# International Capital Flows into the European Private Equity Market

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Abstract:

In this paper, we explore the relationship between institutional investors and funds managers, a relatively little studied field in private equity. We study this relationship within the context of international investment flows. We address the following question: When building risk-return exposure to European private companies, which US limited partners (LPs) are more likely to invest in US funds investing in European targets as opposed to in European funds investing locally? We build our research using two-level analysis. We first look at which US LPs are more likely to invest in funds focusing on Europe (regardless of whether a US or European fund) to identify the active global players. And second, using only the subsample of LPs investing in Europe-focused funds, we study which types of LPs are more likely to provide capital to European funds investing locally as opposed to US funds with a European focus. We find that LPs affiliated to institutions with facilities in Europe, such as banks and insurance companies, are more prone to invest directly in European funds. This is consistent with the transaction cost hypothesis whereby LPs may benefit from lower costs to access valuable information to screen European funds. We also find that pension funds often invest directly in European funds although those funds do not possess local facilities in Europe. This may be due to their privileged access to more established European private equity funds through long-lasting relationships.

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## 1. Introduction:

In September 2007, CalPers, the giant Californian pension fund, and Standard Life Investment Private Equity (SLIPE), a UK based investment firm, announced that CalPers was committing €400 million into European private equity. "*We are delighted to have been selected for this mandate by CalPers, the largest public pension fund in the US. This is testimony to the expertise and professionalism of our private equity team and our strong track record in the European private equity market. This is our fourth major segregated mandate from a North American client. Over 50% of our assets under management are now from North America*"[1], declared David Currie, Chief Executive Officer of SLIPE. This is just one of many other examples of partnerships between US institutional investors and European fund managers. The private equity[2] (PE) market has evolved into a truly global market in the last two decades, creating important capital flows around the world.

On the one hand, such flows have been witnessed through the internationalization of investment activities of funds themselves (Megginson, 2004), investing more and more globally in companies outside their own national borders and continent. On the other hand, this globalization trend is also observed at the fundraising level of PE funds that now raises capital internationally. Institutional investors have become increasingly active in investing directly into PE funds outside their home country, making countries with large institutional investors exporters of PE capital and thus important fund providers for venture capital (VC) and buyout funds worldwide. The European market has benefitted from the flow of capital from US limited partners (LPs), who are major contributors to the international PE market. PEREP Analytics, a new data provider for the European PE industry, indicates that over 25% of the capital supplied to European PE funds stems from North America, making the latter continent a major supplier of capital for European PE players. Therefore, developing capabilities and reputation to attract capital commitments from US LPs are a key element of successful fundraising for European fund managers active in private equity. This in turn can be beneficial to European companies (namely, for startups receiving venture capital as well as mature companies for buyout capital) as it facilitates their access to more competitive PE capital through increased supply of capital.

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[1] This information is available on both the CalPers and SLIPE websites: http://uk.standardlifeinvestments.com/content/press/press_releases/calpers_commits_400_million_euro_to_european_private_equity.html

[2] "Private equity" includes to both venture capital and buyouts.

This paper aims at contributing to this gap in the literature by providing a better understanding about which European-focused funds (either US or European funds) are most capable of attracting US commitments, and which US LPs are more willing to invest in funds with a European focus (again, either US or European funds) through own fund selection. More specifically, our analysis examines how US investors provide financing to European companies that aim at attracting VC or buyout capital, either by receiving capital from US funds with a European investment focus or European funds with a local investment focus. Given our specific research question, we focus only on direct investments made by LPs into limited partnership funds in the US and Europe.[3] The distinction between fund origin (i.e., whether the fund is from the US or Europe) and geographical focus (i.e., where the fund invests its capital) is important here, and is, therefore, at the heart of our analysis. In the context of an LP perspective, the geographical risk-return exposure is indeed better measured by examining the geographical focus rather than fund origin.

Our analysis provides several key results. Since our study is centered on US LPs investing in funds with a European focus, we first identify the LPs that are considered as active "global players" and thus fuel the European PE market, regardless of the country of origin of the funds. We find that insurance companies, financial institutions (banks) and pension funds are the main providers of US money to European PE target companies, with pension funds clearly being the largest providers. We also find that, as predicted by the asymmetric information hypothesis, LPs with sufficient access to information about European funds, are more likely to invest in European funds as opposed to US funds. We find that LPs with local facilities have a greater propensity to invest directly in European funds, rather than through US based vehicles with a European focus. This means that European fund managers (so-called general partners [GPs]) are more likely to get funding from US LPs if LPs have direct facilities in Europe in the form of branch offices. This is the case for insurance companies and banks. Pension funds are also more prone to invest in European funds with a local focus rather than US funds with a European focus, although they typically do not have facilities in Europe. However, our analysis suggests that the size of capital under pension fund management may allow pension funds to lower the cost of collecting information. Moreover, they may benefit from extensive experience. Further investigations provided in the paper

[3] As robustness, we tried to extend the analysis to Asia, but faced severe lack of observations. LP investments in Asian funds are highly underrepresented in the database we used (VentureXpert, Thomas Financial). Therefore, we provide here an analysis for US and Europe only, where data is more available and, thus, more reliable.

point out a possible reason for this conjecture: when investing in Europe, pension funds predominantly invest in more established funds where asymmetric information is less of a problem.

Our work spans several strands of literature. The first relates to studies on the European VC and buyout market, given our particular focus on this market (see, e.g., Cumming, 2002; Da Rin et al., 2006; Hege et al., 2003; Kaplan et al., 2005). These studies, however, focus on investments by funds into companies and not capital commitments of LPs into PE funds. General trends in the globalization of venture capital are discussed by Megginson (2004), evidencing that cross-border investments by VC funds have become increasingly important. Moreover, Cumming et al. (2007) report that the limited partnership structure detailed by Sahlman (1990) has become the main vehicle in the PE industry in Europe and the US.

We further rely on studies focusing on the functioning of the fundraising process for PE funds and LP contracts (e.g., Gompers and Lerner, 1996, 1998; Jeng and Wells, 2000; Mayer et al., 2005; Litvak, 2004). Within this strand of research, the paper that is closest to ours is that by Lerner, Schoar and Wong (2007) that analyses the capital supply by different institutional investors in the US to PE funds and the associated returns. However, their analysis abstracts from geographical focus of investments made. Jeng and Wells (2000) and Mayer et al. (2005) offer an analysis of VC supply for (primarily) Europe, evidencing which macroeconomic variables foster the most the supply of capital into the market. In contrast, Gompers and Lerner (1998) examine what has driven the overall fundraising activities in the US market and to what extent its past surges were driven by regulatory and taxation changes that made private equity more attractive as an alternative asset class. LP agreements are examined in Gompers and Lerner (1996), Lerner and Schoar (2004) and Litvak (2004). Finally, Makela and Maula (2008) provide evidence of benefits of having a local investor in venture capital investments.

Finally, our study relates to the very large literature on international capital flows and its diversification impact on alternative asset classes such as private equity (see, e.g., Froot et al., 2001; Froot and Teo, 2004). These studies treat private equity as a single asset class; our study instead focuses on investment funds. Other studies have focused on this topic in relation to the investment behavior of style investments (see, e.g., Wermer, 2002; Barberis and Shleifer, 2003). The importance of styles within the PE segment has been examined by Cumming et al. (2008).

The remainder of our paper is structured as follows. The next section provides a theoretical discussion of why different types of LP may affect the choice of investment strategy. Section 3 details the source of

our data, the sample considered and the construction of our variables. Section 4 provides a general overview of capital flows into Europe by relying on summary statistics of our sample. Section 5 presents our main findings. Section 6 concludes.

## 2. Theory:

In this section, we develop hypotheses that provide possible explanations as to why different types of fund providers (LPs) may differ in their propensity to invest directly in European funds with a local focus as opposed to investing in US funds targeting European startups. This is depicted in Figure 1. As mentioned earlier, this is a critical question for institutional investors (LPs) when aiming at building European exposure -- i.e., not simply the country of origin of the fund matter but rather where the capital is eventually invested.

### *2.1 The "Local Facilities" Hypothesis*

Investments in private equity are illiquid for many years. Once the money is invested, the LP has to wait up to a decade before getting the investment back. The only way an LP can penalize a bad GP is to refuse to add money into a new fund. Therefore, acquiring information to screen competent GPs is a critical step for an LP prior to making a commitment. The process of reducing information asymmetries, however, bears some costs that lead to transaction costs for the LP. It seems logical that on average these costs would be higher for European funds than for US funds from the perspective of US LPs. We cite as an example the screening costs and the anticipated *ex-post* verification costs, which are aggravated by geographical distance. Another issue is the unfamiliarity of the legal environment; contracting with a partner outside the US legal system incurs additional costs to properly secure the deal because the LP must invest resources to learn about rights and obligations.

Therefore, we conjecture that transaction costs can be a barrier for US LPs to invest directly in European funds. We identify two ways to acquire information and thereby overcome these transaction costs. First, LPs with suitable branch offices in Europe are more likely to invest directly in European PE funds with a

local focus, while LPs without own similar facilities in Europe prefer diversifying their portfolio towards European companies through US funds with a European focus. In contrast, US GPs are more likely to be known by US LPs. Financial institutions such as banks are likely to have appropriate facilities in Europe to support the direct investment of capital into local funds. The same is likely to be true for insurance companies. It is important to note that the branch network is an exogenous factor from the perspective of PE investments: it is the legacy from the history of the considered institutions. PE investments are generally a smaller part of the overall activities of LPs. Instead, the extent of the branch network of banks and insurance companies is largely driven by retail services offered in different countries. However, the existence of those local branches can provide access to local information at lower cost, which may also promote capital commitments to local PE funds.

Note the importance of "suitable" facilities as a necessary condition for direct investments to overcome asymmetric information problems that may arise during the selection process of PE funds. Such local facilities are likely to affect the costs associated with information gathering and risk assessment of PE funds. This leads us to conjecture that US LPs with local facilities in Europe will be more associated with direct investments into European funds as opposed to US funds with a European focus.

In our empirical analysis, we ideally would like to know which LPs have direct facilities in Europe, and which ones do not. We investigated the possibility to hand collect these data through extensive search on the Internet. Unfortunately, this information could only be obtained for their current status (i.e., as of today), and not whether local facilities were available in the past at the time commitments were made. Since we need to match the existence of local facilities with the time of capital commitment, simply taking the current information would not lead to sound variables. Therefore, we adopt here a distinct approach, which consists of including dummy variables for the different types of LPs. Our asymmetric information hypothesis would lead us to predict a positive effect for insurance companies and financial institutions, but not for pension funds.

Another way to acquire information is derived from the financial capacity of the LP. Since screening costs are typically fixed, large players should find it less costly (per dollar invested) to spend money on screening experienced GPs. The financial means of a university endowment are likely to be smaller than a pension. Typically when they decide to invest abroad, LPs can pay for advice. The precision of this

advice depends on the amount spent. Thus, if the LPs do not have local facilities there is always the possibility of purchasing the expertise. These fixed costs do not represent the same burden relative to the size of the overall investment activity of the LP. The largest LPs in the US are pension funds. While we do not have the actual size of each LP across time, we proxy this effect with the LP-type dummy as presented above. Therefore, pension funds' LPs, although without local facilities, might be able to gather information using their financial strength that provides them with economies of scale from their other investment activities.

### *2.2 Established Participants Hypothesis*

This second hypothesis builds on the findings of Lerner, Schoar and Wong (2005), namely, that fund providers that have supplied capital to the VC and buyout markets for a long time have built up significant knowledge that enables them to select and at times participate in the fundraising of the most promising funds. This avoids that these same fund providers bear the same level of asymmetric information as institutional investors who have only recently started to invest in private equity through direct commitments into individual funds. Therefore, we expect LPs with significant prior experience in selecting GPs to be more likely to build their European exposure through direct investments into European local funds as opposed to with US funds with a European focus.

Lerner et al. (2007) document the fact that established LPs have a "seat at the table" at their US funds; i.e., US GPs may reward their LPs for their earlier contributions so that the most successful GPs can restrict the fundraising to former LPs even if they can raise more money. In case these US GPs are precisely those expanding to Europe, we might as well expect the opposite result since US LPs prefer to use these privileged opportunities to earn higher returns. Which of the "experience effect" or "seat effect" dominates is an empirical question that we shall examine in Section 4.

## 3. Data Source and Sample Selection:

We gather information on LP investments into VC and buyout funds from the VentureXpert database (Thomson Financial). This database provides the most comprehensive information on PE transactions available and is also widely used in research. While most other studies use information on specific deals (direct investments by funds into portfolio companies), we primarily rely on a separate database of VentureXpert that provides information on LPs that have invested in funds covered by the database. This includes most of the major institutional investors in the US.

Our sample is limited to US LPs (due to data availability) that provide capital commitments into VC and buyout funds (and thus we exclude commitments into funds-of-funds) either in the US or outside the US. We extract all observations on LPs included in the database that have complete information on the variables needed for our study. In total, our sample comprises 4119 commitments (GP-LP pairs) spanning the period 1981-2002 (the "vintage years").

Variables used in this study are defined in Table 1. However, a note is warranted for the constructed measures of investment focus of funds, namely, whether a VC or buyout fund invests in Europe or elsewhere. Since this information is not directly available in the database (obviously, the nationality of funds is available), we proxy it by looking at the first three investments a fund has made. A fund with US (Europe, outside the US) focus is one that has made at least two of these three investments in the US (Europe, outside the US). By definition, any fund considered as having a European focus (*Focus EU = 1*) is also considered a fund with foreign focus (*Foreign focus = 1*).

The rationale behind this methodology is that fund managers are most likely to stick to the objectives stated in their prospectus in their first investments, since they are drawn up quickly after the funds have been raised (and thus before market conditions may have changed). For later investments, fund managers are more likely to drift away from their stated objectives – either due to strategic considerations or major changes in market conditions — so that using all investments of a fund may lead to a less precise measure of the fund's initial geographical focus. Cumming *et al.* (2008) document this style drift phenomenon in the PE industry.

It is important to note that we only include direct investments by LPs into funds but do not consider investments made by LPs in private equity through the intermediation of funds-of-funds, who may also offer LPs an exposure to PE investments. This limitation stems from the data available in VentureXpert. To our knowledge, there is no separate database available that would allow us to consider this

alternative investment option. This leads to an important limitation of our study that inevitably affects the scope of our analysis and conclusions.

We use several dummies to identify the LP types: insurance companies (*LP insurance*), banks (*LP bank*), corporations (*LP corporate*), educational institutions and endowments (*LP education*), pension funds (*LP pension*) and one dummy for all other types (*LP other*). We also include a VC/buyout dummy in some regressions to allow us to identify the type of funds. Our database is composed of VC funds, pure buyout funds and some others funds. We use two definitions of the LP experience: the age of the LP at the time of the investment (*LP experience*); and the "first investment" dummy (*First investment*). We also include market condition variables. We use three different variables: aggregate PE fundraising (the variable *Fundraising*), the European Morgan Stanley Capital International index (*MSCI EU*) and a post 1997 dummy (*Post 1997*). However, all three variables are highly correlated so that only one of the variables at a time is used in the regressions. Since the actual choice of market variable to include did not materially affect the coefficients of our main variables, we only report results for fundraising (*Fundraising*). Other regression results are available upon request from the authors. Apart these three market condition variables, our variables do not show any correlation issue in the multivariate analysis. A complete correlation matrix is provided in Table 2.

## 4. International Capital Flows to European Companies through Private Equity:

In this section, we document some observations with regards to capital flows based on LP capital commitments into the European PE market.

### *4.1 Analysis of How Geographical Focus Has Evolved over Time*

The interest by US LPs for Europe-focused funds has increased over time. Table 3a shows that European funds have increased their deals with US LPs over time, especially in the latest period of our sample (1996-2002). The geographical focus on European targets by US funds has increased, reaching 7.5% of the LP capital commitments in the most recent period of 1996-2002. This is impressive growth

compared to before 1985, where Europe accounts for only 0.5% of LP commitments in US funds. When looking at all the funds (Table 3c), we see that the European private corporate market has increased in importance significantly over time. Before 1985, it represented only 0.9% of US LP commitments, while 7.2% in the last period. This growth is due to increased interest of US funds focusing on European private companies, and also to the development of European PE funds investing on the European continent. When looking at funds focusing on Europe (either US funds or European funds), the percentage value grows from 1% before 1985, to 12.9% in the last period of 1996-2002. This shows that the overall growth of the European PE market is due to both European funds attracting US LPs, as well as increase of European interest by US funds.

A closer look at the composition of the European funds (Table 3d) shows that the vast majority of capital commitments by US LPs goes to UK funds (83.26%). The UK has a well developed PE market – primarily buyout – and large institutional investors capable of channeling capital to the market. Other countries, including France and Germany, attract US LPs to a much lower magnitude.[4]

*4.2 Analysis of How LP Types Differ from Each Other*

Table 1 provides summary statistics on the relative importance of the different LP types. Overall, the bulk of the commitments to PE funds is by financial institutions (banks). In our sample, 30.6% of the deals are by corporate-affiliated LPs. This fraction has, however, been decreasing over time. Since 1985, the share has been decreasing steadily from 50.8% down to 21.5% (values not reported in Table 1). The second largest providers of funds are financial institutions with 17.2%, followed by insurance companies with 12.9%. Put together they represent 30% of the capital commitments into funds. Again, these shares have evolved over our sample period. Financial LPs started at around 26.8%, then dropped to 15.2%. Insurance companies contributed 12.3% of commitments until 1985, about 17% from 1986 to 1995, but then only 10.7% in the most recent period (1996-2002). Educational institutions and endowments have

[4] Assessing the representativeness of our sample is extremely difficult, since there are no alternative data available from other studies or general statistics from professional associations. The only data we could find (see Table 3e) are from PEREP's 2007 survey available on the European Private Equity and Venture Capital Association (EVCA) website. Our data are for a longer time period than just 2007, which makes comparison difficult. At first sight, it is unclear whether the survey excludes investments in funds-of-funds, but we see that the main lines remain similar. According to the survey, the UK share is decreasing while increasing in the rest of Europe (this is not shown in Table 3e but can be read in the survey itself).

instead increased their share during the sample period from 4.9% to 13.8% in the last time period considered.

## 5. Empirical Analysis:

In this section, we present empirical results on the investment behavior of US LPs investing in VC and buyout funds. We focus on LP capital commitments targeting funds with Europe as a geographical focus — i.e., those who aim at ultimately providing finance to European mature corporations (through buyouts) and startups (through venture capital). In Section 5.1, we investigate which US LPs invest in funds with Europe as a geographical focus. Since such a focus can be achieved either by investing in US funds targeting European investments or in European funds investing locally, we rely for our dependent variable on a dummy variable that captures whether a fund (US or European) takes such a geographical focus. This allows us to investigate which US LP types are global players (i.e., seeking international exposure into PE assets) as opposed to those investing only in US focused funds. For each LP type not all LPs are global investors. However, we aim to identify LP type has a higher propensity to be global players. In Section 5.2, we then focus on this "global player" subsample, to investigate which of the two strategies presented in Figure 1 is preferred. This will allow us to test the empirical predictions developed in Section 2.

### *5.1 Which US Fund Providers Have a European Focus?*

To investigate which US institutional investors are more likely to invest in funds with a European focus, we regress the geographical focus of funds (*Focus EU*) on LP characteristics and several control variables. In all our regressions we use logistic regression models with standard errors robust to clustering at the fund level. Our main variables of interest are the ones related to the specific LP type. This regression allows us to identify the types most prone to be global players targeting the European PE market.

Results are provided in Table 4. Regressions (1)—(4) are based on the full sample, while regressions (5)—(6) [(7)—(8)] are on investments in VC [buyout] funds. They show some interesting findings. For the

full sample (i.e., regardless of fund type), only pension funds are most likely to invest in funds with a geographical focus on Europe, regardless of whether through US funds or European funds. These LP types seem to put the most effort into achieving European exposure through direct investments into US and/or European funds. We find weak evidence that insurance companies (*LP insurance*) are global players (at the 10% significance level).[5] [6] However, from an absolute magnitude perspective, pension funds, insurance companies and banks all appear to be global players, although only pension funds have a statistically significant coefficient.

In unreported analysis, we grouped the three LP types (pension fund, insurance company and bank) into one dummy variable and ran again the regressions robust to clustering at the fund level. The coefficient of this aggregate variable is significant both at the 5% and 10% levels depending on the specification (primarily inclusion or exclusion of the VC and buyout fund dummy). This therefore provides reinforcing evidence for these LP types to be a distinct group.

In these regressions, we do not separate US funds from European funds. The coefficient tells us about the probability to invest in a fund that eventually focuses on European targets. On average in our sample, Europe-focused funds are statistically larger than those focusing on the US. This is explained by the fact that US LPs, especially pension funds, primarily invest in buyout funds when investing in European funds.[7] Lerner et al. (2007) present pension funds as smart investors able to screen for successful GPs. Their size and skills allow them to invest in funds focusing on Europe to achieve diversification.

Moreover, further results suggest that less experienced institutional investors are less likely to diversify towards Europe, especially if it is their very first direct investment into a PE fund (*First investment*). This result is intuitive. If it is the first investment, LPs have little knowledge of competent GPs. So it is even harder for them to assess the quality of GPs when it comes to investing in funds with foreign focus.

[5] Since some funds may be present more than once in our database (whenever they attracted more than one LP reported in the database), we checked for clustered effects in the regression analysis. Our results are robust to any clustering effect at the fund level.

[6] Without using the clustered robust methodology, these regressions show that pension funds, insurance companies and bank-related LPs are all significant. The significance of banks and pension funds is largely reduced due to controlling for the clustering effect in residuals.

[7] As such, our European sample is not representative of the average European fund but rather a distinct sample capable of attracting US capital.

These LPs have a higher probability of choosing a fund focusing on the US market, for which novice LPs may more easily assess the risk and return profile. Using the age of the LP as an alternative definition for LP experience, however, we find a lack of support. This suggests a possible non-linear effect of experience in which experience has no additional effect beyond a certain threshold.

Given that the level of activities in the PE market is highly cyclical and strongly correlated with conditions in public markets, we include a fundraising variable which expresses the annual level of deflated fundraising worldwide. The amount raised can impact investment strategy since if this amount rises dramatically, LPs might want to diversify internationally, keeping domestic opportunities constant. We also included a deflated European MSCI stock index to reflect the forecasted growth opportunities in Europe[8]. These variables are not significant in any regression.

In Regressions (3) and (4), we include a VC dummy and find a significant negative impact. This is intuitive, as Europe-focused funds raising capital from US investors are predominantly buyout funds (see Section 4). The recent development of European PE is mainly due to buyout opportunities. EVCA and several studies reveal weak returns from VC investments in Europe. Hege *et al.* (2003) report that even US VC funds suffer from weak returns when investing in European companies.

When we split the sample between VC investments and buyout investments, we are able to go a step further in the analysis than just adding a dummy variable. Interestingly, there are several differences between VC and buyout funds as shown by regressions (5)—(8). LP experience in PE direct investments seems to matter. The effect is, however, strongest for venture capital. The inclusion of the VC dummy in Regressions (5) and (6) shows that insurance company and pension fund related LPs are the main providers of capital for European focus VC funds. The bank LP variable is no longer significant. But one should note that these effects are marginal. The overall impact given in Regressions (3) and (4) is negative, indicated by the negative constant in the regression for the sample of VC funds.

Regressions (7) and (8) show the results for the buyout subsample. LP variables are no longer significant – only the pension funds are significant, however, the results are weak and not robust. These results suggest that the LP type does not matter when it comes to investments into buyout funds.

[8] As mentioned in Section 3, we find a strong correlation between the MSCI Index Europe (*MSCI EU*), the variable *Fundraising* and the Post-1997 Dummy variable (*Post 1997*). These three variables are therefore essentially exchangeable in our estimation. Thus, we only include *Fundraising* to control for market conditions. The other coefficients are not affected by the choice of any one of these three variables.

In this section we identified one group of investors that is more likely to be global players, namely, pension funds (*LP pension*). Insurance companies and banks have a similar impact economically speaking, albeit not significant statistically. These results are, however, drawn from the full sample. When we look at the effect of fund type (VC or buyout), the results give a less clear picture. It appears that the results are largely driven by commitments to VC funds rather than buyout funds.

### *5.2 Which Investment Strategies do US LPs Use to Target the European PE Market?*

We now examine our main hypotheses regarding the choice of strategy. Indeed, a natural follow-up question is: Which strategy is adopted by US fund providers that invest in funds with a European focus? Do they choose US funds with a European focus or European funds with a local focus? To shed light on this question, we investigate more closely the subsample of funds that had an explicit focus on the European corporate market (i.e., *Focus EU = 1*). The investigation of this research question will enable us to draw conclusions on the different hypotheses developed in Section 2. The dependent variable is a dummy variable equal to one if the fund is a European fund and zero if it is a US fund.

We examine here the subsamples of VC and buyout funds together only, given the reduced size of these subsamples. However, we include the VC and buyout dummy variables to assess the difference between the two asset classes.

Table 5 shows our results. As evidenced earlier in this study, most of the investments in European funds by US LPs are in buyout funds and only a few in VC funds. We find that those investing directly into European funds are primarily insurance companies, financial institutions and pension funds, the same as those we already identified as global players (see Regressions (9)—(10)). These results give support to the information asymmetry hypothesis. Financial institutions and insurance companies have better access to information regarding the European market given the broad international scope of their other activities. The rationale behind this is that these fund providers suffer less from asymmetric information problems due to their local business facilities in Europe or their possible links with local investors. More specifically, insurance companies and banks often have local branch offices in Europe that help collect relevant information. This gives them a cost advantage over other LP types.

However, the local facilities' explanation is unlikely to apply to pension funds, though they are also more prone to selecting European funds. The advantage of pension funds is less obvious in this context, as they typically do not have facilities in Europe. This is confirmed by discussions with practitioners. While we know that pension funds have no local personnel in Europe[9], they commit some funds in partnership agreements with European fund managers. We must rely on Lerner et al. (2007) to find support as to why pension funds are actively investing in European funds. In their study, pension funds, and educational institutions and endowments are "smart and sophisticated" investors. This finding backs our own finding regarding pension funds, but not educational institutions and endowments. In Section 5.3, we investigate further the case of pension funds. Another hint that could back our hypothesis is drawn from the understanding from practitioners that pension funds manage huge amounts of money and thus can "buy" access to information. Their size allows them to get economies of scale when getting information about European players. This is what we presented as a second channel to acquire information. Moreover, we find in Section 5.1 that pension funds are more likely to be global players, which gives them a higher likelihood of selecting local funds, since they might have more experience in international investments. However, these suggestions are only speculations so far.

The *First investment* dummy is not significant in all the specifications. Instead, the other definition of *LP experience* (years of experience before the investment) is significant but with a negative sign. More experienced LPs tend to avoid European funds to the advantage of US funds with a European focus. This can also be interpreted as the fact that new LPs are more likely to invest directly in European based funds, since they have no "seat at the tables" of successful US GPs – in line with the findings of Lerner et al. (2007), on the behavior of US LPs investing in the US. They need to invest in the growing European market to get investment opportunities. The fact that half of the deals of our sample are done between 1996-2002 and that this is also the period when the European PE market was developing substantially (except for the UK that already had a more developed market at that time), might explain this finding.

The inclusion of the buyout dummy significantly improves the specification. The dynamics of the PE market is strongly led by the buyout industry that has attracted most of the US LPs. The VC funds have more problems getting money from the US LPs. Perhaps this is related to the fact that in Europe the

[9] We checked the information provided on the website of several US pension funds and also obtained some information by directly asking some of the larger ones, including CalPers.

buyout industry is more active than the VC industry and therefore more able to attract US investors[10]. Hege et al. (2003) and EVCA reports point out that returns are too low in Europe for venture capital. This makes capital commitments by US LPs (as well as European LPs) less likely.

In unreported analyses, we checked for selection bias using a Heckman correction model, since the European focus sample is a subsample of the whole. We did not find any substantial differences in the results. In fact, we find that educational LPs have a negative and significant sign. Pension fund, insurance and financial LPs still have positive and significant signs.

*5.3 The Pension Fund Puzzle*

According to the asymmetric information hypothesis based on the presence of "suitable facilities" located in Europe, pension funds should not invest directly in European funds as much as financial institutions and insurance companies. Indeed, a close examination of Internet websites of major pension funds revealed that pension funds usually do not have branch offices in Europe. We, therefore, face a puzzle, given the results obtained in Section 5.2 on the fact that pension funds are also directly investing quite extensively into European funds when seeking European exposure. We provided some potential explanations earlier. In this sub-section, we provide additional analysis to test an alternative channel of information gathering.

To offer a possible explanation to this seemingly puzzling question, we explore several characteristics of US pension funds. First, one possibility is that pension funds investing in European PE funds may target the largest ones. It is possible that LPs with more resources may have better access to the largest PE funds, assuming that pension funds indeed are larger capital providers than the other LP types. The size of a fund is also an important factor to take into account since a large fund can offer increased diversification with less administration costs than investing in many smaller funds. To see whether this is true, we calculate the average size of the funds targeted by pension funds and compare them with other LP types. Table 6a shows that on average, pension funds invest in larger funds than insurance, financial and corporate related LPs. These results are statistically significant. However, we fail to find any

[10] One can note the difference in the sign of the VC and buyout dummies in Regressions (11) and (12). This is explained by the fact that our definition of VC and buyout excludes GPs not focusing on either the VC or the buyout industry, such as mezzanine GPs, generalist GPs and others.

significance in the mean difference between pension funds, and educational institutions and endowments. In Table 6b, we find that when focusing on European funds, there is no statistical difference between the funds chosen by LPs. Only insurance companies are associated with smaller funds. Moreover, we note in Table 6c that the mean size of a European fund (and a Europe-focused fund) is statistically larger than a US fund (and a US-focused fund). It appears that funds investing in Europe (either European or American) are on average larger than US funds. This is likely to be due to the heavy investments into buyout funds in Europe. Since the results might be biased by the size of buyout funds, we test the difference after dividing the sample into two subsamples: venture capital and buyout (Table 6d). There is no statistical difference between pension fund LPs and other LPs when it comes to investing in buyout funds, but we find a positive difference in the case of the VC funds: pension fund LPs choose larger VC funds on average.

However, the fund size cannot shed credible light on our puzzle. We should also be aware of how the database is built. We collected all the commitments made by US investors. That means that we ought to have many US GPs, but we have only the European GPs (and other foreign GPs) which have been able to attract US LPs. We have no European GPs in our sample that have not attracted US money. This suggests a serious bias in the population of European GPs. We may actually have only the largest of the European GPs. But this bias only shows that US LPs will invest more predominantly in established European GPs, with less asymmetric information. This backs our main concern: US LPs face stronger asymmetric information when it comes to investing outside their country.

Next, in Table 7, we take a closer look at the effect of *LP experience* to determine whether there is a distinctive behavior of pension funds (*First investment* and *LP experience*). Young LPs could be pushed away from US investment opportunities by experienced LPs that have a “seat at the table” of the best GPs (Lerner et al., 2007). Alternatively, experienced LPs could use their previous investment knowledge to invest in European funds. However, both groups are not statistically different from each other when it comes to investing in Europe. Therefore, the experience of the pension funds does not seem to be a critical factor in explaining the choice of investing directly in Europe for achieving European exposure.

In line with the “the seat at the table” argument, another point worth investigating is the possibility that pension funds have privileged access to the most established PE funds when investing in Europe. In our database, the earliest investments by US LPs in European funds were done by insurance companies. But as Table 8 shows, the interest toward Europe from pension funds is also old. Before 1985, pension funds

and insurance companies were the two LP types that allocated a large share toward Europe (respectively, 5.26% and 11.4%). In the next period, pension funds became first and remained the most active supplier of capital commitments (in relative terms) until 2004 with a share of 9.09% in the period 1986-1995 and 10.09% in the period 1996-2002.

The final step is to examine the GP experience. In fact, US pension funds have developed relations with European investors through commitments. As a measure of GP experience, we use the GP's fund sequence at the time of the new LP capital commitments; i.e., whether the fund considered is the first, second etc. fund of the GP (*Fund sequence*). Very first funds are run by less experienced GPs, at least on average. In Table 7, we show that European and US funds are managed by GPs with almost the same level of experience. European funds are on average a bit less experienced (at the 10% confidence level). Again, this might be related to the fact that only the most experienced European GPs are able to attract the attention of US investors. Since this univariate analysis is incomplete, we also run regressions using fund sequence to test whether the pension funds were selecting more experienced GPs. However, from an empirical perspective, a direct test is difficult since GP experience is an endogenous factor. To circumvent this endogeneity problem, we separate our sample into two groups: one that includes less established PE funds and one that includes the more established ones. We use different cut-off levels, as shown in Table 9. Using the same specification as in Table 5, we run the regressions for each group separately.

Interestingly, the results show that indeed while there is no distinct difference in the LPs strategies for less established GPs, pension funds are more prone to invest in European funds that are well established. Pension funds are those investing in the most experienced GPs (five or more funds managed before the deals), although the coefficient is significant at the 10% level only. This suggests that when investing in European funds, pension funds indeed may have better access to the most qualified funds. This makes it more worthwhile to invest, since screening costs are reduced for these reputable funds. Without proper local facilities, it is easier to invest in funds whose GPs have an established reputation, since they are less costly to evaluate. This may more credibly explain the puzzle described in Section 5.2. It is not obvious *ex ante* to know whether LPs will choose established GPs, since deal conditions might be better with younger or less experienced GPs. It is also in line with the "seat on the table" argument postulated by Lerner et al. (2007) in the context of US investments. Our findings indicate that this argument may have broader validity.

## 6. Concluding Remarks:

In this paper, we investigated the investment strategy of US LPs and the internationalization of their investments. We focused on Europe for the choice of investment strategy to achieve exposure to European private company targets. First, we investigated which LPs have a greater probability to seek European exposure to identify the global players. We find that only pension fund affiliated LPs are more prone to investing in funds (either US or European funds) with Europe as geographical investment objective. We, therefore, label them as global players. Other LPs, namely, insurance companies and banks, have similar impact but we find no statistical significance.

Second, we analyzed investment strategy. When LPs invest in a fund focusing on Europe, is it through a US fund with a European Focus, or through a European fund with a local focus? We find that LPs with generally local facilities in Europe (banks and insurance companies) are more likely to invest directly into European funds rather than in US funds with a European focus. A possible rationale behind this is that they suffer less from potential asymmetric information problems due to their facilities in Europe and their links with local investors. This helps collection of information. However, we also find that pension funds are important capital suppliers to European funds too, although they lack local branch offices in Europe. Lerner et al. (2007) present pension funds as smart and sophisticated investors. Further investigations provided in this study indicate that this rationale can be extended to investments made outside the United States. But we also find that pension funds acting as LP will more likely invest in well established large European GPs with less asymmetric information. This indicates that they target only a fraction of the European private equity market.

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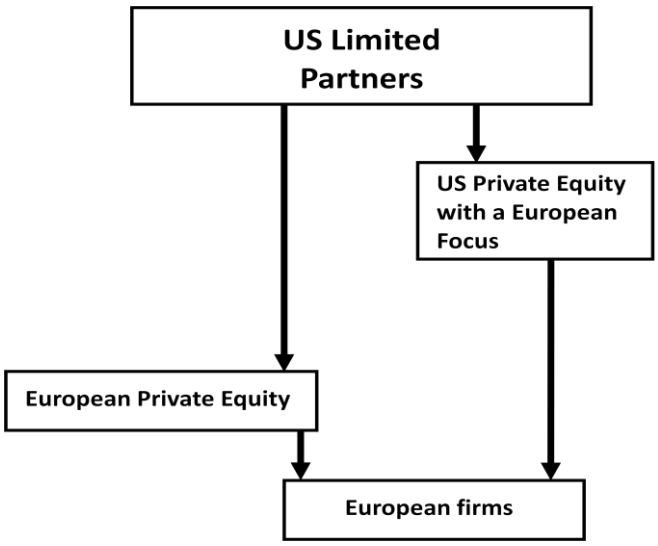
***Figure 1: US LPs Global Players Choice of Investment***

Structure of investment strategy of US LPs for investing in European private companies



## *Table 1: Definition of Variables and Summary Statistics*

Values provided in this table regarding differences (Diff.) refer to the mean in differences between the full sample and the subsample of European private equity funds (*EU fund = 1*) and foreign private equity funds (*Foreign fund = 1*), respectively. For some variables, statistics are computed for slightly fewer observations than the full sample (4119) due to missing values.

| Variables | Definition | Mean (full sample) | Median | Standard Deviation | Mean (European funds only) | Diff. (p-value) | Mean (Foreign funds only) | Diff. (p-value) |
|---|---|---|---|---|---|---|---|---|
| Nbr. observations | | 4119 | | | 233 | | 284 | |
| LP related variables: | | | | | | | | |
| First investment | Dummy = 1 if it's the first investment of the LP in the PE (in the database) | 0.354 | 0 | 0.480 | 0.210 | 0.000 | 0.215 | 0.000 |
| LP experience | Sequence number of LP's investments in any PE fund | 5.598 | 3 | 6.673 | 7.631 | 0.000 | 7.729 | 0.000 |
| LP pension | Dummy = 1 if LP is a pension fund | 0.152 | 0 | 0.363 | 0.275 | 0.000 | 0.246 | 0.000 |
| LP insurance | Dummy = 1 if LP is an insurance company | 0.129 | 0 | 0.332 | 0.176 | 0.066 | 0.194 | 0.007 |
| LP bank | Dummy = 1 if LP is a financial corporation (primarily a bank) | 0.172 | 0 | 0.370 | 0.210 | 0.165 | 0.194 | 0.363 |
| LP corporate | Dummy = 1 if LP is a corporation | 0.306 | 0 | 0.460 | 0.232 | 0.010 | 0.243 | 0.017 |
| LP education | Dummy = 1 if LP is an educational institution (e.g., university) | 0.121 | 0 | 0.341 | 0.056 | 0.000 | 0.060 | 0.000 |
| LP other | Dummy = 1 if LP is any other type | 0.120 | 0 | 0.318 | 0.052 | 0.000 | 0.063 | 0.000 |
| GP & fund related variables: | | | | | | | | |
| Fund sequence | Sequence number of the fund at the time of the deal | 5.833 | 4 | 5.377 | 5.163 | 0.003 | 4.777 | 0.000 |
| Fund size | Fund size in millions of USD | 799.1 | 388.5 | 1092.7 | 1134.6 | 0.000 | 982.4 | 0.013 |
| VC fund | Dummy = 1 if fund's investment focus is venture capital | 0.433 | 0 | 0.491 | 0.253 | 0.000 | 0.292 | 0.000 |
| Buyout fund | Dummy = 1 if fund's investment focus is buyout | 0.424 | 0 | 0.494 | 0.712 | 0.000 | 0.676 | 0.000 |
| US fund | Dummy = 1 if fund is from the US | 0.931 | 1 | 0.248 | 0.000 | 0.000 | 0.000 | 0.000 |
| EU fund | Dummy = 1 if fund is from Europe | 0.057 | 0 | 0.227 | 1.000 | 0.000 | 0.820 | 0.000 |
| Foreign fund | Dummy = 1 if fund is not from the US | 0.069 | 0 | 0.248 | 1.000 | 0.000 | 1.000 | 0.000 |
| Focus US | Dummy = 1 if fund focuses on US investments | 0.840 | 0 | 0.367 | 0.077 | 0.000 | 0.116 | 0.000 |
| Focus EU | Dummy = 1 if fund focuses on European investments | 0.096 | 0 | 0.294 | 0.828 | 0.000 | 0.680 | 0.000 |
| Focus foreign | Dummy = 1 if fund focuses on non-US investments (incl. Europe) | 0.160 | 0 | 0.366 | 0.914 | 0.000 | 0.877 | 0.000 |
| EU Fund EU | Dummy = 1 if *EU fund* = 1 and *Focus EU* = 1 | 0.044 | 0 | 0.205 | - | - | - | - |
| Market condition variables: | | | | | | | | |
| Post 1997 | Dummy = 1 if the deal occurred after 1997 | 0.406 | 0 | 0.491 | 0.502 | 0.002 | 0.464 | 0.039 |
| Fundraising | Natural logarithm of the deflated amount raised by the PE industry | 10.145 | 10.249 | 0.929 | 10.336 | 0.001 | 10.311 | 0.002 |
| MSCI EU | Natural logarithm of the deflated MSCI Europe Index | 5.236 | 5.383 | .0592 | 5.395 | 0.000 | 5.370 | 0.000 |

***Table 2: Correlation Matrix***

This table shows the correlations between the main variables defined in Table 1.

| | Focus EU | EU Fund EU | LP insurance | LP bank | LP corporate | LP education | LP pension | LP experience | MSCI EU | Fundraising |
|---|---|---|---|---|---|---|---|---|---|---|
| Focus EU | 1 | | | | | | | | | |
| EU Fund EU | 0.68 | 1 | | | | | | | | |
| LP insurance | 0.02 | 0.03 | 1 | | | | | | | |
| LP bank | 0.00 | 0.02 | -0.18 | 1 | | | | | | |
| LP corporate | -0.06 | -0.04 | -0.26 | -0.30 | 1 | | | | | |
| LP education | 0.00 | -0.05 | -0.14 | -0.17 | -0.25 | 1 | | | | |
| LP pension | 0.06 | 0.07 | -0.12 | -0.15 | -0.21 | -0.12 | 1 | | | |
| LP experience | 0.06 | 0.00 | 0.16 | -0.16 | -0.17 | 0.12 | 0.16 | 1 | | |
| MSCI EU | 0.10 | 0.03 | -0.04 | -0.06 | -0.24 | 0.16 | 0.17 | 0.53 | 1 | |
| Fundraising | 0.08 | 0.06 | -0.06 | -0.05 | -0.21 | 0.12 | 0.18 | 0.42 | 0.62 | 1 |
| Post 1997 | 0.11 | 0.03 | -0.04 | -0.04 | -0.19 | 0.13 | 0.12 | 0.46 | 0.91 | 0.36 |

### *Table 3a: Geographical Investment Focus of US LPs in US and European PE Funds*

This table gives the relative importance of different investments by geographical focus, time period and fund origin (i.e., whether a European or US fund). Values are fractions of LP investments in the subsamples considered. *Focus EU* (*Focus US*) refers to funds that aim at investing in European companies (US companies). *Focus foreign* refers to all the funds targeting non-US companies (which include funds with a European focus and also with an Asian focus).

| Fund Origin | Fund Focus | All Periods | Until 1985 | 1986-1990 | 1991-1995 | 1996-2002 |
|---|---|---|---|---|---|---|
| EU Funds | Focus EU: | 0.828 | 0.600 | 0.758 | 0.833 | 0.848 |
| | Focus US: | 0.077 | 0.400 | 0.182 | 0.100 | 0.042 |
| US Funds | Focus US: | 0.893 | 0.995 | 0.948 | 0.910 | 0.847 |
| | Focus EU: | 0.053 | 0.005 | 0.044 | 0.026 | 0.075 |
| | Focus foreign: | 0.106 | 0.005 | 0.049 | 0.090 | 0.153 |

### *Table 3b: Geographical Focus of PE Funds that Finance European (Foreign) Companies*

This table presents the geographical focus of PE funds. Variables are defined in Table 1. The unit of observation is the number of commitments by US LPs at a certain period of time. The first number represents the percentage of commitments by LPs in funds with a European focus, while the number in parenthesis gives the percentage with a non-US focus.

| Fund | All Periods | Until 1985 | 1986-1990 | 1991-1995 | 1996-2002 | Nbr. observations. |
|---|---|---|---|---|---|---|
| All funds | 0.096 (0.157) | 0.011 (0.011) | 0.081 (0.089) | 0.063 (0.141) | 0.130 (0.220) | 4119 |
| US fund | 0.052 (0.106) | 0.005 (0.005) | 0.044 (0.049) | 0.026 (0.090) | 0.075 (0.153) | 3835 |
| EU fund | 0.828 (0.914) | 0.600 (0.600) | 0.756 (0.818) | 0.833 (0.833) | 0.848 (0.959) | 233 |
| Foreign fund | 0.679 (0.877) | 0.500 (0.500) | 0.581 (0.628) | 0.568 (0.841) | 0.732 (0.952) | 284 |
| VC fund | 0.030 (0.072) | 0.008 (0.008) | 0.046 (0.049) | 0.051 (0.115) | 0.032 (0.105) | 1783 |
| Buyout fund | 0.150 (0.234) | 0.023 (0.022) | 0.161 (0.180) | 0.091 (0.160) | 0.169 (0.271) | 1748 |

### *Table 3c: Importance of European Funds*

This table presents the percentage of funds focusing on Europe at different periods of time, as well as the percentage of funds whose domicile is located in Europe. We divide the number of observations by the total number of observations.

| Fund Focus | All Periods | Until 1985 | 1986-1990 | 1991-1995 | 1996-2002 |
|---|---|---|---|---|---|
| % of LP commitments in Europe-focused funds (regardless of country of origin) | 9.59% | 1.08% | 8.13% | 6.29% | 12.96% |
| % of LP commitments in European fund (regardless of their focus) | 5.66% | 0.90% | 5.37% | 4.60% | 7.18% |
| Nbr. Observations | 4119 | 553 | 615 | 652 | 2299 |

### *Table 3d: Country Representation of European Funds by Country of Domicile*

This table gives the share of European countries in our sample. The share is computed using the number of deals initiated by a LP in a given European country divided by the total of European Funds (*EU fund*) from the sample.

| | UK | France | Italy | Sweden | Germany | Luxemburg | Others | Total |
|---|---|---|---|---|---|---|---|---|
| Share in the full sample | 83.26% | 5.58% | 2.15% | 3% | 1.71% | 1.71% | 2.6% | 100% |
| Nbr. of commitments | 194 | 13 | 5 | 7 | 4 | 4 | 6 | 233 |

### *Table 3e: Data from PEREP*

This table presents data from the PEREP survey. It gives a more recent picture of the European private equity market. IR refers to Ireland, UK to the United Kingdom, FR to France, IT to Italy, SP to Spain, PT to Portugal, GR to Greece, CY to Cyprus, SW to Sweden, NW to Norway, FL to Finland, DK to Denmark, and Benelux to **Be**lgium, the **Ne**therlands and **Lux**emburg. East-EU stands for Eastern Europe. The data in this table stem from the PEREP 2007 European Private Equity Activity Survey presentation.

| Countries | UK-IR | FR-IT-SP-PT-GR-CY | Benelux | Germany | SW-NW-FL-DK | East-EU |
|---|---|---|---|---|---|---|
| Reported share | 56.20% | 20.60% | 4.20% | 10.50% | 6.30% | 2.20% |

## *Table 4: Selection of Funds with a European Focus*

In these logistic regressions, we identify the global players. The dependent variable takes the value of one when the LP has a focus toward Europe, and zero otherwise (the variable *Focus EU*). We use a set of dummies to identify the LP types (defined in Table 1) and some other control variables. Regressions (1)—(4) are based on the full sample. Regressions (3) and (4) are run with the VC dummy included. Regressions (5)—(6) [(7)—(8)] use the subsample of investments in venture capital [buyout] funds. Odd regressions use the LP experience and even regressions use the *First investment* dummy. Our robust standard deviations are clustered at the fund level. Significance levels are reported after the standard errors, with, respectively, * for 10% significance, ** for 5% significance and *** for 1% significance; ns, not significant. Due to dropped observations in the estimations, the sum of the VC sample and the buyout sample is lower than the total sample.

| **Dependent Variable:** | **Focus EU** | | **Focus EU** | | **Focus EU** | | **Focus EU** | |
|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| **Independent Variable:** | **full sample** | | **full sample** | | **VC sample** | | **buyout sample** | |
| **C** | -10.125 | -8.706 | -6.040 | -4.943 | -5.258 | -4.43 | -1.9 | 0.019 |
| | (4.939)** | (4.944)* | (4.994)ns | (5.011)ns | (3.763)ns | (3.86)ns | (6.472)ns | (6.416)ns |
| **LP pension** | 0.549 | 0.522 | 0.520 | 0.489 | 1.258 | 1.31 | 0.558 | 0.485 |
| | (0.251)** | (0.249)** | (0.252)** | (0.25)* | (0.643)* | (0.662)** | (0.329)* | (0.328)ns |
| **LP insurance** | 0.399 | 0.330 | 0.415 | 0.357 | 1.086 | 0.954 | 0.153 | 0.062 |
| | (0.232)* | (0.233)ns | (0.237)* | (0.236)ns | (0.554)* | (0.563)* | (0.275)ns | (0.275)ns |
| **LP bank** | 0.334 | 0.411 | 0.297 | 0.362 | 0.378 | 0.553 | 0.35 | 0.413 |
| | (0.292)ns | (0.29)ns | (0.293)ns | (0.291)ns | (0.577)ns | (0.567)ns | (0.319)ns | (0.325)ns |
| **LP corporate** | -0.017 | 0.013 | 0.017 | 0.037 | 0.251 | 0.368 | -0.1 | -0.095 |
| | (0.208)ns | (0.209)ns | (0.208)ns | (0.209)ns | (0.474)ns | (0.498)ns | (0.272)ns | (0.276)ns |
| **LP education** | 0.060 | 0.032 | 0.006 | -0.021 | 0.083 | 0.087 | 0.024 | -0.024 |
| | (0.174)ns | (0.174)ns | (0.177)ns | (0.177)ns | (0.668)ns | (0.682)ns | (0.244)ns | (0.241)ns |
| **LP experience** | 0.001 | | -0.002 | | 0.011 | | -0.016 | |
| | (0.014)ns | | (0.014)ns | | (0.022)ns | | (0.016)ns | |
| **First investment** | | -0.563 | | -0.463 | | -1.01 | | -0.35 |
| | | (0.258)** | | (0.253)* | | (0.472)** | | (0.275)ns |
| **Fundraising** | 0.725 | 0.607 | 0.381 | 0.288 | 0.207 | 0.16 | 0.018 | -0.165 |
| | (0.49)ns | (0.49)ns | (0.494)ns | (0.495)ns | (0.366)ns | (0.371)ns | (0.624)ns | (0.616)ns |
| **VC fund** | | | -1.351 | -1.321 | | | | |
| | | | (0.388)*** | (0.39)*** | | | | |
| **Nbr. Observations** | 3873 | 3873 | 3873 | 3873 | 1171 | 1171 | 1672 | 1672 |
| **Wald chi2** | 62.70 | 77.93 | 63.85 | 75.79 | 38.45 | 54.67 | 33.27 | 43.10 |
| **Prob > chi2** | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.04 | 0.00 |
| **Pseudo $R^2$** | 10.3% | 10.9% | 13.9% | 14.2% | 9.9% | 11.5% | 9.0% | 9.2% |
| **Year dummies included?** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

## *Table 5: US LP Investment Strategies When Targeting the European PE Market*

In the reported logistic regressions, we identify which US LPs are more prone to invest directly into Europe-based funds (as opposed to US-based funds with a European focus). We run Logit regressions, where the dependent variable is *EU Fund EU* (a European fund with a European focus) on a restricted sample: we keep only funds focusing on Europe (*Focus EU* = 1). The dependent variable takes the value of one when the LPs has invested in a European fund (EU fund) directly, zero otherwise (in a US fund with a European focus). We use a set of dummies to identify the LP types and some other control variables. Our robust standard deviations are clustered at the fund level. Significance levels are reported after the standard errors, with, respectively, * for 10% significance, ** for 5% significance and *** for 1% significance; ns, not significant.

| **Dependent Variable:** | **EU Fund EU** | | **EU Fund EU** | | | |
|---|---|---|---|---|---|---|
| | **9** | **10** | **11** | **12** | **13** | **14** |
| **Independent Variable:** | **Focus EU sample** | | **Focus EU sample** | | | |
| **Constant** | 1.055 | 2.196 | 1.616 | 7.039 | 2.661 | 8.077 |
| | (6.424)ns | (6.446)ns | (7.551)ns | (7.125)ns | (7.594)ns | (7.142)ns |
| **LP pension** | 1.477 | 1.412 | 1.487 | 1.712 | 1.42 | 1.644 |
| | (0.331)*** | (0.325)*** | (0.343)*** | (0.45)*** | (0.335)*** | (0.454)*** |
| **LP insurance** | 0.805 | 0.671 | 0.82 | 1.193 | 0.682 | 1.057 |
| | (0.407)** | (0.43)ns | (0.404)** | (0.426)*** | (0.425)ns | (0.427)** |
| **LP bank** | 1.057 | 1.095 | 1.064 | 0.926 | 1.101 | 0.997 |
| | (0.519)** | (0.494)** | (0.523)** | (0.43)** | (0.498)** | (0.429)** |
| **LP corporate** | 0.433 | 0.401 | 0.436 | 0.458 | 0.404 | 0.461 |
| | (0.39)ns | (0.378)ns | (0.386)ns | (0.376)ns | (0.375)ns | (0.379)ns |
| **LP education** | -0.706 | -0.708 | -0.712 | -0.746 | -0.713 | -0.742 |
| | (0.33)** | (0.321)** | (0.327)** | (0.336)** | (0.317)** | (0.336)** |
| **LP experience** | -0.054 | | -0.054 | -0.052 | | |
| | (0.023)** | | (0.023)** | (0.022)** | | |
| **First investment** | | 0.419 | | | 0.42 | 0.163 |
| | | (0.449)ns | | | (0.446)ns | (0.386)ns |
| **Fundraising** | -0.247 | -0.389 | -0.297 | -0.958 | -0.431 | -1.091 |
| | (0.614)ns | (0.613)ns | (0.709)ns | (0.715)ns | (0.71)ns | (0.714)ns |
| **VC fund** | | | -0.141 | | -0.115 | |
| | | | (0.946)ns | | (0.96)ns | |
| **Buyout fund** | | | | 1.999 | | 1.994 |
| | | | | (1.017)** | | (1.016)* |
| **Nbr. Observations** | 367 | 367 | 367 | 367 | 367 | 367 |
| **Wald chi2** | 77.94 | 74.66 | 79.77 | 80.59 | 75.79 | 65.04 |
| **Prob > chi2** | 0 | 0 | 0 | 0 | 0 | 0 |
| **Pseudo $R^2$** | 15.5% | 14.7% | 15.5% | 24.6% | 14.8% | 23.8% |
| **Year dummies included?** | Yes | Yes | Yes | Yes | Yes | Yes |

### *Table 6a: US LP Choice of Fund Size*

This table details the fund size in which the US LPs invest. The p-value refers to the mean difference test between the given LP type and the full sample. The last column labeled "P-value for *LP pension*" shows the p-value for the test of difference in mean using the *LP pension* against other LP types. Because of missing observations on the *Fund size* variable, the total sample is 4071 instead of the 4119.

| Fund Size by LP Type | Nbr. Observations | Median | Mean | P-value | Std Dev | P-value for *LP pension* |
|---|---|---|---|---|---|---|
| **LP pension** | 372 | 545.1 | 1076.75 | 0.00% | 1333.73 | - |
| **LP insurance** | 525 | 319 | 613.15 | 0.00% | 893.33 | 0.00% |
| **LP bank** | 709 | 335 | 770.30 | 45.18% | 1143.88 | 0.01% |
| **LP corporate** | 1252 | 229.1 | 605.86 | 0.00% | 946.86 | 0.00% |
| **LP education** | 485 | 530.2 | 1128.49 | 0.00% | 1314.51 | 57.05% |
| **LP other** | 728 | 455 | 931.76 | 0.04% | 1176.75 | 26.74% |
| **Full sample** | 4071 | 388.5 | 799.13 | - | 1122.44 | - |

### *Table 6b: US LP Choice of European Fund Size*

This table details how *Fund size* varies with LP type. Unlike in Table 6a, we focus here on the subsample of European funds only (*EU fund* = 1). The p-value refers to the mean difference test between the considered LP type and the sample of European funds (215 in total).

| Fund Size by LP Type | Nbr. Observations | Median | Mean | P-value | Std Dev |
|---|---|---|---|---|---|
| **LP pension** | 37 | 840 | 1405.48 | 16.16% | 1383.18 |
| **LP insurance** | 38 | 284.5 | 427.50 | 0.00% | 587.34 |
| **LP bank** | 48 | 730.5 | 1428.75 | 7.35% | 1462.11 |
| **LP corporate** | 50 | 574.9 | 1100.14 | 83.04% | 1315.09 |
| **LP education** | 11 | 840 | 1390.54 | 50.14% | 1327.06 |
| **LP other** | 31 | | 1187.15 | 80.72% | 1241.80 |
| ***EU fund* sample** | 215 | 548.6 | 1134.57 | - | 1292.435 |

### *Table 6c: Fund Size Test of Difference Between US and Europe*

This table shows tests of the mean difference on the size of funds. We first do this on the basis of the fund origin (Europe versus US) followed by fund focus (again, Europe versus US).

| Fund Size by Fund Origin | Nbr. Observations | Mean | Std Dev | P-value |
|---|---|---|---|---|
| **EU fund** | 215 | 1134.57 | 1292.44 | |
| **US fund** | 3857 | 780.43 | 1109.41 | |
| **Full sample** | 4072 | | | 0.000 |
| **Fund size by focus** | | | | |
| **Focus EU** | 395 | 1219.42 | 1183.75 | |
| **Focus US** | 3677 | 753.98 | 1106.37 | |
| **Full sample** | 4072 | | | 0.000 |

### *Table 6d: Fund Size Test of Difference for Pension Fund LPs*

In this table, we test the mean difference for *Fund size*. We split the sample into two groups, the *VC fund* group and the *Buyout fund* group. We only show results for commitments made in European funds focusing on Europe; i.e., where *EU fund EU* = 1.

| Buyout Fund Deals | Nbr. Observations | Mean | Std Dev | P-value |
|---|---|---|---|---|
| **LP pension** | 27 | 1817.35 | 1409.67 | |
| **All other LPs** | 127 | 1445.86 | 1333.24 | |
| **Total** | 154 | | | 0.1950 |
| **VC Fund Deals** | | | | |
| **LP pension** | 7 | 192.51 | 65.10 | |
| **All other LPs** | 24 | 96.075 | 115.54 | |
| **Total** | 31 | | | 0.0448 |

### *Table 7 Fund Sequence*

In this table, we test the mean difference of GP experience by fund origin. We proxy the GP experience by using the variable *Fund sequence* (as defined in Table 1) at time of commitment.

| GP experience by fund origin | Nbr. Observations | Mean | Std Dev | P-value |
|---|---|---|---|---|
| **EU fund** | 233 | 5.16 | 3.16 | |
| **US fund** | 3792 | 5.87 | 5.52 | |
| **Full sample** | 4025 | | | 0.052 |

### *Table 8a: LP Commitments in European Funds Focusing on Europe*

This table shows the number of commitments in European funds focusing on Europe (where *EU fund EU* = 1) at different periods of our sample. We report the number of commitments made by each type of LP.

| Period | All | LP pension | LP bank | LP insurance | LP corporate | LP education | LP other |
|---|---|---|---|---|---|---|---|
| 1985-1990 | 28 | 1 | 4 | 13 | 8 | 1 | 1 |
| 1991-1995 | 20 | 4 | 4 | 7 | 6 | 0 | 4 |
| 1996-2002 | 145 | 32 | 32 | 14 | 31 | 9 | 22 |
| All periods | 193 | 37 | 40 | 34 | 45 | 10 | 27 |

### *Table 8b: LP Commitments in European Funds Focusing on Europe*

This table shows the percentage of LP commitments in European funds focusing on Europe (*EU fund EU* = 1) at different periods of our sample, just as in Table 8a. However, we now show the percentage over the total commitments made by each type of LP.

| Period | All | LP pension | LP bank | LP insurance | LP corporate | LP education | LP other |
|---|---|---|---|---|---|---|---|
| 1985-1990 | 4.17% | 5.26% | 3.45% | 11.40% | 2.74% | 2.08% | 1.20% |
| 1991-1995 | 3.07% | 9.09% | 3.60% | 6.25% | 2.82% | 0.00% | 3.31% |
| 1996-2002 | 6.31% | 10.09% | 9.14% | 5.67% | 6.26% | 2.38% | 4.31% |
| All periods | 4.69% | 9.61% | 5.63% | 6.40% | 3.57% | 2.01% | 3.68% |

## *Table 9: US LPs' Investment Strategies into the European PE Market Taking into Account the GP Experience*

In the reported logistic regressions, we identify which US LPs are more prone to invest directly into Europe-based funds with a European focus (*EU Fund EU* = 1) as opposed to US-based fund with a European focus. We divide our sample into two subsamples using the *Fund sequence* variable. We use various definitions for dividing the sample (but report only two): second fund and below versus fourth fund and above; i.e., whether *Fund sequence* ≤ 2 or > 3, respectively. Experienced GP are then those of the second group. As a robustness check, we use alternative definitions, as shown in the two last regressions. We run Logit regressions, where the dependent variable is *EU Fund EU* (European Funds focusing on Europe) on the sample of LPs focusing on Europe. The dependent variable takes the value of one when the LPs have invested in a European fund directly, zero otherwise (a US fund with a European focus). We use a set of dummies to identify LP types and some other control variables. The sum of the two subsamples is different in the three cases, since some observations are dropped because of perfect predictions. Our robust standard deviations are clustered at the fund level. Significance levels are reported after the standard errors, with, respectively, * for 10% significance, ** for 5% significance and *** for 1% significance; ns, not significant.

| | **Dependent Variable = EU Fund EU** | | | |
|---|---|---|---|---|
| **Fund Sequence:** | **<= 2** | **> 3** | **<= 3** | **> 4** |
| **Independent Variable** | | | | |
| **Constant** | 35.566 | 1.96 | -13.192 | 12.634 |
| | (1.491)*** | (6.86)ns | (14.561)ns | (10.923)ns |
| **LP pension** | dropped | 1.552 | 0.864 | 1.306 |
| | - | (0.393)*** | (0.84)ns | (0.676)* |
| **LP insurance** | -17.2 | 1.138 | -0.437 | 0.38 |
| | (2.026)*** | (0.375)*** | (0.952)ns | (0.618)ns |
| **LP bank** | -1.457 | 1.68 | -1.622 | 0.254 |
| | (0.413)*** | (0.502)*** | (0.466)*** | (0.539)ns |
| **LP corporate** | -33.921 | 0.735 | -0.481 | 0.42 |
| | (2.209)*** | (0.487)ns | (0.457)ns | (0.891)ns |
| **LP education** | dropped | -0.187 | -2.944 | 0.122 |
| | - | (0.362)ns | (0.811)*** | (0.632)ns |
| **LP experience** | -0.194 | -0.02 | -0.083 | -0.005 |
| | (0.164)ns | (0.017)ns | (0.053)ns | (0.023)ns |
| **First investment** | | | | |
| **Fundraising** | dropped | -0.397 | 1.566 | -1.289 |
| | - | (0.67)ns | (1.392)ns | (1.015)ns |
| **Nbr. observations** | 24 | 253 | 101 | 161 |
| **Wald chi2** | . | 73.51 | 81.60 | 9.77 |
| **Prob > chi2** | . | 0.00 | 0.00 | 0.64 |
| **Pseudo $R^2$** | 38.5% | 19.2% | 46.2% | 24.5% |
| **Year dummies included?** | No | No | No | No |