-0.0112 (-0.12)
Time to Invest	0.0840*** (7.00)	0.0862*** (7.06)	-0.0256 (-0.76)
Country Characteristics			
Capital Inflow	-0.405*** (-4.62)	-0.422*** (-4.72)	0.299 (1.23)
Nearby	1.573* (2.20)	1.685* (2.30)	0.347 (0.15)
Distant	0.454 (0.94)	0.604 (1.18)	-0.0594 (-0.08)
Embeddedness distance	1.532 (0.82)	2.249 (0.73)	0.277 (0.19)
Hierarchy Distance	-1.076* (-2.10)	-1.286 (-1.63)	-0.0782 (-0.04)
Mastery Distance	0.691 (0.39)	0.408 (0.14)	1.628 (0.41)
Intellectual Autonomy Distance	-0.884 (-1.06)	-0.990 (-0.98)	-2.432 (-1.52)
Company Characteristics			
First Time Investment	-0.643** (-3.10)	-0.636** (-3.03)	-0.815 (-1.22)
VC Dummy	0.0783 (0.30)	0.0878 (0.33)	-0.338 (-0.56)
Age	0.0604*** (4.98)	0.0631*** (5.04)	0.0138 (0.51)
Invested Capital	-0.359** (-2.59)	-0.383** (-2.66)	-0.462 (-1.67)
Club Deal Dummy	0.544 (0.77)	0.745 (0.99)	-0.469 (-0.48)
Intercept	Yes	Yes	Yes
Investment year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Number of Countries	47	25	22
Number of Companies	9 663	9 234	429
Number of observations	52 184	51 190	994

Table 13 : Multilevel Linear Model Estimates for GP, Country and Portfolio Company effects on Deal-level PME, differentiated by investment period. Variable definitions are given in Appendix 1. T-statistics are given between brackets. One, two and three asterisks denote a 10%, 5% and 1% significance level respectively.

GP Characteristics	DMtoDM		DMtoDM&EM				EMtoEM			
	Overall		DMtoDM		DMtoEM		EMtoEM			
	Pre-2000	Post-2000	Pre-2000	Post-2000	Pre-2000	Post-2000	Pre-2000	Post-2000	Pre-2000	Post-2000
Size	0.524* (2.17)	-0.0333 (-0.65)	-0.0869 (-0.48)	0.0295 (0.84)	-0.0908 (-0.49)	0.0181 (0.51)	-0.00808 (-0.18)	0.156 (0.64)	-0.000334 (-1.63)	-0.123 (-1.83)
Local Affiliation	-2.844** (-3.22)	-0.696*** (-4.84)	-1.878** (-3.22)	-0.349* (-2.30)	-1.888** (-3.23)	-0.389* (-2.54)	-2.518*** (-9.06)	-0.187 (-0.18)	-0.122*** (-49.51)	-0.907*** (-4.30)
GP Direct Investment		0.0144 (0.04)		-0.0115 (-0.04)		-0.0501 (-0.17)		1.477 (0.89)		0.306 (0.74)
Co-investment		-0.180 (-0.57)		-0.244 (-0.83)		-0.287 (-0.96)		1.329 (0.79)		0.548 (1.37)
Pre-EM Experience			0.000855 (1.74)	-0.000989*** (-6.51)	0.000903 (1.82)	-0.000914*** (-5.77)	-0.265 (-0.24)	3.088 (0.77)		
Time to Exit	-0.697*** (-4.30)	-0.335*** (-7.72)	0.0425 (0.31)	-0.373*** (-7.92)	0.0407 (0.29)	-0.394*** (-8.06)	0.0751 (0.43)	-0.238 (-1.33)	-0.00908 (-0.20)	-0.0396 (-0.97)
Time to Invest	0.458*** (6.58)	0.0404*** (4.97)	0.334*** (7.44)	0.0286*** (3.84)	0.335*** (7.43)	0.0288*** (3.82)	0.0649*** (3.38)	-0.00111 (-0.02)	0.0000584 (0.52)	-0.0281* (-2.45)
Country Characteristics										
Capital Inflow	0.666* (2.17)	-0.199** (-2.77)	-0.701** (-2.86)	0.0997 (1.44)	-0.709** (-2.87)	0.0611 (0.86)	0.00777 (0.09)	0.721 (1.94)	0.0693*** (33.16)	0.275* (2.47)
Nearby	5.353 (0.71)	-0.254 (-0.43)	10.80*** (3.35)	2.493*** (5.19)	10.98*** (3.37)	2.444*** (5.05)	-3.090 (-0.56)	2.388 (0.63)	-0.998 (-0.82)	-1.948 (-1.46)
Distant	2.991 (1.24)	-0.447 (-1.24)	7.452*** (3.91)	0.392 (1.22)	7.661*** (3.96)	0.401 (1.19)	-2.211*** (-6.88)	-0.250 (-0.21)		0.0360 (0.03)
Embeddedness distance	-5.427 (-0.13)	-0.456 (-0.19)	3.068 (0.24)	-0.213 (-0.13)	9.728 (0.52)	1.222 (0.56)	-1.193 (-0.36)	-0.496 (-0.19)	0.160 (0.05)	0.304 (0.26)
Hierarchy Distance	-1.844 (-0.19)	0.0224 (0.04)	-5.141 (-1.64)	-0.411 (-0.97)	-6.838 (-1.54)	-0.711 (-1.27)	-4.703 (-0.87)	3.887 (1.05)	1.604 (0.65)	1.264** (2.69)
Mastery Distance	4.253 (0.10)	-0.242 (-0.10)	9.725 (0.75)	2.383 (1.54)	4.964 (0.27)	0.941 (0.44)	9.615 (0.96)	-3.794 (-0.53)	-2.739 (-0.43)	-0.652 (-0.58)
Intellectual Autonomy Distance	-3.757 (-0.26)	-1.003 (-1.10)	-7.753 (-1.48)	-1.617** (-2.63)	-7.889 (-1.29)	-1.184 (-1.71)	0.625 (0.20)	-2.894 (-0.99)	1.119 (0.26)	0.821 (0.68)
Company Characteristics										
First Time Investment	-1.113 (-1.76)	-0.892*** (-6.18)	-2.176*** (-4.02)	-0.154 (-0.87)	-2.174*** (-4.00)	-0.146 (-0.81)	-0.753*** (-4.85)	-0.129 (-0.12)	-0.00140 (-1.61)	0.289 (1.44)
VC Dummy	1.020 (0.88)	-0.0400 (-0.19)	-1.567 (-1.80)	0.0649 (0.37)	-1.621 (-1.85)	0.0685 (0.38)	-0.741*** (-3.64)	0.0104 (0.01)	1.752*** (102.74)	0.0114 (0.04)
Age	0.0693 (1.16)	0.0535*** (5.11)	0.0299 (0.66)	0.0570*** (4.71)	0.0321 (0.70)	0.0603*** (4.84)	0.0442 (0.78)	-0.0306 (-0.60)	-0.00195** (-2.75)	0.0124 (1.08)
Invested Capital	-1.300* (-2.43)	0.00896 (0.07)	-1.371** (-2.92)	-0.497*** (-3.54)	-1.441** (-3.03)	-0.448** (-3.05)	-0.185 (-0.38)	-1.031* (-2.15)	0.0937 (0.76)	-0.186 (-1.61)
Deal Sequence	-0.0426*** (-11.65)	0.0176*** (19.96)	-0.00181* (-2.34)	0.00337*** (13.86)	-0.00187* (-2.40)	0.00327*** (12.80)	0.00197*** (14.37)	0.00409*** (4.43)	0.000958*** (71.90)	0.00625*** (5.16)
Club Deal Dummy	2.263 (0.75)	1.173 (1.84)	-0.0716 (-0.03)	1.567* (2.16)	0.0312 (0.01)	1.629* (2.08)	-1.705 (-0.81)	1.949 (1.10)	-0.154 (-0.27)	0.664* (2.01)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Investment year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Countries	18	26	35	45	21	25	14	20	12	20
Number of Companies	4 205	6 640	4 500	6 770	4 440	6 355	60	415	36	671
Number of observations	18 994	25 357	23 179	30 399	23 067	29 456	112	943	84	1 269

Table 14 : Multilevel Linear Model Estimates for GP, Country and Portfolio Company effects on Deal-level PME, considering change in investment style of GP when investing in EM. Variable definitions are given in Appendix 1. T-statistics are given between brackets. One, two and three asterisks denote a 10%, 5% and 1% significance level respectively.

	DMtoDM&EM - DMtoEM Subsample estimates		
	Deal PME	Multiple of Invested Capital	Exit Rate
Style Shift	-0.905 (-1.23)	-0.307 (-1.32)	0.00327 (0.19)
GP Characteristics			
Size	-0.0227 (-0.65)	-0.122*** (-17.58)	0.00406*** (11.89)
Local Affiliation	-0.0795** (-2.74)	-0.129*** (-24.18)	-0.00323*** (-11.77)
GP Direct Investment	0.256 (1.12)	0.121 (1.70)	0.0254*** (7.21)
Co-investment	-0.139 (-0.65)	0.0197 (0.27)	0.0278*** (7.72)
Pre-EM Experience	1.260*** (13.03)	0.430*** (30.60)	0.0220*** (31.17)
Time to Exit	-0.261 (-1.66)	0.0413 (1.64)	0.00947*** (6.26)
Time to Invest	0.0822 (1.68)	0.000372 (0.04)	0.00128* (2.57)
Country Characteristics			
Capital Inflow	0.145* (2.51)	-0.0675*** (-6.99)	0.0218*** (44.28)
Nearby	0.102 (0.35)	0.183 (1.88)	-0.0375*** (-7.36)
Distant	-2.319*** (-8.97)	0.336*** (5.37)	-0.0628*** (-19.42)
Embeddedness distance	0.834 (0.80)	-1.050** (-2.92)	0.0744** (3.20)
Hierarchy Distance	-0.211 (-0.64)	-0.232* (-2.53)	-0.0378*** (-6.53)
Mastery Distance	0.124 (0.13)	0.860* (2.41)	-0.0485* (-2.12)
Intellectual Autonomy Distance	-0.594 (-1.44)	-1.459*** (-10.82)	-0.0422*** (-5.48)
Company Characteristics			
First Time Investment	-2.460*** (-4.90)	-0.630*** (-8.25)	-0.115*** (-29.65)
VC Dummy	-0.0317 (-0.25)	0.623*** (19.48)	0.127*** (79.18)
Age	0.00110* (2.17)	-0.000561*** (-5.03)	-0.000106*** (-16.58)
Invested Capital	0.000505 (1.44)	0.0000597 (0.73)	-0.0000518*** (-10.53)
Deal Sequence	-1.978*** (-4.31)	-0.954*** (-14.30)	-0.0910*** (-26.73)
Club Deal Dummy	-0.0348 (-0.42)	0.0169 (1.39)	0.000439 (0.58)
Intercept	Yes	Yes	Yes
Investment year FE	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Number of Countries	22	26	26
Number of Companies	448	6 640	9 677
Number of observations	3 967	53 042	55 306

Table 15 : Robustness of results using other performance measures. This table shows the multilevel linear model estimates for GP, Country and Portfolio Company effects on exit rates and multiples of invested capital as performance measures. Variable definitions are given in Appendix 1. T-statistics are given between brackets. One, two and three asterisks denote a 10%, 5% and 1% significance level respectively.

	Exit Rate					Multiple of invested Capital				
	DMtoDM	DMtoDM&EM			EMtoEM	DMtoDM	DMtoDM&EM			EMtoEM
		Overall	DMtoDM	DMtoEM		Overall	DMtoDM	DMtoEM		
GP Characteristics										
Size	0.0000695 (0.49)	-0.000442** (-2.83)	-0.000412** (-2.59)	-0.000678 (-1.55)	-0.0000527 (-0.27)	-2.81e-09*** (-6.43)	-2.48e-10 (-0.78)	-0.0952*** (-13.82)	5.54e-09** (2.93)	1.12e-08*** (5.24)
Local Affiliation	-0.0000360 (-0.80)	0.0000750 (1.38)	0.0000739 (1.34)	0.0000980 (0.51)	-0.000239*** (-3.71)	1.40e-08*** (10.40)	6.63e-09*** (5.76)	0.177*** (7.05)	2.36e-08** (3.15)	-2.13e-08** (-3.16)
GP Direct Investment	-0.0000178 (-0.14)	0.000187 (1.10)	0.000204 (1.16)	-0.0000418 (-0.13)	0.00000930 (0.07)	-1.70e-09 (-0.42)	4.31e-09 (1.29)	0.118 (1.61)	-5.80e-10 (-0.04)	1.53e-08 (1.09)
Co-investment	0.0000536 (0.43)	0.000269 (1.54)	0.000286 (1.59)	-0.000124 (-0.39)	0.0000616 (0.50)	-4.54e-09 (-1.13)	1.47e-09 (0.43)	0.00614 (0.08)	4.85e-09 (0.34)	1.61e-08 (1.19)
Pre-EM Experience		-2.55e-08 (-0.55)	-2.56e-08 (-0.54)	-0.000275 (-0.52)			-7.35e-12*** (-7.37)	0.0000754*** (3.38)	-2.91e-09 (-0.18)	
Time to Exit	0.0000256 (1.67)	0.00000793 (1.11)	0.00000760 (1.05)	-0.00000488 (-0.12)	0.00000408 (0.31)	4.28e-11 (0.18)	-4.30e-10* (-2.17)	0.00293 (0.64)	1.09e-09 (1.06)	7.10e-10 (0.67)
Time to Invest	-0.00000376 (-1.33)	3.77e-08 (0.01)	0.000000296 (0.08)	-0.00000313 (-0.34)	0.000000268 (0.08)	7.84e-11 (0.89)	6.83e-10*** (9.62)	0.00541*** (3.51)	4.54e-10 (1.10)	-4.81e-10 (-1.25)
Country Characteristics										
Capital Inflow	0.0000281 (1.46)	0.0000153 (0.65)	0.0000183 (0.76)	-0.0000518 (-0.78)	0.0000414 (1.27)	1.77e-09** (3.14)	7.44e-10 (1.50)	-0.0670*** (-6.16)	1.99e-09 (0.72)	-9.55e-09** (-2.89)
Nearby	0.000122 (0.49)	0.00127*** (5.95)	0.00107*** (4.91)	0.00376*** (4.88)	0.0000465 (0.11)	-9.05e-09 (-1.83)	1.34e-08** (3.02)	0.436*** (4.39)	5.00e-08 (1.75)	8.88e-08 (1.25)
Distant	-0.000593*** (-4.46)	-0.0000266 (-0.20)	0.0000242 (0.17)	-0.0000858 (-0.37)	0.0000284 (0.07)	1.26e-08*** (4.21)	-3.32e-09 (-1.17)	0.422*** (6.42)	1.21e-08 (1.46)	3.15e-08 (0.48)
Embeddedness distance	0.0000618 (0.06)	0.00269*** (3.58)	0.00529*** (5.63)	-0.00117 (-1.03)	0.0000246 (0.07)	1.01e-08 (0.44)	-4.30e-08** (-3.09)	-0.443 (-0.94)	1.75e-08 (1.06)	0.000000144*** (3.90)
Hierarchy Distance	0.0000294 (0.12)	-0.000547** (-2.84)	-0.00115*** (-4.85)	0.000862 (0.46)	0.0000753 (0.51)	1.01e-08 (1.78)	2.51e-08*** (6.94)	-0.594*** (-5.05)	-2.86e-08 (-1.24)	-0.000000106*** (-6.74)
Mastery Distance	-0.00000390 (-0.00)	-0.00463*** (-6.18)	-0.00727*** (-7.89)	0.00138 (0.44)	-0.000115 (-0.33)	-1.90e-08 (-0.83)	-1.86e-08 (-1.34)	0.654 (1.41)	5.06e-09 (0.11)	5.36e-08 (1.47)
Intellectual Autonomy Distance	0.000290 (0.79)	0.00227*** (7.79)	0.00291*** (9.28)	-0.00200 (-1.34)	0.000147 (0.40)	2.30e-08** (2.78)	2.01e-09 (0.35)	-1.731*** (-11.53)	1.06e-08 (0.58)	-0.000000103** (-2.67)
Company Characteristics										
First Time Investment	0.0000314 (0.82)	-0.0000516 (-0.86)	-0.0000567 (-0.93)	0.000133 (0.71)	-0.0000728 (-1.22)	-7.75e-09*** (-6.52)	-5.16e-09*** (-4.27)	0.249*** (9.48)	3.62e-09 (0.46)	-5.69e-09 (-0.92)
VC Dummy	-0.0000566 (-0.89)	0.0000223 (0.30)	0.0000545 (0.72)	-0.000280 (-1.60)	0.0000575 (0.70)	-6.70e-09*** (-3.66)	7.86e-09*** (5.32)	0.837*** (26.09)	-5.77e-09 (-0.82)	-4.31e-10 (-0.05)
Age	-0.00000131 (-0.32)	1.18e-08 (0.00)	0.000000458 (0.19)	-0.00000608 (-0.48)	-0.00000148 (-0.04)	-7.90e-11 (-1.13)	-8.76e-11 (-1.46)	-0.00745*** (-5.47)	4.29e-11 (0.14)	4.08e-10 (1.29)
Invested Capital	0.0000290 (0.67)	-0.0000264 (-0.96)	-0.0000266 (-0.95)	-0.0000596 (-0.54)	-0.0000170 (-0.48)	7.38e-10 (1.00)	-1.13e-09 (-1.64)	0.0922*** (5.85)	-5.39e-09 (-1.74)	-2.32e-10 (-0.07)
Deal Sequence	-0.000000120 (-0.51)	-9.58e-09 (-0.14)	-5.00e-09 (-0.83)	-0.000000147 (-0.11)	-4.39e-08 (-1.11)	3.04e-11*** (4.61)	-2.73e-12 (-1.76)	-0.0000452 (-1.29)	-1.11e-11 (-1.73)	-7.31e-11 (-1.93)
Club Deal Dummy	0.000000321 (0.00)	-0.000196 (-1.37)	-0.0000568 (-0.38)	-0.00117** (-2.71)	-0.0000683 (-0.63)	-3.94e-09 (-1.00)	3.37e-09 (0.97)	0.338*** (4.17)	5.30e-09 (0.47)	1.46e-08 (1.58)
Intercept	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Investment year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of Countries	26	47	25	22	21	26	47	25	22	20
Number of Companies	9 987	10 213	9 746	467	739	9 775	9 987	9 535	452	692
Number of observations	46 068	56 437	55 345	1 092	1 439	44 823	54 124	53 064	1 060	1 364