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There's no need to be a pioneer in emerging private equity markets

Aurélie Sannajust* and Alexander Peter Groh**

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Abstract:

There is currently considerable enthusiasm for emerging private equity markets, where investors believe they have access to “untapped deal flow”. Early entry may allow them to capitalize on exceptional growth opportunities; however, the pioneering investors enter immature capital markets and have no local transaction experience. This may outweigh the potential benefits of low deal-flow competition and expected growth. We address this potential drawback by analyzing a unique, hand-collected dataset of emerging private equity market transactions. We refer to 1,157 deals in 86 host countries between 1973 and 2009, and find that early transactions underperform later deals. The evidence presented is robust and consistent with the improvement in the deal-making environment over time and the benefits of learning how to conduct emerging market private equity deals. The learning benefits are stronger if investors are located in the same country as the investee firm.

JEL codes: G23, G24, O16, P52

Keywords: Emerging Markets, Venture Capital, Private Equity, Alternative Assets

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1. Introduction

There is strong enthusiasm among practitioners for the private equity (PE) deal opportunities found in emerging economies, with limited partners (LPs) increasing their capital allocations to approximately \$600 billion in 2017.¹ Many new general partners (GPs) are now establishing activities in emerging countries, while incumbent players have set up local branches or have started to aggregate overseas exposure. Promoters of these activities claim that early movers may benefit from “untapped emerging market deal flow” and “investor-friendly” conditions.

Spence (1979) argues that entering into a new market enables firms to exploit significant growth opportunities without generating excess capacity. This is referred to as the growth phase of the market’s life and is characterized by high levels of investment, rapidly accelerating growth in sales, and relatively high levels of both entry and exit. Schmalensee (1982) supports the notion that there are important advantages to being the first entrant in some sorts of markets. First-mover advantages are expected for pioneering firms in terms of gaining a head start over rivals. This opportunity may arise because the firm possesses unique resources or foresight, as discussed in Lieberman and Montgomery (1988).

A first-mover advantage may also stem from learning. Spence (1981) demonstrates that if learning can be kept proprietary, the learning curve can generate substantial barriers to entry. However, the mechanisms that benefit the first mover may be counterbalanced by disadvantages, such as the ability to free ride on the first-mover’s activities, the resolution of market uncertainty, or incumbent inertia, which make it difficult for the incumbent to adapt to environmental

¹ Preqin Special Report: Private Equity in Emerging Markets: <http://docs.preqin.com/reports/Preqin-Special-Report-Private-Equity-in-Emerging-Markets-July-2017.pdf>

changes. It is also questionable whether learning benefits can be retained as proprietary in a segment of the financial market characterized by significant team fluctuations and a highly competitive market for investment talents.

Emerging private equity (PE) markets are by definition “new markets” in the investor universe. First movers might be able to benefit from untapped deal flow and gain a head start over rivals. Emerging countries’ economic growth perspectives require substantial funding and early movers could capitalize on these growth opportunities, thereby achieving local experience and building up networks. For investors in emerging market PE funds there is an additional argument for committing capital early – access to the top players might be restricted after the establishment of a successful track record. Their follow-on funds may be oversubscribed and inaccessible to limited partners that did not establish a relationship with them in the pioneering phase. This could motivate institutional investors to move quickly into emerging regions and to develop strategic partnerships with local fund managers.

This trend is fueled by the ever larger amounts of globally available PE funds under management and the expected growth stemming from the economic catch-up potential in the emerging world. However, although economic growth is an important driver, it is not the only success factor for PE transactions. A look at “traditional” PE markets reveals that they exhibit rather moderate GDP growth rates but have other favorable deal-making characteristics. These characteristics include the quality of their legal system, (Cumming et al., 2006; Cumming et al., 2010a; Cumming et al., 2010b; Johan and Zhang, 2016; Cao et al., 2015), the depth of their capital markets (Jeng and Wells, 2000; Black and Gilson, 1998; Gompers and Lerner, 2000), flexible labor markets, investor protection, their human capital (Lerner and Schoar, 2005;

Cumming et al., 2006; Cumming et al., 2010b), and their innovation capacity (Gompers and Lerner, 1998; Kortum and Lerner, 2000).

If these socio-economic characteristics are not present in emerging countries, then PE deal-making may be cumbersome and less successful. Lacking levels of development with respect to legal quality, investor protection, perceived corruption, human capital, or innovation capacity can affect the investee quality, deal negotiation, and law enforcement possibilities. Furthermore, rather illiquid capital markets are typically mirrored by weak PE deal-supporting infrastructures (i.e. investment banks, M&A boutiques, law firms, accountants, and consultants). These weaknesses are expected to make deal flow and transaction-making cumbersome and to diminish returns to investors. Along the same lines, M&A and IPO volumes are usually low and divestments are therefore more difficult to achieve. Furthermore, given the level of economic development in general, it is possible that the number of appropriate investment opportunities, as described in Cumming et al. (2007) or in Nikoskelainen and Wright (2007), for example, remains limited. Additionally, since many emerging PE markets were untapped, GPs lack local transaction experience. They are therefore required to gain experience on how to successfully structure transactions and must learn to implement their strategies in countries with legal environments and financial market cultures that differ from those they are familiar with. The learning effect takes time and Sorensen (2007), Nahata (2008), Gompers et al. (2009), as well as Ewens and Rhodes-Kropf (2015) point to its importance.

The potential drawbacks of an insufficiently developed deal-making environment and a lack of deal experience provide the motivations for our paper, which focuses on the evolution of PE transaction performance in emerging countries following a pioneering deal. We adopt the

perspective of an LP and hypothesize that there is no first-mover advantage because there is no privileged deal flow for pioneering investors. Their lack of experience and the generally unfavorable deal-making conditions in fact yield inferior early investment returns. We present evidence for this hypothesis by elaborating on an updated version of the data set on emerging PE markets used in Lopez-de-Silanes et al. (2015).² We focus on the investment returns of 1,157 PE transactions in 86 developing countries with closing dates between 1973 and 2009 and exits until 2014. We control for benchmark index performance, real GDP growth during the transaction holding period, exit market liquidity, country-related cost of debt, socio-economic characteristics such as the country's innovation capacity, its legal quality, and investors' rights, its human capital, its labor market protection, and for unobserved country, industry, deal type, and GP particularities.

If a “premium untapped deal flow” exists, then the pioneers or investors in the first series of transactions should be rewarded with superior returns. We would expect the return distribution to exhibit a downward slope over time or a peak at the beginning. However, the opposite is true: there is no such peak and returns are upward sloping over time. Our analyses show that a one-year delay to deal closing increases the transaction IRR by between 1 and 2.6 percentage points, on average, contingent on the control variables in the regression models. We conclude that the deal-making environment improves over time and that GPs gain local deal-making experience. There is therefore no reason to be a pioneering LP in emerging PE markets. Our data further reveal that locally originated transactions yield higher returns than cross-border deals and that the learning speed is higher if GPs operate locally. The findings are robust with respect to a variety of potentially confounding factors. We present evidence that potential sample bias, cross

² We are very grateful to Ludovic Phalippou for sharing this data with us.

currency rate changes, and the way we measure emerging market transaction experience have no impact on the results.

Our analyses emphasize that there are no first-mover advantages in emerging PE markets, at least not from a financial return perspective. Other potential benefits for subsequent fund vintages may exist but these effects need to be addressed in future research. Our recommendation to LPs is that they do not need to be among the first emerging market investors. Delaying allocations for some years after pioneers have entered new markets appears to be a fruitful investment strategy.

The paper is structured as follows. We review the related literature in the next section. We then describe our data set, as well as the dependent and independent variables. Section four presents multivariate analyses and robustness checks, while the final section concludes.

2. Related Literature on Emerging Market PE Performance

While there is a large body of literature on emerging market PE activity, the contributions on performance are rather scarce. Empirical research is limited by the availability of data on developing country PE transactions as pointed out by Lerner and Schoar (2004). However, they submit that returns in these nations appear to have been lower than in the US and Europe and conclude that the experience of PE funds in the developing world poses interesting issues that have been little explored in academic research.

Lerner and Schoar (2005) address the contractual structures of emerging market PE transactions. In low enforcement and civil law countries, the sponsors tend to use common stock and straight debt and therefore rely on equity and board control. This might alleviate potential enforcement problems arising from the contractual provisions of convertible preferred securities,

which are commonly used in the US. On the other hand, they note that transactions in inferior enforcement countries have lower valuations and yield inferior returns.

Leeds and Sunderland (2003) emphasize the inferior returns earned by investors from emerging market PE activities and discuss potential determinants of under-performance. They argue that the US PE industry evolved gradually over a forty-year period that became increasingly conducive to this type of financing and point to a sympathetic public policy environment, a reliable legal system, stability, a well-developed financial market, and finally, demand from cooperative entrepreneurs. In contrast, they identify low standards of corporate governance, limited legal recourse, and dysfunctional capital markets as factors impeding PE activity in emerging markets. Cumming and Walz (2009), Cumming et al. (2010a), and Nahata et al. (2014) elaborate on these assumed deficiencies and reveal that the quality of legal rights and investor protection, and the general development of stock markets, are indeed inhibitors. Cumming et al. (2010b) and Cao et al. (2015) confirm the role of legal protection for PE sponsors in emerging countries.

Lopez-de-Silanes et al. (2015) find that emerging market PE transactions have slightly longer durations and exhibit statistically significant poorer performance across several measures, with the exception of bankruptcy rates. However, the authors had expected the opposite due to the higher assumed cost of capital in these countries. The lower returns could be the result of costly learning, poor legal environments, and illiquid exit markets. They also find lower degrees of leverage for developing country PE transactions and suggest this as another reason for smaller investment returns.

Chemmanur et al. (2016) find that investment syndicates composed of both international and local GPs are more successful than syndicates of exclusively international or local funds. Both groups of investors have comparative disadvantages: international PE firms lack proximity but local funds might have less investment experience. The benefits of mixed syndicates are stronger in emerging regions, which is consistent with the notion that difficulties in monitoring and international investors' lack of knowledge of doing local business are more severe in these regions.

Reddy and Blenman (2014) analyze LBO transactions in different investee growth phases and compare developed and developing economies. They find that financial sponsors achieve higher average returns on transactions in developed countries. However, in periods of strong economic growth, the returns are higher in emerging economies.

Our paper contributes to the literature by focusing on the performance of emerging market PE transactions over a long time horizon. We do not benchmark emerging countries against developed countries or the emerging markets among themselves. We elaborate on a comprehensive and accurate data set of developing countries' PE transactions and determine a detailed mapping of the pioneering and subsequent deals in each country. We control for the deal-making environment, benchmark index performance, and transaction particularities of each country in the best way possible given the data limitations caused by the observation period starting in 1973. The evidence presented on increasing IRRs over time fills a gap in the PE literature and contrasts with the enthusiasm surrounding emerging market deal opportunities.

3. Data Set and Descriptive Statistics

a. General Sample Characteristics and Dependent Variable

Our sample is based on an expanded data set originally used in Lopez-de-Silanes et al. (2015). At the time their paper was finalized, they had collected performance data on 11,704 individual private equity investments from 1971 to 2005 across all (i.e. developed and emerging) countries from 317 private placement memoranda (PPMs). After excluding transactions with missing data (e.g. IRR, investment timing, amount, or investee industry) and transactions whose characteristics were not typical for private equity transactions, they obtained a final global sample of 7,453 deals made in 81 (developed and emerging) countries by 254 general partners. These deals include 759 transactions in emerging markets. Lopez-de-Silanes et al. (2015) compare their data with commercial data sets, e.g. Thomson Reuters and Capital IQ and show that their sample has better market coverage for all regions other than North America.

General partners prepare PPMs for fundraising purposes and provide their complete investment track record, including the historical performance of all individual investments made by all of their funds. These documents are audited and cross-checked by limited partners, who would consider data-misrepresentation a strong reason for pursuing a legal case. PPMs are therefore an appropriate and reliable source for academic research. PPMs provide the unique advantage that all the transactions of a particular general partner are reported, there are therefore no missing transactions or survivorship bias issues in the PPMs. Furthermore, general partners comprehensively describe their transactions in the PPMs and track them from investment to their liquidation event. They are therefore a rich and exceptional source of information.

Additional PPMs were added to the Lopez-de-Silanes et al. (2015) data set after their paper was published. Our data set therefore comprises the initial 759 transactions plus 896 emerging market PE transactions that were collected and coded at a later stage. However, since our paper focuses on early entry in these “emerging” markets, we paid particular attention to the fact that several of the sample countries developed to an “advanced” state during the observation period. We therefore referred to the International Monetary Fund (IMF) definition of emerging and advanced economies and discarded transactions with closing dates after a host country’s status had changed from “emerging” to “advanced”.³ This change in status, coupled with certain incomplete data records, reduced the number of “real” emerging market PE transactions to 1,157.

Since we aim to avoid interim valuations of not yet (or partially) exited transactions, our sample comprises only fully exited investments in 86 host countries made by 73 different GPs between 1973 and 2009, with durations from one month up to 18.5 years. The last closing-year observation is 2009 because we need to track the transactions until their final exit. We include divestments until 2014. These cut-off dates result from the nature of the data-gathering process. First, the transactions need to be fully divested, which usually requires a holding period of several years;⁴ second, after a divestment, the general partner must start fundraising and will therefore prepare a new PPM; and third, this PPM needs to be distributed to potential LPs, and then collected and coded by us. The periods involved therefore exclude transactions after the closing and exit cut-off dates of 2009 and 2014, respectively. These closing and exit cut-off dates should not harm the generality of our findings because we focus on the early entry effects in emerging

³ Specifically, we discard transactions in the Czech Republic with a closing date after 2008, in Hong Kong after 1997, in Singapore after 1997, in Slovakia after 2008, in Slovenia after 2006, in South Korea after 1997, and in Taiwan after 1997.

⁴ Note that the mean (median) holding period for our sample is 6.3 (5.3) years, as shown in Table 1.

markets and the sample sufficiently covers the first emerging market PE waves in all economically meaningful emerging countries.

Compared to commercial investment-level databases, we have the full track records of the individual general partners. This is essential for our paper given its focus on investment sequence. Our data is likely to be representative of the emerging market PE investment universe as it comes from many limited partners and includes PPMs from partnerships in which they decided to invest and from partnerships in which they decided not to invest. Notably, the International Financing Corporation (IFC) and the European Bank for Reconstruction and Development (EBRD) are among the LPs that provided PPMs for this paper. Both institutions were the first prominent limited partners to take stakes in emerging market private equity funds prior to, or in parallel (via co-investments) with, private capital. Nevertheless, although comparisons with Thomson Reuters and Capital IQ suggest that our coverage is appropriate, one concern may be that the best, or the first, PE firms in emerging countries did not distribute their PPMs to the LPs who provided them to us. This could yield a selection bias. However, our interviews with practitioners suggest that this is not a cause for concern. The practitioners interviewed stated that all PE firms, including the very first emerging market funds, and the best ones, send a PPM, and that every PPM must contain the complete track record, because data misrepresentation is a sensitive legal issue that could easily be cross-checked by LPs. The practitioners also stated that all “serious” general partners seeking fundraising for an emerging market PE fund at that time sent their PPM to the IFC and EBRD. The data set can therefore be

characterized as the largest panel of PE investments at the respective entry dates in the various emerging countries.⁵

The minimum required information includes the transaction closing and exit dates, the host country of the investee, and the transaction's success expressed by the internal rate of return (IRR) of the underlying cash flow stream. The IRRs are gathered gross of management fees and are therefore comparable across time, countries, and GPs.

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Insert Table 1 here

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Table 1 presents the sample in terms of geography, closing year, and transaction duration. It is possible that certain countries, e.g. Poland or South Africa, are over-represented relative to their economic size or population. Additionally, there are several countries with only one or a very small number of deal observations and a few transactions prior to 1990. We therefore use robustness checks to verify that our results are not affected by possible sample selection bias. The timing information for individual deals is given to monthly accuracy suggesting that the month end can be used as the settlement date for all benchmark comparisons.

Figure 1 presents the distribution of the closing dates in the sample. It reveals that the bulk of transactions were made after 1989. Several deals were closed earlier, but exclusively in Hong Kong and Thailand. The first transaction observed in Brazil was in 1990, in China 1994, in Russia 1995, and in India 1998, while the latest newcomer is Morocco in 2008. While the closing

⁵ However, non-disclosure agreements signed with the LPs who provided the data for research purposes bar us from presenting data on particular GPs or transactions. If visible to us, all names and transaction details must be kept anonymous and confidential.

cut-off date is 2009, our analyses would not benefit from the addition of more recent transactions because we focus on first-mover effects and not on the long-term development of PE investments in emerging markets. Several of our sample markets are now considered “newly industrialized countries”. Including more recent deals would therefore change the paper’s scope. Our goal is to satisfactorily represent the pioneering years of accumulated PE exposure in emerging and frontier markets from the earliest days of these markets. Our collection of PPMs is ultimately the only data source available for this purpose.

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Insert Figure 1 here

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Expectedly, the investors’ origins are not as broadly diversified as the investee host countries. This corresponds to the typical pattern of emerging market PE transactions being predominantly originated in financial centers. Almost 50% of the sample transactions are sponsored by general partners based in the US. 11% of the sample transactions feature UK-based GPs, while 7% are located in Hong Kong. In approximately 16% of deals, the investments are originated in Poland, Finland, the Netherlands, the Czech Republic, the Russian Federation, and Greece/Cyprus, for investments in Central and Southeastern Europe and in the Commonwealth of Independent States. GPs from China, India, and Malaysia provide financing for 3% of transactions, mainly in Southeastern Asian markets. GPs from South Africa invest in 108 African transactions, representing 9% of the sample. GPs from the financial centers of Argentina and Brazil originate 49 Latin American deals, thus representing approximately 9% and 4% of the sample, respectively. 73% of all transactions are cross-border while 27% are local deals, i.e. where GPs

are located in the emerging country and invest locally. Unfortunately, information on syndication is not systematically available from the PPMs. It is therefore not possible to differentiate syndicated transactions.

Even if the respective GPs consider themselves to be PE fund managers, they report a great variety of different transaction types in their PPMs. This is in line with the observation in Cumming et al. (2009) and Cumming and Zhang (2016) and is driven by the typically small numbers of potential leveraged buyout investees. Emerging market PE funds tend to focus on infrastructure and development investments, on privatizations of former state-owned corporations, or on utilities. We group our sample transactions accordingly and identify 12.6% early stage/VC transactions, 32.8% development and infrastructure investments, 23.9% later stage, typically leveraged buyout transactions, and 0.6% PIPEs, while 30.1% are considered as “other deal types”. Since we have no other deal-specific information we control for the different transaction types using dummy variables.

We elaborate on the evolution of PE returns over time and the most important information is therefore the annualized gross internal rate of return (gross IRR) of each individual transaction as disclosed in the PPM. Since PPMs are addressed to institutional investors as a whole, the standard reporting currency is USD. However, for some deals the IRR is reported in EUR, GBP, YPN, or ZAR. For comparison, we convert these IRRs into USD by correcting for cross currency rate fluctuations between closing and exit. At the same time, reporting in USD could also bias the results. Accordingly, we address a potential foreign exchange rate effect in robustness checks where we convert all USD reported returns into local, i.e., emerging market, currency returns. This is equivalent to taking a local investor perspective.

A few transactions yield very high returns. Consequently, we winsorize the IRR distribution at the 95-percentile as is common practice in research on PE returns (e.g. Lopez-de-Silanes et al., 2015). The IRR distribution is presented in Figure 2. Table 2 provides a breakdown of the IRRs reported in USD by investment host country.

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Insert Figure 2 and Table 2 here

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The mean winsorized IRR of the 1,157 transactions is 18.8% and their median is 15.1%. The upper winsorized bound is 148%, while some transactions wiped out the capital invested.

We identify 47 different industry classifications following Fama and French (1997). Approximately 14% of the investments were made in companies in “Trading” industries and 11% in “Communications”. The remainder of the sample is broadly diversified along the industry spectrum. The industry information is missing for 11 transactions, which we group as “others/unknown”. The industry segmentation is presented in Table 3.

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Insert Table 3 here

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b. Independent and Control Variables

We consider alternative measures for the experience of the investment community and of individual GPs in the various emerging countries. Further, we gather several controls to capture

investment conditions at the time of the transaction and to consider important determinants of PE transaction IRRs, as revealed in the previous literature. Using these covariates we set up *ceteris paribus* conditions that allow us to compare our sample transactions over time and in a variety of emerging markets.

The primary variables of interest are deal-related experience measures in the various countries. They need to serve as proxies for the learning effects of the GPs in the new PE markets. Wright (1936), essentially the first academic paper on learning effects, suggests using cumulative output as a proxy for experience. Subsequent papers, such as Arrow (1962) and Sheshinski (1967) refer to cumulative investment. Cooper and Charnes (1954), Fellner (1969), and Stobaugh and Townsend (1975) discuss time as an alternative or complement to cumulative output.

Ideally, we would need to assess the experience of the investment teams in terms of cumulative investments or tenure. However, it is questionable whether only investments and tenure in emerging markets should be taken into account or whether investment experience in developed countries should also be considered. In addition, this type of assessment is problematic because there is insufficient information on investment team composition at transaction closing and on their deal experience or tenure. It is also not possible to match databases to gather supplementary information on these individuals. We must therefore rely on stylized proxies, which can be determined from our own sample. For every sample country, we refer to the first observed transaction date. This sets the entry cut-off date and all subsequent transactions are related to it. The key variable (1) “Years of PE Experience in Host Country” is the difference in years between the closing dates of a focal transaction and the pioneering deal in that country. For the pioneering transactions themselves, this variable is given a value of 0. Variable (1) does not

differentiate between GPs. We could argue that it captures the whole investment community's collective experience after a pioneering deal. The proxy also supports the notion that GPs can syndicate transactions with partners that are already experienced. This definition is further motivated by Ewens and Rhodes-Kropf (2015), who focus on the possibility that experienced fund managers may move between different GPs.

Similar to time fixed effects, this variable also captures the development of unobserved factors that determine the general improvement in the deal-making environment in the respective countries after the pioneering investment. We control for investment conditions via several determinants of investment success. Nevertheless, some of the descriptors do not vary strongly over time and might not appropriately describe improvements in conditions. Unobservable influences on the quality of the investment environment may therefore remain. Consequently, the key experience variable may allow us to simultaneously capture this progression.

Nonetheless, time elapsed since market entry might not be considered an appropriate experience measure because it is independent of actual deal-making activity. Similar to Arrow (1962) and Sheshinski (1967), it could be argued that transaction-making alone improves experience. We therefore use the sequence number of a particular transaction, variable (2) "Deal Experience in Host Country", as an alternative proxy.

Figures 3A and 3B present our sample transaction IRRs over the two main variables of interest. The graphs show the positive slope of the returns, expressed by their linear prediction (the fitted values) and the 95% confidence intervals, and thus support our key hypotheses. The Figures also show that the trend is not caused by factors such as potential outliers at the right of the graphs, which is the area for the emerging markets with a longer PE tradition and larger

accumulated deal volume. The trends are established somewhat gradually after the pioneering investments.

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Insert Figure 3A and 3B here

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The third measure for experience is similar to the first but differentiates the pioneering investments at an individual GP level. Variable (3) “Years of a Particular GP’s Experience in Host Country” assesses the level of experience of a specific GP in the corresponding country, independent of all other market participants. A GP’s first transaction in a focal country sets the offset date for this GP in the country in question. Variable (3) measures the years of experience for every subsequent transaction undertaken by the same GP in the same country. Since GPs can invest in several countries, this variable takes a value of zero more often than the first experience measure. Focusing on individual GP experience takes into account neither the fact that deals can be syndicated with more experienced partners nor the possibility of hiring from them.

It is possible that the set of PPMs collected omits GPs who made investments prior to our sample pioneers. This cannot be ruled out but is unlikely because the most prominent publicly sponsored LPs (e.g. the International Financing Corporation or the European Bank for Reconstruction and Development) are among the institutions that provided sample PPMs. These institutions are strong pioneering developers of emerging PE markets. It is widely known among practitioners that the first emerging market GPs almost exclusively managed funds on behalf of these institutions or at least funds in which these institutions held large stakes.

In addition to our proxies for emerging country deal-making experience, the analyses require a large set of control variables, which are presented in Table 4 and described below. The choice of covariates follows the literature surveyed on the success drivers of PE transactions. The selected indicators are ultimately the best applicable controls for the return determinants of various types of PE transactions dating back to 1973 for a large number of developing countries, where there is often very limited data availability.

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Insert Table 4 here

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Lopez-de-Silanes et al. (2015) reveal that public stock markets have an important impact on the returns of PE transactions. GPs usually refer to multiples of publicly traded peers when valuing investees. PE valuations thus follow the public stock markets and trends in stock performance could accordingly affect trends in PE performance. We therefore need to control for stock market fluctuations during the transaction holding periods. However, it is not clear which stock markets and peer groups GPs use to benchmark emerging market transactions. A lack of available local public peers may require the inclusion of peers from abroad. Additionally, it is common practice for practitioners to include international, and in particular US, companies in a peer group. Consequently, the S&P 500 may serve as a “natural” benchmark (e.g. Kaplan and Schoar, 2005). Following this rationale, variable (4), the transaction time-matching S&P 500 return, captures a public market equivalent return from a USD investor perspective.

Nevertheless, one could argue that peer group multiples, and hence investee valuations, instead follow local (i.e. emerging country) patterns. Variable (5), the transaction time-matching

local or regional stock market return from a USD investor perspective, therefore determines the public market equivalent return if peers are selected locally. We refer to the respective emerging country stock market index to determine these public market equivalent returns and convert them into USD returns. However, several of the host-countries do not have or did not have a public stock market or a benchmark index at the time of the respective transaction. For these countries, we refer to their neighbors or regionally representative indices to determine the benchmark returns. Table 5 lists the available emerging market benchmark indices and the appropriate alternatives for all sample countries.

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Insert Table 5 here

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Variable (6) in Table 4, the time-matching S&P 500 return in local currency, and variable (7), the time-matching local or regional stock market return in local currency, convert variables (4) and (5) into benchmark returns in the respective local currencies. They are used for robustness checks to assess the impact of foreign exchange rate fluctuations on the results.

Economic growth is a fundamental value driver for PE transactions as revealed in Wilson et al. (2012) and the main rationale for investing in emerging markets in the first place. Different growth rates over time could also explain the trend in deal returns. We therefore use variable (8), time-matching GDP growth, to control for economic growth during the transaction holding period.

The availability of appropriate exit opportunities affects investment duration and PE returns as comprehensively analyzed in Wang (2012). Variable (9), the aggregated IPO proceeds in the investee country in the year of exit, captures the liquidity of the exit market at the time of divestment. Several countries have no public stock market/IPO activity and hence have zero IPO proceeds.

Variable (10), the host country's global innovation index, controls for the capacity of innovations and patents as value drivers in PE transactions. Similarly, variable (11), the quality of the host country's educational system, is used to consider the available human capital as a value driver in the sample countries. Variable (12), the host country's interest rate spread in the year of closing, is a proxy for the debt cost of capital. It is expected that a lower cost of debt encourages the use of financial leverage and thus positively affects the transaction IRRs. Variable (13), the difficulty of firing index, is a "doing business" indicator that measures labor market frictions. We assume that higher frictions negatively affect transaction IRRs. Variable (14), the host country's Property Rights Index, controls for legal quality in the investee country.

Variables (10), (11), (13), and (14) are not available for several countries for years prior to 2000. In this case, we refer to their first availability and regard them as time invariant before their first observation. Either way, these indicators do not fluctuate strongly, revealing a slow development process in the investment environments. All controls either match the duration of the sample transactions or correspond to the entry or exit year observation.⁶ Variables (12) and (13) are not available for all sample countries but only for 1,108 transactions.

⁶ We also gathered data on M&A market volume, access to finance, amount of debt outstanding in a country, perceived corruption, financial market sophistication, doing business, and other socio-economic and development indicators. Furthermore, we created dummy variables to determine whether GP and investee host countries are common law countries, have a common legal origin, a common language, or colonial ties. None of these additional

Variable (15) is a dummy used to flag cross-border deals, i.e. where the sponsor does not operate in the investee’s country. Variables (16) and (17) are dummies that indicate transactions where the sponsor is located in the US or in the UK, respectively. The omitted group is the rest of the world. Dummy variables (18), (19), and (20) denote the three transaction types “early stage/VC transactions,” “development/infrastructure transactions,” and “late stage/buyout” deals. The omitted group relates to PIPEs and other deal types. The dummies (15) to (20) complete the set of GP descriptors. Although some GPs comprehensively describe their funds and management teams for previous transactions in their PPMs, this information is not systematically available in the PPMs collected. In addition, we recall that PPMs are marketing instruments used to raise a new fund. Accordingly, GPs do not clearly indicate syndicated transactions that do not stem from their proprietary deal-sourcing activities or where they do not have a lead position. As a result, we cannot control for GP characteristics other than those captured in variables (15) to (20) or in GP fixed effects.

Table 6 presents the descriptive statistics of the independent and control variables.

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Insert Table 6 here

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From Table 6, we observe that the mean and median IRRs in local currencies are slightly above those calculated in USD. The same is true for the public market equivalent returns in USD and in local currencies, i.e. variables (4) and (6) and variables (5) and (7). This signals that the

controls were of statistical/economic significance, nor did they add to the quality of the regression analyses presented subsequently.

emerging market currencies depreciated against the USD over time, on average. The relatively small public market equivalent returns of the S&P 500 index are a result of the observation period. As presented in Figure 1, the bulk of the sample transactions closed after the index peaked in 2000 and accordingly have negative benchmark returns. The other variables exhibit rather intuitive distributions.

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Insert Table 7 here

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Table 7 provides the correlation matrix of all covariates. It reveals high correlations among the alternative experience measures. Variables (1) and (2) correlate at 0.62 while (2) and (3) correlate at 0.61. Experience measure (2) is considered in logs in the correlation matrix (and in the regressions) due to its right-skewed distribution. There is also a strong negative correlation of -0.30, respectively -0.42, between the S&P 500 benchmark returns (4) and the two time-based experience measures (1) and (3). As argued above, the negative correlations of the experience measures with the S&P 500 public market equivalent returns are a result of the observation period, which exhibits an index peak in 2000. Transactions with exit dates after 2000 often have low or negative benchmark returns. However, they were closed relatively late in our sampling period, which yields high values of the experience measures for these transactions. The correlation of the S&P 500 (4) and local/regional stock market equivalent returns (5) in USD is unexpectedly low at 0.28, signaling moderate integration of the emerging stock markets. The high correlation of 0.75 between the two respective benchmark returns in USD and their emerging country currency equivalents suggests that fluctuations in cross currency rate changes

do not strongly impact the analyses. Nevertheless, their impact will be addressed in a separate robustness check. The correlation matrix also submits to use several dummy variables and socio-economic indicators with caution. For example, every transaction for a GP who is not based in an emerging country is a cross-border deal. Hence, we would assume multicollinearity between cross-border transactions, GP fixed effects, and GP locations. Furthermore, the bulk of development and infrastructure investments are originated in the US, as revealed by the correlation of both dummy variables of 0.69. This requires particular analyses to distinguish between US and deal-specific effects. There is also high correlation between several socio-economic indicators.

For these reasons, we use each experience measure alternatively throughout the regression specifications and adopt a stepwise approach to address the impact of the controls. In addition, we run robustness checks to support the evidence.

4. Multivariate Analyses

We run OLS regressions on our sample of 1,157 transactions to test our hypothesis regarding the impact of experience and of improving deal-making conditions on emerging market PE returns. The dependent variable in all subsequent analyses is the winsorized IRR of a particular transaction. It is first calculated in USD from the perspective of an international investor, and subsequently from a local investor perspective, i.e. in each emerging country's currency. All standard errors are robust. The econometric challenge is to compare the economic success of transactions conducted in 86 different countries over more than 30 years of observations at varying development states. We aim to overcome this challenge by applying numerous controls.

However, omitted factors often remain, which we capture as best as possible by using fixed effects to describe various characteristics.

We cannot control for time fixed effects because they are confounding factors that affect our key variables of interest, which increase incrementally with time. These fixed effects would capture the trend of emerging market PE transaction returns. We therefore combine our experience measures with country and deal characteristics to describe the transactions in the prevailing deal-making environments more precisely than we would be able to with time fixed effects. In parallel, the experience measures capture omitted factors in the same way as time fixed effects because they fix a particular time in a country relative to the pioneering transaction.

We add and alternate the experience measures and include stepwise controls to reveal the statistical and economic significance of the variables of interest. The benchmark index returns and GDP growth are calculated by matching the transaction holding periods. The aggregated amount of IPO proceeds describes the exit market conditions in the year of divestment. All other controls match the closing date or are fixed effects. However, as discussed above, a small number of socio-economic indicators are not available for early observations for some countries. In these cases, we refer to the first observations and roll them back in time. Since these indicators exhibit only marginal fluctuations over time, if at all, rolling them back appears an appropriate way to avoid losing observations.

We begin with analyses from the perspective of a USD investor. We then switch to the perspective of local, i.e. emerging market, investors. After that, we focus on cross-border transactions and related learning effects before running numerous robustness checks with respect to a potential geographic sample bias and to reveal the importance of various fixed effects.

a. PE Returns from a USD Investor Perspective

Specification (A) in Table 8, Panel A regresses the winsorized transaction IRR in USD on country, transaction type, GP, and investee industry fixed effects. The purpose of this specification is to reveal the explanatory power of the controls and the increase in the adjusted R^2 compared with specification (B), where we add the key variable of interest. Specification (A) explains a noteworthy 35.18% of the variance in transaction returns with an adjusted R^2 of 22.59%.

Specification (B) adds the primary variable of interest “Years of PE Experience in Host Country” and reveals its statistical and economic significant parameter coefficient estimate. The first line with respect to each independent variable presents the coefficient estimate while the second line shows (in parentheses) a standardized estimate, i.e. where all variables are transferred into z-scores. The third line provides the standard error of the estimate in squared brackets. The specification explains 35.62% of the variance of the emerging PE market transaction returns, and its adjusted R^2 of 23.04% signals the improvement in the model compared to specification (A). The coefficient estimate for the experience measure of 0.011 is statistically significant at a 1% level and translates into a strong economic impact: with one more year of emerging market experience in a particular country paralleled with one year of improved, but unobserved, transaction-making conditions, the deals yielded a 1.1% higher IRR, on average. Regression (B) confirms that there is no need to be a pioneering LP in emerging PE markets in terms of immediately generating the highest possible returns.

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Insert Table 8 here

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Specification (C) adds the S&P 500 equivalent return. The explanatory power of the regression reaches a level of 38.56% and an adjusted R^2 of 26.47%. The principle variable of interest and the benchmark return have a statistically significant impact at the 1% level. Controlling for the benchmark index return reveals an even stronger experience effect: an additional year of experience or delayed entry in a particular country translates into a 2.6% increase in transaction IRR, on average. The standardized coefficient estimates show that the benchmark returns are a slightly stronger driver ($\beta_z = 0.26$) of the transaction returns than experience ($\beta_z = 0.24$). The benchmark return itself affects the transaction IRR by a factor of 1.096. This means that a 1% increase in the holding-period-matching S&P 500 return yields a 1.096% higher IRR for an emerging country PE transaction, on average.

Specification (D) alternates the definition of the equivalent public market return. It uses the local, or regional, stock market indices as benchmarks instead of the S&P 500. The explanatory power of the regression and the coefficient estimate of the experience proxy decrease compared to specification (C). However, the regression reveals that the impact of experience on emerging market PE IRRs remains if we control for local stock market performance. Nevertheless, the impact of the local stock markets (at a parameter estimate of 0.269), is smaller than that of the S&P 500 index.

Specification (E) combines both benchmark return definitions in the same model. This may appear unusual at first sight; however, it can be explained as follows. Emerging PE markets are integrated into the global capital market and are therefore assumed to follow the S&P 500 index. However, they are also exposed to idiosyncratic trends that are captured by local stock market development. This rationale receives strong support with an R^2 of 39%, which signals the highest explanatory power of all specifications, and an adjusted R^2 of 26.92%. The point estimate of the experience proxy is elevated at 0.023 and is statistically significant at the 1% level. The standardized coefficient estimates reveal that S&P 500 index fluctuations ($\beta_z = 0.217$) are the strongest driver of emerging market PE transaction returns, followed by the experience measure ($\beta_z = 0.211$) and then by the local, and regional, stock market returns ($\beta_z = 0.094$).

Specification (F) replaces the country fixed effects with more granular data describing the prevailing investment environments at the time of the transactions. It controls for the transaction-time-matching GDP growth, for exit market conditions, for the countries' legal and educational quality, and for their innovation capacity. However, country fixed effects and the descriptors for legal and educational quality and for innovation capacity are collinear because the socio-economic descriptors barely fluctuate. Country fixed effects therefore need to be dropped. This is also the case for the holding-period-matching GDP growth rates and for the IPO markets. Both characteristics fluctuate very little and many of the sample countries have no stock market and therefore no IPO activity during the observation period. The rather low volatility of the holding-period-matching GDP growth rates (with a standard deviation of only 2.8% as presented in Table 6) is caused by two factors. The first is that individual annual GDP growth rates for most of the emerging countries are relatively stable. The standard deviation of the annual GDP growth rates

over the observation periods and all countries, i.e. not weighted by the respective number of transactions, is only 4.13%. However, for countries such as Brazil, China, India, South Africa, or Poland – all countries with a large number of deals in our sample – the standard deviations of the annual GDP growth rates are as little as 2.09%, 1.4%, 2.04%, 2.08%, and 1.9%, respectively. The second factor is that we refer to holding-period-matching GDP growth rates, which are geometric averages of the annual growth rates, generally calculated over holding periods of several years. This further smooths the annual GDP growth rate fluctuations.

As expected, the regression shows that economic growth and the availability of exit opportunities are important sources of value creation for emerging market PE. The other control variables do not yield robust coefficient estimates over the various specifications and are therefore not explicitly presented in the table. However, a 1% increase in GDP growth translates into a 1.974% increase in transaction IRR, on average. A 1 billion USD addition to the annual IPO volume improves the proxy for exit market liquidity, contributing a 0.5% increase to the transaction IRR, all else equal. The standardized parameter coefficient estimates show that economic growth ($\beta_z = 0.104$) and the proxy for exit market liquidity ($\beta_z = 0.116$) have an impact of the same magnitude as experience ($\beta_z = 0.112$). The S&P 500 index benchmark return has the strongest impact ($\beta_z = 0.166$). However, the overall model quality decreases compared to specification (E). The model explained variance of the transaction returns decreases to 30.72% and the adjusted R^2 drops to 23.21%, signaling that simple country fixed effects better explain the variance in the data compared with holding-period-matching GDP growth rates, assessments of exit market conditions, and the other socio-economic descriptors.

Specification (G) also controls for labor market frictions and for the cost of debt financing. The latter two variables reduce the sample size to 1,108 observations. The experience measure, as the main variable of interest, remains economically and statistically significant at the 5% level. The explanatory power of this specification is 30.67% and the adjusted R^2 drops further to 22.64%. We therefore conclude that the best-fitting model is specification (E). It explains 39% of the variance of emerging market PE transaction returns and uses country fixed effects instead of more granular socio-economic descriptors. Country fixed effects evidently do a better job of explaining observable and unobserved heterogeneity between the countries than the socio-economic indicators.

Panel B of Table 8 reproduces the Panel A specifications, but alternates the experience measure. Specification (H) is equivalent to (E) but uses “PE Deal Experience in Host Country”, which is the sequential deal number of a specific transaction in the respective country in logs. Specification (I) considers the alternative experience measure “Years of a Particular GP’s Experience in Host Country”. Specifications (J) and (K) repeat (F) and (G) but also use the alternative experience measure that differentiates among individual GPs. Specifications (H) and (I) have slightly less explanatory power than (E), revealing that our key measure of emerging market experience “Years of PE Experience in Host Country” is better able to explain the variance in transaction returns.

Both alternative experience measures have economically and statistically significant parameter coefficients in all regressions. Panel B of Table 8 therefore provides additional evidence that experience is a strong and important driver of emerging market PE returns, irrespective of the method used to measure it. It can be expressed in years, as the number of deals conducted by the

whole investment community in a specific country, or by the experience of particular GPs in years. However, we note that the latter individual experience measure is less robust because data availability does not allow us to control if a GP has hired an investment manager from another GP who has already made investments in the respective country. Nevertheless, from the specifications in Table 8, Panel A, we conclude that an additional year of collective emerging market deal experience and delayed entry increased transaction IRRs by between 1% and 2.6%, on average. In the subsequent robustness checks, we reveal that this effect is not driven by foreign exchange rate fluctuations, GP locations, the composition of the sample, or changing transaction types.

b. PE Returns from Local Investors' Perspectives

As fundraising documents, PPMs usually target the international investment community and use USD as the reporting currency. The same is true for the sample PPMs used in this paper, with a few exceptions where the reporting currency is EUR, GBP, YPN, or ZAR. Regardless of the reference currency, the documented IRRs might be flawed by foreign exchange rate fluctuations between the reporting and local (emerging market) currencies. We therefore convert the IRRs and benchmark index returns into local (emerging country) currency denoted returns. This is equivalent to evaluating all transactions from a local (i.e. emerging country) investor point of view. Table 9 therefore reproduces specification (E) using the three alternative experience measures under the assumption that all transactions are made by local investors and thus free of foreign exchange rate effects.

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Insert Table 9 here

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Regression specifications (L) to (N) confirm that the detected effect of emerging PE market experience is not biased by foreign exchange rate changes. The results hold if all parameters are corrected for fluctuations between the economic and reporting currencies. The estimated coefficients of the experience measures retain their sign, their statistical significance, and even increase slightly in economic magnitude.

c. Cross-Border Deals and Learning Effects

The upward slope of the IRR distribution relative to experience in emerging PE markets could also be caused by different or changing degrees of investor foreignness. For example, if early transactions are originated overseas but later ones are local, then this could affect transaction IRRs. Chemmanur et al. (2016) point to the disadvantage of distance in PE transactions and the benefits of syndicated deals if the syndicate includes local (i.e. emerging market) and foreign partners. Such syndicates can combine local knowledge, experience, and monitoring opportunities with international network, placement, and exit capabilities. However, no systematic information is available on syndication characteristics for our sample transactions. We were therefore unable to control for syndication; neither could we control for the role of lead investors in syndicated deals. However, it is intuitive that pioneering and early transactions are more likely to be syndicated because overseas GPs are not yet expected to have established local branches. They instead rely on the deal-sourcing activities of local syndicate partners. As the markets become more mature, we would expect more GPs to establish local branches and offices.

This allows them to benefit from their proprietary deal-sourcing network and syndication becomes less likely. As a consequence, an omitted variable bias with respect to syndications works in favor of our findings. Expectedly, pioneering and early transactions are syndicated more often and thus yield higher returns than they could offer as stand-alone deals. If controlled for syndication, the slope of the return distribution over time or accumulated deal volume would therefore be even greater.

Nevertheless, we can verify the impact of geographic and cultural distance on the learning curve for emerging market PE transactions. Lerner and Schoar (2005) discuss the deal-making difficulties arising from different legal and capital market environments, which require alternative sets of securities and transaction structures. GPs need to learn how to adapt to these environments. If GPs gain their experience locally, i.e. by being located in their respective countries, they might learn to overcome difficulties more quickly.

Accordingly, we introduce a dummy variable and its interaction term with the primary experience measure in the regressions presented in Table 10 so as to analyze the learning curve effect for operating locally compared to operating as a foreign GP. The dummy is equal to one if the GP and the investee firm are not in the same country, i.e. if a particular deal is a cross-border transaction.⁷ This dummy is collinear with country and GP fixed effects, which therefore need to be discarded. The rationale is simple: several countries have no GPs and all investments in those countries are therefore originated abroad. Furthermore, for all GPs located in the US or in Western Europe, for example, every emerging market deal is a cross-border transaction.

⁷ We also use measures for geographic and cultural distance between investor and investee host countries in unreported regressions. However, since most of the sample transactions are originated in the US or Europe, the indicators for cultural and geographic distance do not exhibit sufficient variation to generate statistically significant results.

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Insert Table 10 here

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Table 10 presents regressions similar to those in Table 8, Panel A, but adds a dummy variable that indicates cross-border transactions and its interaction term with “Years of PE Experience in Host Country”. The dependent variable is the winsorized IRR of the PE transactions from a USD investor’s perspective. Specification (O) regresses the dependent variable on the dummy exclusively. It demonstrates, without further controls, that if an emerging PE market transaction is originated abroad, the IRR drops by 13%.

Specification (P) adds the principal experience measure and reveals that the learning curve effect is robust with respect to controlling for cross-border deals. Specification (Q) adds the interaction term between the experience measure and the cross-border dummy, and the socio-economic indicators, deal type, and investee industry fixed effects. The significance of the cross-border dummy coefficient fades away in this specification. The coefficient of the experience measure nonetheless remains positively significant and that of the interaction dummy is negative and highly significant. Specification (R) adds the controls for benchmark index performance and for GDP growth. It confirms the previous results. The learning curve effect is robust with respect to the differentiation between locally sourced and foreign transactions. However, if GPs are investing from abroad, then the benefit of learning is reduced as revealed by the negative coefficient of the interaction term. The sum of the coefficients of the experience measure and the interaction term is statistically not different from zero. We therefore conclude that we cannot detect the same learning curve effect for cross-border investors.

d. Potential Geographic Sample Bias

Table 1 breaks down the sample observations by country and demonstrates that South Africa or Poland, for example, are rather frequently presented relative to the size of their economy or population. Additionally, there are several countries with only a few observations. Country fixed effects might capture particularities in these countries and correct for a potential bias in these over/under represented countries. Nevertheless, we analyze the impact of these countries on the results in robustness checks.

Furthermore, Figure 1 presents the distribution of our sample transactions over time. There are very few transactions prior to 1990 (all such deals took place in Hong Kong and Thailand), which produces a skewed distribution. To achieve a more homogeneous sample with respect to the closing date, we discard all transactions prior to 1990 in an additional robustness check.

Table 11 presents robustness checks where either South Africa, Poland, countries with less than five observations, or transactions prior to 1990 are discarded from the sample.

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Insert Table 11 here

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Table 11 provides evidence that the results are robust with respect to a potential geographic sample selection bias and to the skew caused by the early transactions in Hong Kong and Thailand. The coefficients of all variables of interest retain their economic and statistical significance in the reduced samples.

e. Impact of GP Fixed Effects, Location and Transaction Type

The returns of our sample of emerging market PE transactions may be driven by the quality and investment experience of the particular GPs submitting their PPMs. While these quality and experience levels are not measurable to us given the data available and the complexity of assessing these characteristics, we regard them as omitted variables captured by GP fixed effects. It is nevertheless interesting to determine the extent to which these unobservable characteristics affect our analyses.

We also realize that the GPs are located in the US or in the UK for 60% of our sample transactions. Furthermore, the bivariate statistics (Table 7) reveal that US GPs originate the bulk of infrastructure and development financing transactions, while UK GPs sponsor many early stage/VC types of transactions. This suggests that analyses of several characteristics of GP fixed effects would be useful.

It is further possible that the typical risk involved in the deal types that we distinguish in our sample explains differences in PE performance, as shown in Buchner et al. (2016), for example. Moreover, the risk-taking behavior of novice GPs, as suggested by Giot et al. (2014), or style drifts could also affect transaction returns over time and thus drive our results.

The above arguments give rise to the need for additional analyses where we focus on deal type and types of GP fixed effects that were not explicitly reported in the previous regression tables.

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Insert Table 12 here

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Table 12 presents repetitions of regression specification F from Table 8, focusing on various groups of fixed effects. All specifications drop country and GP fixed effects because of collinearity with the respective fixed effects of interest. Specification (S) repeats specification (F) from Table 8 but drops the GP fixed effects and thus reveals their impact on the explanatory power of the models. The adjusted R^2 of (S) is 19.44% while it is 23.21% in (F). GP fixed effects thus strongly affect the quality of the regression analyses and should not be discarded from the models.

The regression also reveals that development and infrastructure transactions have a negative and highly significant coefficient estimate and that later stage transactions/buyouts have a positive and weakly significant coefficient estimate. This finding is not surprising given that infrastructure and development transactions are known for their comparatively low risk and for their asset-based and long-term capital gain nature. In comparison, later stage/buyout transactions are usually more highly levered and therefore riskier, and generally have shorter holding periods. As a consequence, expected IRRs are higher. We cannot reject the null hypotheses that the coefficient of the early stage/VC transactions dummy is different from zero. The omitted group relates to the PIPE deals and others.

Specification (T) drops deal-type fixed effects to reveal their impact in the subsequent specification and uses dummies to distinguish the transactions originated by GPs from the US

and the UK. All of the results discussed above hold and the two dummy variable coefficients are negative. The coefficient for the US location dummy is significant at the 1% level and confirms the previously discussed finding on cross-border transactions.

Specification (U) includes the dummies for US and UK location and for transaction types in the same regression. The significance of the coefficient of the US location dummy fades away due to its collinearity with the development and infrastructure transaction dummy. We can infer that the negative effect of US location on emerging PE market returns does not stem from the location itself but is instead driven by the development/infrastructure transaction type, which predominantly originates from US GPs and which yields significantly lower IRRs.

In addition to analyzing the impact of various dummies, we can distinguish host country regions and their pioneering transactions, e.g. Asia, Latin America, and Central Eastern Europe plus the Commonwealth of Independent States, or Africa. We ran analyses on experience in regions and on sub-samples. We also ran numerous robustness checks on split samples, for example, focusing exclusively on US-originated transactions or on cross-border deals to carve out the different learning effects. However, the results of these analyses were not as economically and statistically significant as the results presented and add no new insights. They are therefore not presented

5. Conclusion

This paper addresses the question of whether LPs should allocate capital to emerging PE markets at the prevailing pace. The promoters of emerging market PE argue that they are the markets of the future with unparalleled economic catch-up potential. Investors “need to be there

early” to capitalize on these growth opportunities. However, the investment community lacks local transaction experience, while cultural and geographic distance and insufficiently developed deal-making environments may render transaction-making cumbersome. GPs need to adapt to legal, capital market, and cultural conditions and to learn how to do PE business locally. Previous literature has pointed to the fact that emerging market transactions are “different” from those in “traditional” markets.

These rather skeptical arguments are in line with the evidence presented in this paper. Our analyses reveal that emerging market deal-making experience and improvements in the deal-making environment strongly affect the performance of PE transactions. The effect is robust with respect to a variety of controls and confounding factors, including benchmark index performance, GDP growth, cross currency rate changes, and potential sample bias. It is not clear whether the performance trend is driven by superior selection or by the improving value-adding capabilities of the GPs, who become active in emerging PE markets, or simply by the fact that investment conditions improve with the host countries’ economic development. However, addressing this research question requires data on a control group of non-PE-backed companies to serve as a benchmark comparison. Given the generally limited data availability on PE investments this remains a challenging endeavor for future research.

The evidence supports the conclusion that enthusiasm about untapped emerging market PE deal opportunities is not justified. Investors need to build up local transaction experience to overcome deficiencies in the deal-making environment. One would expect the positive effect of delayed entry to marginally decrease over time as the countries become more economically developed and there should be an optimal entry point. However, new countries continuously enter

the investor universe and our data set. They contribute to the positive trend with relatively low IRRs in the beginning and increasing IRRs over time. Accordingly, we do not detect a marginal decrease in the impact of our experience measures but instead observe a linear relationship over the observation period. It is also possible that early entering GPs can benefit from their experience and outperform their less proficient peers at later stages. We also consider this scenario and the question of an optimal entry point as interesting avenues for future research. On the other hand, such research requires data on second and third generation emerging market PE transactions and GP teams, which are not yet or will never be available for academic research.

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Table 1: Primary characteristics of the sample of transactions

This table presents the location of the target firms' headquarters, the number of observations, the observations as a percentage of the total sample, the first and last observed closing year, and the mean, median, minimum, and maximum duration of the transactions.

Country	Obs.	Obs. in %	Closing Year		Duration			
			Min	Max	Mean	Median	Min	Max
Algeria	1	0.10	2003	2003	4.0	4.0	4.0	4.0
Angola	2	0.20	2004	2005	4.0	4.0	3.5	4.5
Argentina	40	3.50	1992	2008	8.9	8.8	0.5	16.5
Bangladesh	1	0.10	1999	1999	4.0	4.0	4.0	4.0
Benin	5	0.40	1993	2002	12.1	12.5	6.5	15.5
Bolivia	8	0.70	1990	2001	12.6	13.5	7.5	18.5
Botswana	3	0.30	1990	2005	9.8	7.5	3.5	18.5
Brazil	83	7.20	1990	2007	7.8	7.5	0.5	18.5
Bulgaria	14	1.20	1997	2007	3.5	1.7	0.4	8.4
Burkina Faso	3	0.30	1998	2004	8.0	10.5	3.0	10.5
Cameroon	1	0.10	2004	2004	4.5	4.5	4.5	4.5
Chile	17	1.50	1990	2008	9.9	9.5	0.5	18.5
China	79	6.80	1994	2009	3.4	2.7	0.1	11.5
Colombia	25	2.20	1991	2008	5.6	4.5	0.5	17.5
Congo, Dem. Rep.	8	0.70	1996	2008	3.6	2.5	0.5	12.5
Costa Rica	5	0.40	1991	2008	10.5	9.5	0.5	17.5
Croatia	8	0.70	2000	2004	4.6	4.3	2.8	7.0
Czech Republic	14	1.20	1997	2005	4.1	4.9	0.4	8.1
Côte d'Ivoire	11	1.00	1990	2002	12.2	12.5	6.5	18.5
Dominican Republic	5	0.40	1990	2008	10.1	11.5	0.5	18.5
Ecuador	3	0.30	1999	2000	9.2	9.5	8.5	9.5
Egypt	2	0.20	2002	2006	3.1	3.1	1.3	5.0
El Salvador	6	0.50	1994	2005	8.5	8.5	3.5	14.5
Eritrea	1	0.10	1998	1998	10.5	10.5	10.5	10.5
Estonia	13	1.10	1996	2006	3.5	3.0	0.4	8.0
Gambia	2	0.20	1991	1991	17.5	17.5	17.5	17.5
Georgia	1	0.10	1997	1997	9.8	9.8	9.8	9.8
Ghana	10	0.90	1990	2008	10.2	7.3	0.5	18.5
Guatemala	3	0.30	1994	2000	10.5	8.5	8.5	14.5
Guinea	1	0.10	1996	1996	12.5	12.5	12.5	12.5
Guinea-Bissau	4	0.30	1990	2000	14.3	15.0	8.5	18.5
Guyana	2	0.20	2001	2006	5.0	5.0	2.5	7.5
Haiti	1	0.10	2000	2000	8.5	8.5	8.5	8.5
Honduras	2	0.20	1995	2008	7.0	7.0	0.5	13.5
Hong Kong	25	2.20	1973	1997	5.0	4.0	0.4	13.0
Hungary	10	0.90	1997	2004	3.9	3.5	0.9	9.1
India	59	5.10	1998	2007	3.3	2.3	0.2	9.0
Indonesia	51	4.40	1993	2005	3.7	3.4	0.2	13.3
Jamaica	3	0.30	1997	2004	7.5	6.5	4.5	11.5

Kazakhstan	1	0.10	1997	1997	10.3	10.3	10.3	10.3
Kenya	23	2.00	1990	2008	6.9	4.0	0.5	18.5
Korea, South	1	0.10	1993	1993	10.5	10.5	10.5	10.5
Kuwait	1	0.10	1998	1998	9.0	9.0	9.0	9.0
Latvia	6	0.50	2002	2005	2.2	2.0	1.0	4.0
Lithuania	12	1.00	1996	2005	3.3	2.5	1.0	6.0
Madagascar	4	0.30	1992	2008	8.3	8.0	0.5	16.5
Malawi	3	0.30	1995	2000	10.8	10.5	8.5	13.5
Malaysia	16	1.40	1995	2005	3.3	2.6	0.3	11.0
Mali	2	0.20	1995	1998	12.0	12.0	10.5	13.5
Mauritania	2	0.20	1991	1998	14.0	14.0	10.5	17.5
Mauritius	3	0.30	1990	1992	17.5	17.5	16.5	18.5
Mexico	45	3.90	1990	2008	7.9	7.5	0.4	18.5
Morocco	1	0.10	2008	2008	0.5	0.5	0.5	0.5
Mozambique	5	0.40	1998	2006	7.8	9.0	2.5	10.5
Namibia	2	0.20	1999	2002	8.0	8.0	6.5	9.5
Nicaragua	1	0.10	1999	1999	9.5	9.5	9.5	9.5
Nigeria	20	1.70	1993	2007	5.3	3.3	0.7	15.5
Panama	4	0.30	2000	2008	5.8	7.0	0.5	8.5
Peru	12	1.00	1994	2008	6.0	4.0	0.5	14.5
Philippines	7	0.60	1996	2005	6.1	5.7	3.3	10.4
Poland	123	10.60	1992	2006	7.0	6.3	0.1	13.8
Romania	23	2.00	1996	2005	5.3	5.4	1.0	10.0
Russian Federation	14	1.20	1995	2004	8.0	9.1	0.8	12.0
Rwanda	2	0.20	2004	2008	1.8	1.8	0.5	3.0
Saudi Arabia	1	0.10	1998	1998	5.4	5.4	5.4	5.4
Senegal	5	0.40	1994	2004	9.0	9.5	3.0	14.5
Serbia	2	0.20	2003	2003	3.7	3.7	3.5	3.9
Singapore	2	0.20	1996	1997	10.4	10.4	10.2	10.7
Slovakia	7	0.60	2000	2005	3.9	4.3	0.5	5.3
Slovenia	2	0.20	2000	2000	4.9	4.9	4.9	4.9
South Africa	153	13.20	1990	2008	5.3	5.5	0.5	13.6
Sri Lanka	3	0.30	1997	2006	5.0	7.0	1.0	7.1
Swaziland	3	0.30	1990	2001	13.8	15.5	7.5	18.5
Taiwan	1	0.10	1996	1996	2.8	2.8	2.8	2.8
Tanzania	10	0.90	1994	2008	10.7	12.0	0.5	14.5
Thailand	36	3.10	1989	2006	2.1	1.1	0.2	6.4
Togo	4	0.30	1991	2001	12.8	13.0	7.5	17.5
Trinidad and Tobago	1	0.10	1990	1990	18.5	18.5	18.5	18.5
Tunisia	2	0.20	1997	2005	6.8	6.8	2.0	11.5
Turkey	2	0.20	2003	2006	2.6	2.6	2.0	3.3
Uganda	9	0.80	1993	2006	10.4	12.5	0.7	15.5
Ukraine	14	1.20	1996	2002	7.4	8.1	2.2	11.5
Uruguay	2	0.20	1990	2002	12.5	12.5	6.5	18.5
Venezuela	11	1.00	1991	2002	13.0	14.5	6.5	17.5

Zambia	6	0.50	1998	2008	7.8	9.5	0.5	10.5
Zimbabwe	16	1.40	1991	2002	11.7	11.5	4.7	17.5
Total/Mean/Min/Max	1,157	100	1973	2009	6.3	5.3	0.1	18.5

Table 2: Descriptive statistics of Gross IRRs from a USD investor perspective, winsorized at the 95th percentile, by country

Country	Obs.	Mean	Median	Min	Max	Std. Dev.
Algeria	1	0.615	0.615	0.615	0.615	
Angola	2	-0.005	-0.005	-0.034	0.023	0.041
Argentina	40	0.175	0.140	-0.501	1.480	0.427
Bangladesh	1	0.498	0.498	0.498	0.498	
Benin	5	0.071	0.092	-0.034	0.234	0.110
Bolivia	8	-0.062	-0.027	-0.500	0.290	0.230
Botswana	3	0.269	0.285	0.012	0.511	0.250
Brazil	83	0.090	0.057	-1.000	1.480	0.683
Bulgaria	14	0.515	0.245	-0.230	1.480	0.584
Burkina Faso	3	0.243	0.217	0.113	0.400	0.145
Cameroon	1	0.957	0.957	0.957	0.957	
Chile	17	0.159	0.132	-1.000	1.480	0.464
China	79	0.561	0.325	-0.631	1.480	0.616
Colombia	25	0.222	0.127	-1.000	1.480	0.582
Congo, Dem. Rep.	8	0.168	0.085	-0.740	1.480	0.623
Costa Rica	5	-0.058	0.105	-0.823	0.272	0.445
Croatia	8	0.131	0.244	-0.348	0.414	0.281
Czech Republic	14	0.457	0.270	-0.210	1.480	0.502
Côte d'Ivoire	11	-0.196	0.067	-1.000	0.279	0.521
Dominican Republic	5	0.157	0.097	0.055	0.438	0.160
Ecuador	3	-0.616	-1.000	-1.000	0.151	0.665
Egypt	2	0.295	0.295	0.178	0.412	0.165
El Salvador	6	0.355	0.332	-0.038	1.035	0.384
Eritrea	1	-0.204	-0.204	-0.204	-0.204	
Estonia	13	0.225	0.168	-0.641	1.480	0.495
Gambia	2	-0.499	-0.499	-1.000	0.001	0.708
Georgia	1	-0.129	-0.129	-0.129	-0.129	
Ghana	10	0.192	0.139	-0.255	0.744	0.305
Guatemala	3	-0.065	0.147	-0.806	0.465	0.661
Guinea	1	-1.000	-1.000	-1.000	-1.000	
Guinea-Bissau	4	-0.345	-0.347	-1.000	0.312	0.606
Guyana	2	-0.078	-0.078	-0.190	0.035	0.159
Haiti	1	0.000	0.000	0.000	0.000	
Honduras	2	-0.038	-0.038	-0.376	0.300	0.478
Hong Kong	25	0.370	0.360	0.050	1.040	0.269
Hungary	10	0.394	0.266	0.135	1.050	0.333
India	59	0.397	0.300	-1.000	1.480	0.472
Indonesia	51	0.120	0.150	-1.000	0.831	0.348
Jamaica	3	0.922	0.738	0.548	1.480	0.492
Kazakhstan	1	0.081	0.081	0.081	0.081	
Kenya	23	0.010	0.146	-1.000	0.527	0.443
Korea, South	1	0.021	0.021	0.021	0.021	

Kuwait	1	0.505	0.505	0.505	0.505	
Latvia	6	0.460	0.585	0.049	0.684	0.272
Lithuania	12	-0.196	-0.318	-1.000	1.095	0.619
Madagascar	4	0.096	0.091	-0.022	0.224	0.101
Malawi	3	0.027	-0.092	-0.219	0.393	0.323
Malaysia	16	0.616	0.541	-0.160	1.480	0.463
Mali	2	0.107	0.107	0.002	0.212	0.149
Mauritania	2	-0.071	-0.071	-0.443	0.301	0.526
Mauritius	3	-0.335	-0.064	-1.000	0.058	0.579
Mexico	45	0.068	0.011	-1.000	1.480	0.541
Morocco	1	-0.438	-0.438	-0.438	-0.438	
Mozambique	5	0.168	-0.010	-0.047	0.771	0.348
Namibia	2	0.219	0.219	0.092	0.347	0.180
Nicaragua	1	0.104	0.104	0.104	0.104	
Nigeria	20	0.243	0.197	-1.000	1.480	0.614
Panama	4	0.083	0.094	-0.009	0.152	0.070
Peru	12	0.010	0.024	-1.000	1.480	0.659
Philippines	7	-0.082	-0.160	-1.000	0.819	0.548
Poland	123	0.201	0.160	-1.000	1.480	0.497
Romania	23	0.366	0.306	-0.230	1.420	0.389
Russian Federation	14	0.552	0.232	0.012	1.480	0.598
Rwanda	2	0.114	0.114	-0.364	0.592	0.676
Saudi Arabia	1	0.115	0.115	0.115	0.115	
Senegal	5	0.087	0.039	-0.467	0.499	0.372
Serbia	2	0.175	0.175	0.000	0.350	0.247
Singapore	2	-0.075	-0.075	-0.160	0.010	0.120
Slovakia	7	0.326	0.367	-0.060	0.475	0.175
Slovenia	2	0.215	0.215	0.130	0.300	0.120
South Africa	153	0.096	0.137	-1.000	1.480	0.548
Sri Lanka	3	0.207	0.080	0.013	0.527	0.279
Swaziland	3	-0.729	-1.000	-1.000	-0.187	0.469
Taiwan	1	0.410	0.410	0.410	0.410	
Tanzania	10	-0.019	-0.001	-0.353	0.366	0.251
Thailand	36	0.334	0.265	-0.859	1.480	0.422
Togo	4	-0.253	-0.246	-1.000	0.478	0.654
Trinidad and Tobago	1	0.081	0.081	0.081	0.081	
Tunisia	2	-0.056	-0.056	-0.142	0.031	0.122
Turkey	2	0.271	0.271	0.213	0.330	0.083
Uganda	9	0.002	0.132	-1.000	0.683	0.606
Ukraine	14	0.179	0.151	0.036	0.529	0.141
Uruguay	2	-0.592	-0.592	-1.000	-0.185	0.576
Venezuela	11	-0.188	0.000	-1.000	0.221	0.426
Zambia	6	0.134	0.050	-0.069	0.696	0.280
Zimbabwe	16	-0.188	-0.239	-1.000	1.480	0.651
Total/Mean/Min/Max	1,157	0.188	0.151	-1.000	1.480	0.536

Table 3: Industry segmentation of the sample

This table presents the industries of the target companies according to the Fama and French (1997) segmentation. All industry segments that contribute less than 3.4% to the sample of transactions are grouped as “Others” (including 11 transactions where no information on the investee’s industry is provided). Altogether, there are 47 different industries.

Fama and French Industry Classification	% of observations
Fin (Trading)	14.1%
Telcm (Communication)	10.8%
BusSv (Business Services)	7.4%
Oil (Petroleum and Natural Gas)	6.1%
Food (Food Products)	5.5%
Rtail (Retail)	4.7%
Trans (Transportation)	3.7%
Hshld (Consumer Goods)	3.4%
Others/unknown	44.3%

Table 4: Independent variables

This table presents the independent variables, their dimensions, short descriptions, and their sources.

Indicators	Unit	Explanation	Source(s)
(1) Years of PE Experience in Host Country	Years	Principal measure for the deal experience gained in a particular emerging country. The first observed transaction in every sample country sets the cut-off date for the respective country and is allocated a value of 0 in this variable. All other transactions in the same country are benchmarked to this offset.	The data set
(2) PE Deal Experience in Host Country	#	Alternative proxy for experience in a particular emerging country that is based on the sequential deal number of a particular transaction in the respective country. Since the distribution of this variable is right skewed the measure enters the regressions in its logs.	The data set
(3) Years of a Particular GP's Experience in Host Country	Years	Similar to the principal measure "Years of PE Experience in Host Country". This proxy refers to the number of years between a subsequent investment by a particular GP and its first investment in the same country. A GP's first investment in a particular country sets the cut-off date for the GP in that respective country and is allocated a value of 0 for this variable. All subsequent investments by the same GP in the same country are benchmarked to this offset.	The data set
(4) Time-Matching S&P 500 Return	[%]	Public market equivalent return, which is measured by the geometric average growth rate of the S&P 500 index over the same time as the holding period of the PE transaction.	Bloomberg
(5) Time-Matching Local or Regional Stock Market Return in USD	[%]	Public market equivalent return in USD of a local benchmark index. The calculation is the same as for indicator (3) but uses local emerging stock market indices instead of the S&P500 as benchmarks and converts the returns into USD. For each individual country, the most important/representative stock market index is used. If such an index is not available, or was not available at the closing of the PE transaction, then a neighboring country or regional stock market index is used as an alternative. A detailed list of the benchmark stock market indices and their alternatives is provided in Table 5.	Bloomberg
(6) Time-Matching S&P 500 Return in Local Currency	[%]	Public market equivalent from the perspective of a local investor in an emerging market. An investor headquartered in a particular emerging country can either choose to invest in a PE transaction in its country or in the S&P 500 index. To serve as a valid benchmark for this investor, the S&P 500 return needs to be corrected for fluctuations in the exchange rate between USD and the local currency over the same period as the PE transaction. The calculation follows that of indicator (3) but corrects for cross currency rate changes.	Bloomberg for the S&P 500 and for the cross currency exchange rates
(7) Time-Matching Local or Regional Stock Market Return in Local Currency	[%]	Follows the concept discussed for indicator (5) but uses the same local or regional stock market indices as variable (4) as benchmarks.	Bloomberg for the alternative benchmark indices and for the cross currency exchange rates
(8) Time-Matching GDP Growth	[%]	The transaction holding period matching real GDP growth in the host country of the investment. Corresponds to the geometric average growth rate of a host country's GDP between closing and exit of the PE transaction. The indicator's accuracy is calculated at a monthly level with the annual GDP observation broken down accordingly.	International Monetary Fund, International Financial Statistics and World Economic Outlook/UN/national statistics
(9) Aggregated IPO Proceeds in Host Country in the Year of Exit	[billion USD]	This variable measures the aggregate annual proceeds of IPO volumes (including green shoe options) in a particular country for the exit year of the PE transaction.	Thomson One Banker
(10) Host Country's Global Innovation Index	#	The indicator is based on the Global Innovation Index of Cornell University, INSEAD Business School, and the World Intellectual Property Organization. The Global Innovation Index relies on two sub-indices, the Innovation Input Sub-Index, and the Innovation Output Sub-Index, each built around pillars. Five input pillars capture elements of the national economy that enable innovative activities: (1) Institutions, (2) Human capital and research, (3) Infrastructure, (4) Market sophistication, and (5) Business sophistication. Two output pillars capture actual evidence of innovation outputs: (6) Knowledge and technology outputs and (7) Creative outputs. Each pillar is divided into sub-pillars and each sub-pillar is composed of individual indicators (81 in total). Sub-pillar scores are calculated as the weighted average of individual indicators; pillar scores are calculated as the weighted average of sub-pillar scores.	www.globalinnovatio nindex.org
(11) Quality of Host Country's Educational System	#	This data series measures the perceived quality of the educational system in a country. The index ranges from 1 to 7, with higher values indicating that the country's educational system meets the needs of a competitive economy. Low values indicate that the system does not meet the needs of a competitive economy.	World Economic Forum
(12) Host Country's Interest rate spread in	[%]	Interest rate spread is the interest rate charged by banks on loans to prime customers minus the interest rate paid by commercial or similar banks for demand, time, or savings	World Economic Forum; World

Indicators	Unit	Explanation	Source(s)
the Year of Closing		deposits. The observation year for this indicator matches the year of transaction closing unless the indicator was not yet calculated for that country. In these cases we refer to its first observation.	Development Indicators
(13) Difficulty of Firing Index	#	<p>The difficulty of firing index has eight components:</p> <ul style="list-style-type: none"> (i) whether redundancy is disallowed as a basis for terminating workers (ii) whether the employer needs to notify a third party (such as a government agency) to terminate one redundant worker (iii) whether the employer needs to notify a third party to terminate a group of 25 redundant workers (iv) whether the employer needs approval from a third party to terminate one redundant worker (v) whether the employer needs approval from a third party to terminate a group of 25 redundant workers (vi) whether the law requires the employer to reassign or retrain a worker before making the worker redundant (vii) whether priority rules apply for redundancies (viii) whether priority rules apply for reemployment <p>For the first question an answer of yes for workers of any income level gives a score of 10 and means that the rest of the questions do not apply. An answer of yes to question (iv) gives a score of 2. For every other question, if the answer is yes, a score of 1 is assigned; otherwise a score of 0 is given. Questions (i) and (iv), as the most restrictive regulations, have greater weight in the construction of the index.</p>	World Bank (Doing Business)
(14) Host Country's Property Rights Index	#	The Property Rights Index is an assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state. The index ranges from 1 to 10, with higher values indicating higher protection of property rights.	Fraser Institute
(15) Cross-Border Deal	0/1	Dummy variable equal to 1 if the GP and the investee firm are not in the same country.	The data set
(16) GP location in US	0/1	Dummy variable equal to 1 if the transaction is originated in the US.	The data set
(17) GP location in UK	0/1	Dummy variable equal to 1 if the transaction is originated in the UK.	The data set
(18) Early Stage/VC Transaction	0/1	Dummy variable equal to 1 if the deal type fulfills the characteristics of seed, start-up, first-stage, or more general VC transactions.	The data set
(19) Development/Infrastructure Transaction	0/1	Dummy variable equal to 1 if the deal type fulfills the characteristics of growth or development capital or of infrastructure investments including utilities, water, electricity, and project financing.	The data set
(20) Late Stage/Buyout Transaction	0/1	Dummy variable equal to 1 if the deal type fulfills the characteristics of later stage generally levered buyout transactions with majority ownership changes.	The data set

Table 5: Emerging Stock Market Benchmark Indices and their Regional Benchmark Indices

This table lists the benchmark indices used to calculate the transaction time-matching local stock market returns for the sample of PE transactions. The second column repeats the number of observations in the sample. The third column shows the local stock market index we refer to, if such an index exists. The next column counts the number of observations for which a benchmark return can be calculated using this index. If such an index did not yet exist at the time of transaction closing or if a country has no representative stock market index, then we refer to an alternative index from a neighboring country or to a regional representative stock market index. The available alternatives are listed in the subsequent column. The final column shows the number of transactions for which the alternative benchmarks are applied.

Country	Obs. (total)	Local Stock Market Index	Obs. (local coverage)	Regional Approximation	Obs. (reg. approx.)
Algeria	1	N/A	0	Morocco	1
Angola	2	N/A	0	Nigeria	2
Argentina	40	MERVAL	40		0
Bangladesh	1	DSE	1		0
Benin	5	BRVM-Composite	1	Morocco	4
Bolivia	8	N/A	0	Brazil	8
Botswana	3	BGSMDC	2	Kenya	1
Brazil	83	BOVESPA	83		0
Bulgaria	14	SOFIX	9	Turkey	5
Burkina Faso	3	BRVM-Composite	1	Morocco	2
Cameroon	1	N/A	0	Nigeria	1
Chile	17	IPSA	17		0
China	79	SSE-A-Share	79		0
Colombia	25	IGBC ^A	24	Brazil	1
Congo, Dem. Rep.	8	N/A	0	Kenya	8
Costa Rica	5	BTC	3	Brazil	2
Croatia	8	CROBEX	8		0
Czech Republic	14	PX	14		0
Côte d'Ivoire	11	BRVM-Composite	3	Morocco	8
Dominican Rep.	5	N/A	0	Brazil	5
Ecuador	3	ECU	3		0
Egypt	2	EGY30	2		0
El Salvador	6	N/A	0	Brazil	6
Eritrea	1	N/A	0	Kenya	1
Estonia	13	OMX-TALLINN	13		0
Gambia	2	N/A	0	Morocco	2
Georgia	1	N/A	0	Turkey	1
Ghana	10	GSE-All-Share	5	Morocco	5
Guatemala	3	N/A	0	Brazil	3
Guinea	1	N/A	0	Morocco	1
Guinea-Bissau	4	BRVM-Composite	1	Morocco	3
Guyana	2	N/A	0	Brazil	2
Haiti	1	N/A	0	Brazil	1
Honduras	2	N/A	0	Brazil	2
Hong Kong	25	HSI	25		0
Hungary	10	BUX	10		0
India	59	SENSEX30	59		0
Indonesia	51	JCI-Composite	51		0
Jamaica	3	JSE	3		0

Country	Obs. (total)	Local Stock Market Index	Obs. (local coverage)	Regional Approximation	Obs. (reg. approx.)
Kazakhstan	1	KASE	0	Russian	1
Kenya	23	NSE20	23		0
Korea, South	1	KOSPI200	1		0
Kuwait	1	KIC	1		0
Latvia	6	OMX-Riga	6		0
Lithuania	12	OMX-Vilnius ^B	12		0
Madagascar	4	N/A	0	Kenya	4
Malawi	3	N/A	0	Kenya	3
Malaysia	16	KLCI	16		0
Mali	2	BRVM-Composite	0	Morocco	2
Mauritania	2	N/A	0	Morocco	2
Mauritius	3	SEMDEX	3		0
Mexico	45	IPC	45		0
Morocco	1	CFG25	1		0
Mozambique	5	N/A	0	Kenya	5
Namibia	2	N/A	0	Kenya	2
Nicaragua	1	N/A	0	Brazil	1
Nigeria	20	Nigeria-All-Share	16	Kenya	4
Panama	4	BVPSI	4		0
Peru	12	IGBVL	12		0
Philippines	7	PSEi	7		0
Poland	123	WIG	123		0
Romania	23	BET	17	Turkey	6
Russian Federation	14	RTS ^C	14		0
Rwanda	2	N/A	0	Kenya	2
Saudi Arabia	1	TADAWUL	0	Kuwait	1
Senegal	5	BRVM-Composite	3	Morocco	2
Serbia	2	BELEX-Line	0	Turkey	2
Singapore	2	STI	0	Malaysia	2
Slovakia	7	SAX	7		0
Slovenia	2	LJSE	2		0
South Africa	153	JSE-All-Share	153		0
Sri Lanka	3	Colombo-All-Share	3		0
Swaziland	3	N/A	0	Kenya	3
Taiwan	1	TAIEX	1		0
Tanzania	10	DSEI	1	Kenya	9
Thailand	36	SET	36		0
Togo	4	BRVM-Composite	2	Morocco	2
Trinidad and	1	TTSE-Composite	0	Brazil	1
Tunisia	2	TUNINDEX	1	Morocco	1
Turkey	2	XU100	2		0
Uganda	9	ALSI	1	Kenya	8
Ukraine	14	PFTS	4	Russian	10
Uruguay	2	N/A	0	Argentina	2
Venezuela	11	IBC	7	Peru	4
Zambia	6	LUSAKA	6		0
Zimbabwe	16	SE-Indus	0	Kenya	16
Total	1,157		987		170

^A For values prior to July 2001, the Bogota Medellin General Index was rebased to match and extend the IGBC index

^B For values prior to December 1999, the Lithuania Litin G Index was rebased to match and extend the OMX Vilnius Index

^C For values prior to September 1995, the Russia RSF General Index was rebased to match and extend the Russia RTS index

Table 6: Descriptive statistics of the dependent and independent variables

The number of observations is reduced for variables (12) and (13) because this data is not available for several sample countries.

Variable	Mean	Median	Standard Deviation	Min.	Max.	Obs.
Dependent: Winsorized IRR in USD	0.188	0.151	0.536	-1	1.480	1157
Dependent: Winsorized IRR in Local Currency	0.218	0.177	0.549	-1	1.554	1157
(1) Years of PE Experience in Host Country	6.833	6.750	4.893	0	21.583	1157
(2) PE Deal Experience in Host Country	37.056	18	42.772	1	168	1157
(3) Years of a Particular GP's Experience in Host Country	3.844	2.000	4.466	0	21	1157
(4) Time-Matching S&P 500 Return	0.013	0.025	0.127	-0.502	0.505	1157
(5) Time-Matching Local or Regional Stock Market Return in USD	0.159	0.128	0.333	-0.841	3.380	1157
(6) Time-Matching S&P 500 Return in Local Currency	0.041	0.034	0.163	-0.860	0.978	1157
(7) Time-Matching Local or Regional Stock Market Return in Local Currency	0.173	0.147	0.272	-0.816	2.842	1157
(8) Time-Matching GDP Growth	0.049	0.045	0.028	-0.063	0.192	1157
(9) Aggregated IPO Proceeds in Host Country in the Year of Exit	3.341	0.228	11.437	0	126.355	1157
(10) Host Country's Global Innovation Index	2.716	2.770	0.488	1.530	4.412	1157
(11) Quality of the Host Country's Educational System	3.453	3.7	0.741	2	6.2	1157
(12) Host Country's Interest rate spread in the Year of Closing	0.096	0.056	0.102	0	0.669	1108
(13) Difficulty of Firing Index	30.695	30	23.234	0	100	1108
(14) Host Country's Property Rights Index	4.519	4.634	1.428	1.322	7.970	1157
(15) Cross-Border Deal	0.733	1	0.443	0	1	1157
(16) GP location in US	0.499	0	0.501	0	1	1157
(17) GP location in UK	0.110	0	0.313	0	1	1157
(18) Early Stage/VC Transaction	0.126	0	0.126	0	1	1157
(19) Development/Infrastructure Transaction	0.328	0	0.470	0	1	1157
(20) Late Stage/Buyout Transaction	0.239	0	0.426	0	1	1157

Table 7: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(19)	(20)
(1) Years of PE Experience in Host Country	1.00																		
(2) Log(PE Deal Experience in Host Country)	0.62	1.00																	
(3) Years of a Particular GP's Experience in Host Country	0.61	0.30	1.00																
(4) Time-Matching S&P 500 Return	-0.30	-0.01	-0.42	1.00															
(5) Time-Matching Local or Regional Stock Market Return in USD	0.07	0.18	-0.15	0.28	1.00														
(6) Time-Matching S&P 500 Return in Local Currency	-0.41	-0.20	-0.31	0.75	-0.05	1.00													
(7) Time-Matching Local or Regional Stock Market Return in Local Currency	-0.04	0.09	-0.17	0.46	0.75	0.28	1.00												
(8) Time-Matching GDP Growth	0.10	0.15	-0.01	0.03	0.29	-0.21	0.21	1.00											
(9) IPO Proceeds in the Year of Exit	0.21	0.25	0.07	0.04	0.30	-0.08	0.28	0.51	1.00										
(10) Global Innovation Index	0.14	0.40	-0.02	0.16	0.14	-0.00	0.09	0.29	0.32	1.00									
(11) Quality of Educational System	-0.09	0.06	-0.21	0.12	0.24	-0.05	0.18	0.22	0.14	0.50	1.00								
(12) Interest Rate Spread at Closing	-0.03	-0.08	0.13	-0.03	-0.12	0.14	-0.05	-0.17	-0.09	-0.21	-0.33	1.00							
(13) Difficulty of Firing Index	-0.14	0.06	-0.07	-0.07	0.12	-0.05	0.13	0.11	0.04	0.09	0.18	-0.25	1.00						
(14) Property Rights Index	0.29	0.32	0.13	0.11	-0.02	0.07	-0.00	0.04	0.17	0.52	0.08	-0.06	-0.18	1.00					
(15) Cross-Border Deal	-0.03	-0.32	-0.05	-0.22	-0.01	-0.18	-0.03	0.09	-0.09	-0.19	0.03	-0.01	0.14	-0.30	1.00				
(16) GP location in US	-0.03	-0.30	0.15	-0.39	-0.26	-0.19	-0.26	-0.19	-0.19	-0.33	-0.22	0.14	0.04	-0.30	0.60	1.00			
(17) GP location in UK	0.09	0.07	-0.15	0.19	0.17	0.01	0.13	0.14	-0.01	0.12	0.17	-0.12	0.08	0.07	0.21	-0.35	1.00		
(18) Early Stage/VC Transaction	-0.03	0.11	-0.06	0.14	0.06	0.10	0.08	0.01	0.01	0.06	0.06	-0.09	0.05	0.03	-0.08	-0.32	0.36	1.00	
(19) Development/Infrastructure Transaction	0.01	-0.36	0.41	-0.37	-0.33	-0.10	-0.27	-0.22	-0.18	-0.44	-0.47	0.21	-0.03	-0.13	0.42	0.69	-0.24	-0.27	1.00
(20) Late Stage/Buyout Transaction	0.05	0.19	-0.12	0.21	0.18	0.07	0.17	0.24	0.23	0.17	0.19	-0.12	0.03	0.09	-0.07	-0.32	0.08	-0.22	-0.39

Table 8 Panel A: Impact of experience on emerging market PE returns from a USD investor perspective

The dependent variable in the OLS regression specifications A to G is the winsorized IRR of a PE transaction from a USD investor's perspective. Standard errors are robust. The first line for each presentation of an independent variable presents the estimated parameter coefficient. The second line shows the standardized coefficient (i.e. if all variables are transformed into z-scores), and the third line the standard error of the estimate. Specification A regresses the dependent variable on country, deal type, GP and industry fixed effects. It reveals the explanatory power of the controls. Specification B adds the primary measure for emerging market transaction experience, "Years of PE Experience in Host Country". Specification C introduces the public market equivalent return expressed by S&P 500 index performance. Specification D alternates the definition of the public market equivalent return, referring to the local/regional stock market indices expressed in USD returns. Specification E uses both definitions of a public market equivalent return at the same time. Specification F adds GDP growth, IPO proceeds in the exit year and the descriptors for the countries' legal and educational quality and for their innovation capacity as covariates but drops country fixed effects due to collinearity with the latter characteristics. Specification G also controls for labor market rigidity and for the cost of debt at transaction closing in the respective countries. However, this reduces the number of observations from 1,157 to 1,108 due to the data availability for these controls. Specification E, referring to country fixed effects rather than to more granular data, has the highest explanatory power and thus serves as the baseline model for most of the subsequent analyses.

Specification	A	B	C	D	E	F	G
	β	β	β	β	β	β	β
	(Std. β)	(Std. β)	(Std. β)	(Std. β)	(Std. β)	(Std. β)	(Std. β)
	[S.E.]	[S.E.]	[S.E.]	[S.E.]	[S.E.]	[S.E.]	[S.E.]
Years of PE Experience in Host Country		0.011*** (0.099) [0.003]	0.026*** (0.240) [0.006]	0.010*** (0.088) [0.003]	0.023*** (0.211) [0.006]	0.012*** (0.112) [0.004]	0.011** (0.098) [0.004]
Time-Matching S&P 500 Return			1.096*** (0.260) [0.178]		0.916*** (0.217) [0.186]	0.696*** (0.165) [0.153]	0.700*** (0.164) [0.161]
Time-Matching Local/Regional Stock Market Return in USD				0.269*** (0.167) [0.067]	0.152*** (0.094) [0.054]	0.123** (0.076) [0.052]	0.132** (0.083) [0.053]
Time-Matching GDP Growth						2.059*** (0.108) [0.764]	1.809** (0.096) [0.784]
Aggregated IPO Proceeds in the Host Country in the Year of Exit						0.005*** (0.114) [0.002]	0.006*** (0.122) [0.002]
Constant	-0.013 [0.246]	0.030 [0.247]	0.122 [0.254]	0.034 [0.235]	0.109 [0.246]	-0.331 [0.202]	-0.218 [0.231]
Country Fixed Effects	yes	yes	yes	yes	yes	no	no
Deal Type Fixed Effects	yes	yes	yes	yes	yes	yes	yes
GP Fixed Effects	yes	yes	yes	yes	yes	yes	yes
Industry Fixed Effects	yes	yes	yes	yes	yes	yes	yes
Legal Quality	no	no	no	no	no	yes	yes
Educational Quality	no	no	no	no	no	yes	yes
Innovation Capacity	no	no	no	no	no	yes	yes
Labor Market Rigidity	no	no	no	no	no	no	yes
Cost of Debt	no	no	no	no	no	no	yes
N	1157	1157	1157	1157	1157	1157	1108
R ² in %	35.18	35.62	38.56	37.26	39.00	30.72	30.67
adjusted R ² in %	22.59	23.04	26.47	24.92	26.92	23.21	22.64

P-values as of * p < 0.10, ** p < 0.05, *** p < 0.01

Table 8 Panel B: Alternative experience measures to assess the impact on emerging market PE returns from a USD investor perspective

Panel B of Table 8 alternates the experience measure for the most interesting regression specifications of Panel A. The dependent variable in the OLS regression specifications H to K is the winsorized IRR of a PE transaction from a USD investor's perspective. Standard errors are robust. Specification H uses the alternative experience measure defined by the number of deals log(PE Deal Experience in Host Country) as the independent variable and controls as in specification E from Panel A of Table 8. Specification I uses the alternative experience measure for the years of deal experience of individual GPs in the particular host countries. Specifications J and K drop country fixed effects but therefore add controls analogous to specifications F and G.

Specification	H	I	J	K
	β	β	β	β
	(Std. β)	(Std. β)	(Std. β)	(Std. β)
	[S.E.]	[S.E.]	[S.E.]	[S.E.]
log(PE Deal Experience in Host Country)	0.053*** (0.149) [0.019]			
Years of a Particular GP's Experience in Host Country		0.023*** (0.189) [0.006]	0.020*** (0.164) [0.005]	0.019*** (0.160) [0.005]
Time-Matching S&P 500 Return	0.656*** (0.156) [0.171]	0.898*** (0.213) [0.187]	0.825*** (0.196) [0.156]	0.844*** (0.198) [0.165]
Time-Matching Local/Regional Stock Market Return in USD	0.186*** (0.115) [0.060]	0.159*** (0.099) [0.055]	0.114** (0.071) [0.050]	0.120** (0.075) [0.052]
Time-Matching GDP Growth			1.872** (0.098) [0.752]	1.699** (0.090) [0.782]
Aggregated IPO Proceeds in the Host Country in the Year of Exit			0.005*** (0.111) [0.002]	0.005** (0.115) [0.002]
Constant	0.081 [0.248]	-0.016 [0.241]	-0.151 [0.167]	-0.150 [0.227]
Country Fixed Effects	yes	yes	no	no
Deal Type Fixed Effects	yes	yes	yes	yes
GP Fixed Effects	yes	yes	yes	yes
Industry Fixed Effects	yes	yes	yes	yes
Legal Quality	no	no	no	yes
Educational Quality	no	no	no	yes
Innovation Capacity	no	no	no	yes
Labor Market Rigidity	no	no	no	yes
Cost of Debt	no	no	no	yes
N	1157	1157	1157	1108
R ² in %	38.09	38.93	31.23	31.43
adjusted R ² in %	25.83	26.85	23.99	23.48

P-values as of * p < 0.10, ** p < 0.05, *** p < 0.01

Table 9: Impact of experience on emerging market PE returns without foreign exchange effects

OLS regression specifications L to N are analogous to the regressions presented in Table 8 but use the winsorized IRR of a PE transaction from a local investor perspective as the dependent variable. The benchmark index returns are therefore also converted into local currency returns. Specification L uses the experience measure “Years of PE Experience in Host Country”, the S&P 500 equivalent return converted into local currency returns, the local/regional stock market returns converted into local currency returns, country, transaction type, GP, and industry fixed effects as independent and control variables. Specification M and N alternate the experience measure. Standard errors are robust.

Specification	L β (Std.β) [S.E.]	M β (Std.β) [S.E.]	N β (Std.β) [S.E.]
Years of PE Experience in Host Country	0.026*** (0.229) [0.006]		
log(PE Deal Experience in Host Country)		0.056*** (0.155) [0.022]	
Years of a Particular GP’s Experience in Host Country			0.025*** (0.200) [0.006]
Time-Matching S&P 500 Return in Local Currency	0.880*** (0.261) [0.155]	0.670*** (0.199) [0.157]	0.842*** (0.250) [0.152]
Time-Matching Local/Regional Stock Market Return in Local Currency	0.140* (0.069) [0.080]	0.163* (0.081) [0.084]	0.149* (0.074) [0.080]
Constant	0.106 [0.258]	0.093 [0.259]	-0.030 [0.253]
Country Fixed Effects	yes	yes	yes
Deal Type Fixed Effects	yes	yes	yes
GP Fixed Effects	yes	yes	yes
Industry Fixed Effects	yes	yes	yes
Legal Quality	no	no	no
Educational Quality	no	no	no
Innovation Capacity	no	no	no
Labor Market Rigidity	no	no	no
Cost of Debt	no	no	no
N	1157	1157	1157
R ² in %	37.65	36.52	37.52
adjusted R ² in %	25.31	23.96	25.16

P-values as of * p < 0.10, ** p < 0.05, *** p < 0.01

Table 10: Cross-border transactions and learning effects

OLS regressions O to R build on the specifications presented in Table 8, Panel A but focus on the impact of cross-border deals. The dependent variable in all specifications is the winsorized IRR of a PE transaction from a USD investor's perspective. Standard errors are robust. Specification O regresses the dependent variable on the dummy for cross-border transactions without any controls. Specification P adds the experience measure "Years of PE Experience in Host Country". Specification Q introduces its interaction term with the dummy for cross-border investments and controls. However, GP fixed effects are excluded because of collinearity with the cross-border GP location dummy. Specification R adds controls.

Specification	O β (Std. β) [S.E.]	P β (Std. β) [S.E.]	Q β (Std. β) [S.E.]	R β (Std. β) [S.E.]
Years of PE Experience in Host Country		0.009*** (0.084) [0.003]	0.026*** (0.242) [0.008]	0.025*** (0.226) [0.008]
Cross-Border Deal	-0.130*** (-0.107) [0.037]	-0.127*** (-0.105) [0.037]	0.083 (0.068) [0.068]	0.018 (0.015) [0.068]
Interaction Term of Years of PE Experience in Host Country and Cross-Border Deal			-0.022*** (-0.219) [0.008]	-0.017** (-0.163) [0.008]
Time-Matching S&P 500 Return				0.496*** (0.118) [0.143]
Time-Matching Local/Regional Stock Market Return in USD				0.156*** (0.097) [0.051]
Time-Matching GDP Growth				2.073*** (0.109) [0.608]
Constant	0.283*** [0.032]	0.218*** [0.036]	-0.196 [0.125]	-0.219* [0.123]
Country Fixed Effects	no	no	no	no
Deal Type Fixed Effects	no	no	yes	yes
GP Fixed Effects	no	no	no	no
Industry Fixed Effects	no	no	yes	yes
Legal Quality	no	no	yes	yes
Educational Quality	no	no	yes	yes
Innovation Capacity	no	no	yes	yes
Labor Market Rigidity	no	no	no	no
Cost of Debt	no	no	no	no
N	1157	1157	1157	1157
R ² in %	1.15	1.86	19.91	23.35
adjusted R ² in %	1.07	1.69	16.07	19.45

P-values as of * p < 0.10, ** p < 0.05, *** p < 0.01

Table 11: Robustness checks for potentially over- and under-weighted countries

This table presents repetitions of regression specification F from Table 8 on different sub-samples. In the first specification, all transactions in South Africa are discarded, leaving 1,004 observations. In the second and third specifications, all deals from Poland, and all deals in countries with less than five transactions are alternatively discarded, leaving 1,034 and 1,073 observations, respectively. The final specification focuses on transactions since the 1990 closing year to gain a more homogenous sample where the number of observations reduces to 1135.

Specification	Without South Africa	Without Poland	Without countries with less than 5 deals	Without deals prior to 1990
	β (Std. β) [S.E.]	β (Std. β) [S.E.]	β (Std. β) [S.E.]	β (Std. β) [S.E.]
Years of PE Experience in Host Country	0.013*** (0.124) [0.004]	0.015*** (0.139) [0.005]	0.014*** (0.126) [0.005]	0.013*** (0.114) [0.004]
Time-Matching S&P 500 Return	0.636*** (0.152) [0.165]	0.729*** (0.177) [0.159]	0.785*** (0.183) [0.169]	0.685*** (0.162) [0.157]
Time-Matching Local/Regional Stock Market Return in USD	0.155*** (0.102) [0.053]	0.105** (0.067) [0.052]	0.124** (0.078) [0.053]	0.134** (0.083) [0.053]
Time-Matching GDP Growth	1.848** (0.102) [0.781]	2.063*** (0.112) [0.777]	2.433*** (0.127) [0.881]	1.918** (0.100) [0.771]
Aggregated IPO Proceeds in the Host Country in the Year of Exit	0.005** (0.104) [0.002]	0.005** (0.115) [0.002]	0.006*** (0.122) [0.002]	0.005*** (0.113) [0.002]
Constant	-0.430** [0.209]	-0.327 [0.235]	-0.428 [0.289]	-0.329 [0.202]
Country Fixed Effects	no	no	no	no
Deal Type Fixed Effects	yes	yes	yes	yes
GP Fixed Effects	yes	yes	yes	yes
Industry Fixed Effects	yes	yes	yes	yes
Legal Quality	yes	yes	yes	yes
Educational Quality	yes	yes	yes	yes
Innovation Capacity	yes	yes	yes	yes
Labor Market Rigidity	no	no	no	no
Cost of Debt	no	no	no	no
N	1004	1034	1073	1135
R ² in %	33.29	32.42	31.05	30.95
adjusted R ² in %	25.15	24.28	23.09	23.31

P-values as of * p < 0.10, ** p < 0.05, *** p < 0.01

Table 12: Impact of fund fixed effects, fund location and deal type on the returns of emerging market PE transactions.

This table presents repetitions of regression specification F from Table 8, focusing on various groups of fixed effects. All specifications drop country and GP fixed effects because of collinearity with the other fixed effects which the regressions focus on. Specification S repeats specification F from Table 8 but drops the GP fixed effects and shows the deal type fixed effects. This regression reveals the impact of GP fixed effects on the explanatory power of the specification compared to F. Specification T adds controls for deals originated in the US or in the UK against the rest of the world but drops the deal type fixed effects to reveal their explanatory power in the subsequent specification. Specification U controls for the three differentiated deal types early stage/VC, development/infrastructure, and late stage/buyout transaction and for GP location in the US and UK, respectively, simultaneously.

Specification	S β (Std.β) [S.E.]	T β (Std.β) [S.E.]	U β (Std.β) [S.E.]
Years of PE Experience in Host Country	0.010*** (0.094) [0.003]	0.012*** (0.110) [0.003]	0.011*** (0.098) [0.003]
Time-Matching S&P 500 Return	0.533*** (0.126) [0.141]	0.619*** (0.147) [0.142]	0.540*** (0.128) [0.143]
Time-Matching Local/Regional Stock Market Return in USD	0.133*** (0.083) [0.051]	0.148*** (0.092) [0.051]	0.135*** (0.084) [0.051]
Time-Matching GDP Growth	1.217* (0.064) [0.648]	1.436** (0.075) [0.659]	1.254* (0.066) [0.656]
Aggregated IPO Proceeds in the Host Country in the Year of Exit	0.005*** (0.102) [0.002]	0.004*** (0.094) [0.002]	0.005*** (0.097) [0.002]
GP Location in US		-0.121*** (-0.113) [0.039]	-0.021 (-0.020) [0.046]
GP Location in UK		-0.064 (-0.037) [0.050]	-0.050 (-0.029) [0.051]
Early Stage/VC Transaction	-0.012 (-0.007) [0.045]		-0.000 (-0.000) [0.048]
Development/Infrastructure Transaction	-0.176*** (-0.154) [0.050]		-0.164*** (-0.144) [0.057]
Late Stage/Buyout Transaction	0.075* (0.060) [0.043]		0.077* (0.061) [0.043]
Constant	-0.034 [0.122]	-0.170 [0.110]	-0.035 [0.124]
Country Fixed Effects	no	no	no
Deal Type Fixed Effects	yes	no	yes
GP Fixed Effects	no	no	no
Industry Fixed Effects	yes	yes	yes
Legal Quality	yes	yes	yes
Educational Quality	yes	yes	yes
Innovation Capacity	yes	yes	yes
Labor Market Rigidity	no	no	no
Cost of Debt	no	no	no
N	1157	1157	1157
R ² in %	23.27	22.20	23.33
adjusted R ² in %	19.44	18.39	19.35

P-values as of * p < 0.10, ** p < 0.05, *** p < 0.01

Figure 1: Frequency of sample transaction closing years

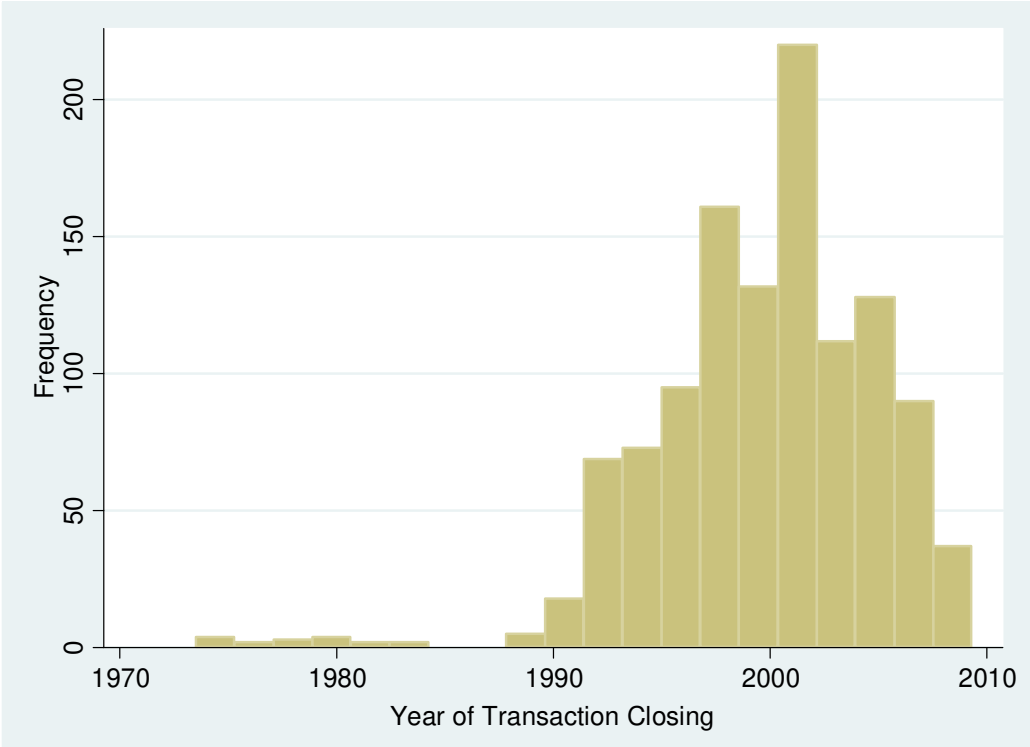


Figure 2: Distribution of winsorized IRRs in USD

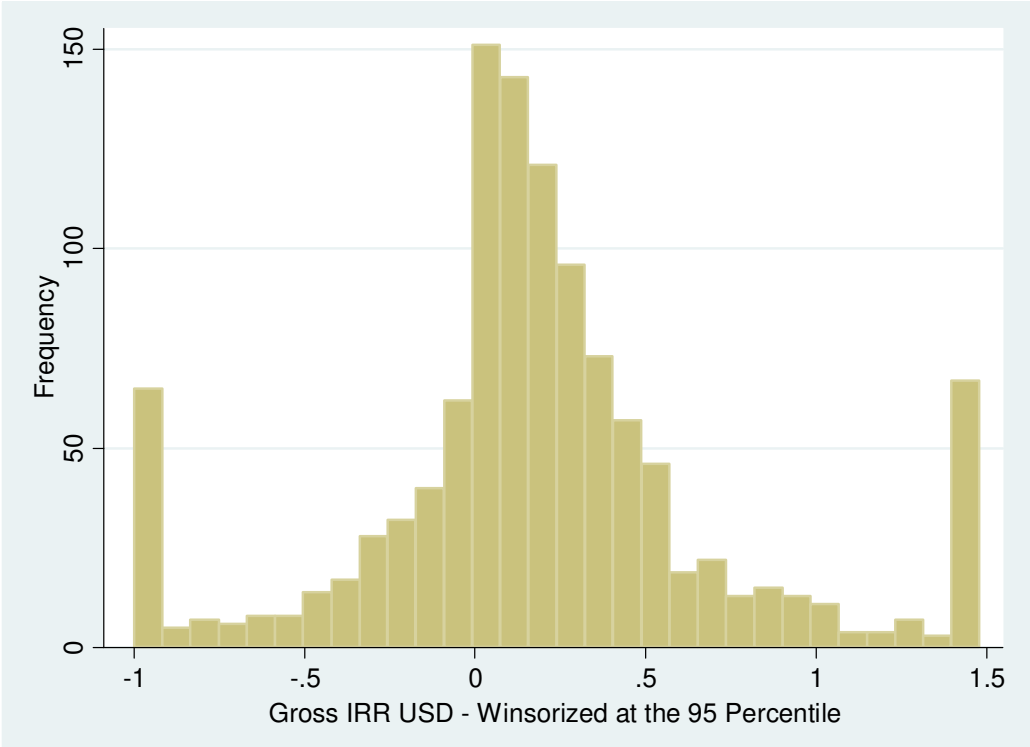


Figure 3A: Distribution of winsorized IRRs in USD contingent on the experience measure “Years of PE Experience in Host Country”

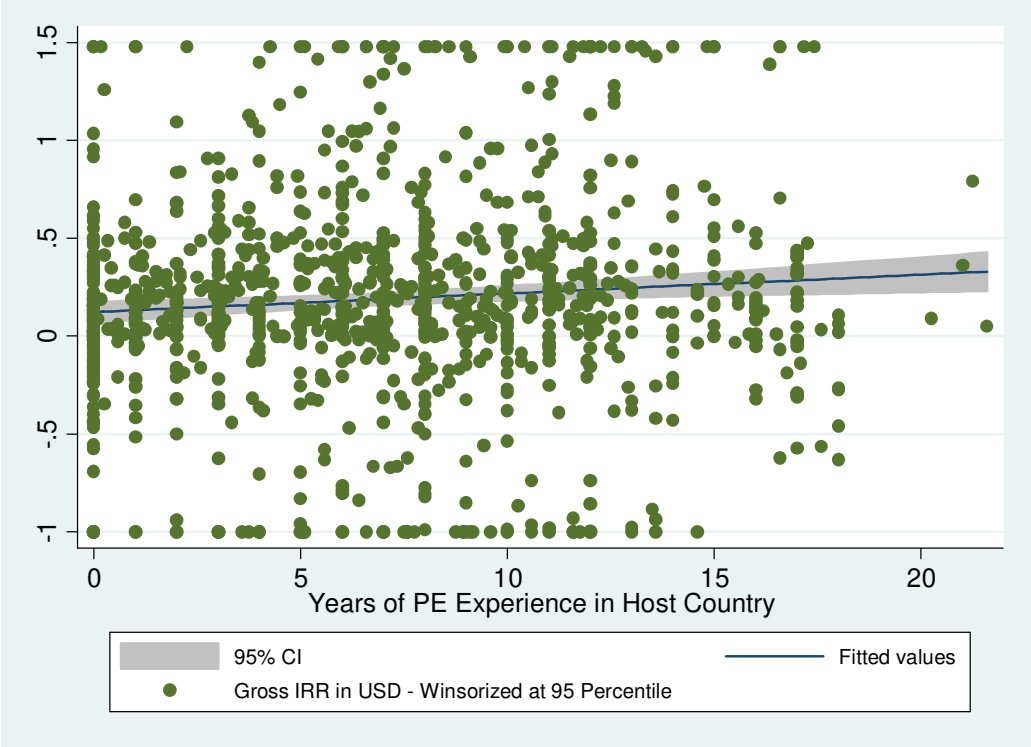


Figure 3B: Distribution of winsorized IRRs in USD contingent on the experience measure “log(PE Deal Experience in Host Country)”

