Capitalizing on Weak Institutions:
Private Equity and the Performance Effects of
Local Resources in Emerging Economies

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Abstract

How is private equity (PE) performance affected by the weak contract enforcement typical of emerging economies? Using a novel dataset covering the investments of 47 PE firms in 51 emerging economies over the years 1989-2003, I find: i.) performance improved when contract enforcement was weaker; and ii.) this counter-intuitive finding results from the moderating influence of firms' local resources. Specifically, both locally originating PE firms and foreign counterparts on at least their second local fund exhibit negative relationships between contract enforcement and performance. These results represent rare empirical evidence of the performance effects of interacting firm resources and country institutions that contributes to both law and finance theory and integration of resource- and institutions-based views of strategy.

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1. Introduction

Capital commitments to private equity (PE) in emerging economies rose from a high of $3 billion in 2003 to nearly $70 billion in 2008 (EMPEA 2010) and recent returns have significantly outpaced those in the US and Europe (Cambridge Associates 2010). These trends run counter to established evidence suggesting PE as a strong case for the costs of weak contract enforcement, in general, and poor protection of minority shareholders, in particular. Documented consequences of incomplete institutions on PE include less entry (Guler and Guillen 2010; Jeng and Wells 2000), fewer initial public offerings (IPOs) (Black and Gilson 1998; Cumming et al 2006), a reluctance to take minority stakes (Lerner and Schoar 2005), and lower valuations (Lerner and Schoar 2005).

That weak contract enforcement can create growth opportunities is, however, not a new concept. Khanna and Palepu (2000) show that Indian business groups grow by substituting for failed markets for capital, talent, and knowledge and explicitly relate the value of these organizations to that of PE firms.[1] Other research set in emerging economies similarly stresses that accumulated local resources such as networks and reputation add value by substituting for institutions (Allen et al, 2005; Banerjee and Duflo 2000; Luo and Cheng 2005; McMillan and Woodruff 1999; Siegel 2009). This is the rationale for why multinational corporations (MNCs) are more likely to select local joint-venture (JV) partners when institutions are weaker (Henisz 2000; Meyer et al 2009). It also parallels the importance of local resources to PE success in solving market inefficiencies in the financing of startups (Sorenson and Stuart 2001; Saxenian 1994).

[1] Specifically, Khanna and Palepu (2000, p869) write: "Indian business groups are closer to LBO associations than to the diversified public corporations in the United States".

I directly test the relationship between contract enforcement and PE performance, using a novel dataset covering investments in 51 emerging economies initiated over the period 1989-2003. This was the truly nascent period of PE's expansion into emerging economies, predating recent growth in commitments and returns. I find, however, that—conditioned on investing in emerging economies—PE firms performed better when country institutions for contract enforcement were weaker. Further study reveals that this surprising result is entirely accounted for by the performance of two types of PE firms, both characterized by their established localness: i.) firms originating in the emerging economies in which they invest; and ii.) foreign counterparts that had previously set up at least one local fund. Having raised an earlier fund in a foreign country, in turn, had value across all institutional settings, indicating that industry-specific resources matter even when crossing substantial country borders.

I explore the robustness of these findings and the mechanisms behind them through additional analyses. First, I show that both main findings disappear when contract enforcement is replaced with a measure of financial development. This indicates that the value of local resources in countries with weaker contract enforcement is about something more than facilitating provision of scarce capital. Second, I show that the significance of both main findings is magnified when the sample is constrained to just investments in firms that primarily sell to their domestic market. This reflects that domestically oriented investees in emerging economies likely operate in less efficient market spaces and are more subject to local norms than their internationally oriented counterparts. It also reflects the latter are better able to have some of their transactions governed by foreign institutions (Siegel 2005).

Finally, I check the robustness of findings to a subsample of minority stake deals. Lerner and Schoar (2005) show PE firms that invest in countries with less investor protection commonly deal with expropriation risk less through formal contracting and more through controlling equity stakes. The authors note that this strategy likely contributes to poor performance, as it reduces scope for diversification and undermines incentives for investee firms—both crucial elements of the traditional PE business model (Kaplan and Stromberg 2003; Gompers 1998). I show that my main two findings still hold when majority stake deals are excluded.

Studies using country characteristics as key independent variables generally face serious challenges of endogeneity. Given strong correlation between country features, questions relate to causal direction or whether an omitted variable is driving the levels of both the independent and dependent variables, rendering any significant findings spurious artifacts. A typical endogeneity charge facing a study of how country institutions influence firm performance is that hard-to-specify entrepreneurial culture has both led society to pressure government towards better institutions and led firms to perform unusually well. Endogeneity with regard to country investment selections by firms of differing core quality is another major concern.

To deal with any time invariant sources of endogeneity, my OLS regressions include fixed effects for country of investment and the investing PE firm.[2] Furthermore, I include dummies for year of investment, variables marking the share of deals by industry, and a

[2] I also replicate the analysis using Random Coefficients Modeling (RCM) and get consistent results. This analysis is attached in Appendix A.

time-varying control for local competition in the PE industry.[3] I measure industry at the two-digit GICS level. In addition to these controls, I add two-way clustering of errors on both country and PE firm (Cameron, Gelbach and Miller 2006; Thompson 2009)—the two groups associated with the key independent variables used in this study. Two-way clustering means that standard errors and coefficients are robust to correlation of observations within either of these two non-nested groups. Finally, I propose that typical endogeneity concerns actually work in my favor, in that the relationship I hypothesize involves stronger institutions predicting worse performance outcomes. As such, any omitted variable would need to have the unusual property of simultaneously strengthening institutions while undermining performance.

The findings in this paper are consistent with the law and finance literature's theoretical assertions that stronger institutions, in general, facilitate efficient allocation of resources and, in particular, encourage greater entry by foreign PE firms and greater willingness for them to take minority stakes. However, I contribute to the theory by providing empirical evidence across countries and time showing that, when institutions are incomplete and markets fail, select firms with the right strategies and resources are able benefit by filling the void. In particular, PE firms appear able to use local resources to avoid principal-agent problems stressed in the law and finance literature (Johnson et al 1999, 2000) without undermining manager incentives or diversification benefits by requiring a controlling stake (Lerner and Schoar 2005; Kaplan and Stromberg 2003; Gompers 1998).

The study shows that PE is a particularly good setting for studying performance across country borders. Research on the performance of MNC subsidiaries and alliances

[3] Because this funds competition control displays a relatively high correlation with contract enforcement, I show results are robust to dropping it as well.

has generally been limited not only by obstacles to data access, but also the complexities of measuring the net present value of future profits and of knowledge and other resources created by the JV that then have value elsewhere within the parent corporations. A major motivation for MNCs to enter JVs is to access resources—especially when institutions are weak (Meyer et al 2009). The difficulty for even collaborators themselves to judge alliance performance has, in fact, been listed as one reason for the relatively disappointing track record of JVs (Bleeke and Ernst 1993; Harbison and Pekar 1998; Kogut 1989). I avoid these complexities by testing the institutions-performance relationship in PE, where incredibly high-powered incentives mean profits are maximized on each individual investment.

My findings have significant implications beyond PE. First, in addition to contributing to law and finance theory, my examination of how local resources moderate the institutions-performance relationship responds to calls for researchers to integrate institutional and resource-based perspectives (Meyer and Peng 2005; Ricart et al 2004). Second, the data used for this study represents a novel combination of: i.) as noted above, an unusually clear firm-level measure of performance; and ii.) a spectrum of emerging economies mostly overlooked by previous business research, allowing a rare level of variation in institutional context. The novelty of the data enables novel empirical contributions. For one, the finding that benefits to foreign firms of acquiring local experience are greater when institutions are weaker provides evidence that variation in contract enforcement is an important source of the "liability of foreignness" (Zaheer 1995).

The rest of the paper is organized as follows. Section Two develops the paper's two main hypotheses through reference to both academic literature and field interviews. The

data and methodology used for analyses is then laid out in Section Three, followed by description of the results in Section Four. The paper then ends with a brief discussion of implications and areas for future exploration.

2. Hypothesis Development

Research on international PE has primarily been framed within law and finance theory. The basic idea of the law and finance literature is that weak institutions spark fear of expropriation by governments and business partners, increase transaction costs, and thereby undermine efficient allocation of financial and other vital external resources (King and Levine 1993). Consistent with this mechanism, stronger institutions are positively linked to economic growth (Acemoglu and Johnson 2005), foreign direct investment (Delios and Henisz 2000; Xu and Shenkar 2002), entry of new domestic firms (Djankov et al 2002; DeSai et al 2003; Klapper et al., 2007; Ardagna and Lusardi 2008), reinvestment of profits (Besley 1995; Johnson et al. 2002; Cull and Xu 2005), and firm size (Laeven and Woodruff 2007). Essentially, without clear rule of the game, healthy market competition breaks down (North 1990).

A core tenet of the strategy literature, in contrast, is that market failures represent business opportunities for firms with the right strategies and resources (Caves and Porter 1977; Porter 1980; Prahalad and Hamel 1990). While weak institutions increase transaction costs, the fact that they impede entry and competition can provide balancing benefits for leading incumbents. As prominently shown in the literature on business groups, success in emerging economies depends on accumulating appropriate local resources that allow leading incumbents to construct internal or network-based markets

(Khanna and Palepu 1997, 2000; Khanna and Rivkin 2001). Part of the value of these resources is specifically the fact that they take time to accumulate (Dierickx and Cool 1989). Amit et al (2010) point to this same logic to explain empirical evidence that the value of unlisted private firms in China rises when subnational institutions are weaker. So a first reason to expect PE firms to perform better when contract enforcement is worse is because of evidence that their target pool of investees are doing so. This is also the rationale for why MNCs are more likely to seek out JVs when institutions are incomplete (Henisz 2000; Meyer et al 2009).

Scholars in the law and finance tradition recognize the basic micro economic principle that market inefficiencies allow for greater returns, but respond that these returns tend not to accrue to firms—and especially not their minority shareholders. Instead, excess returns are expropriated either directly through the corruption of managers (Johnson et al. 1999) or indirectly through "tunneling" to related companies by controlling owners (Johnson et al. 2000; La Porta et al. 2002). Consistent with this argument, Henisz (2000) shows that the increased likelihood of JVs in countries with weaker institutions is tempered when contract enforcement institutions imply a higher risk that local partners themselves cannot be trusted.

But international business scholars have also shown that MNCs gain greater benefits from international alliances as they enter more of them (Inkpen and Beamish 1997; Delios and Beamish 2001). This finding makes PE a particularly interesting context to study cross-border activities, since the core business of PE firms is to sell specialized services in the selection and management of alliances. Institutional investors buy these services from PE firms for discreet periods of time—usually committing capital to PE funds for 8-10

years. Over this time, PE firms identify and invest in unlisted private firms with high potential for growth and actively work with company management to maximize firm value. Relative to funds investing in public equities, PE funds invest in far less companies specifically because identification of firms and the post-investment monitoring and efforts at value addition are very labor intensive. The argument, therefore, is that the more activist approach of PE firms positions them to better manage expropriation risks *vis a vis* their investees.

The law and finance literature points to another mechanism by which PE firms can capitalize on incomplete institutions: the lower investment costs that result from capital markets discounting firm value across the board when contract enforcement is weak (La Porta et al 2002; Lerner and Schoar 2005). Framed from the prospective investee's perspective, lower investment costs for PE come from a greater willingness to pay for the certification value of being PE-invested when institutions are more incomplete. Early stage firms in the US have similarly been shown to reduce the price of shares for PE firms they see as better able to help them overcome their reputational failings (Hsu 2004).

Up front benefits to PE firms from increased demand for their services can also take other forms than just lower investment costs. According to Carolyn Campbell, Managing Director and General Counsel of one of the largest PE firms active in Africa, ECP Capital, "Institutional risk in certain markets allows us to request stronger contract terms and enforcement mechanisms, and this in turn has the potential to bolster returns." Recognizing the difficulties of enforcement, though, "investors are wise to create strong contractual features that allow for off-shore arbitration, swap rights into offshore vehicles

and other solutions that avoid the local court system and allow for automatic execution of the agreed commercial deal."

Such early concessions to PE firms by their investees represent what sociologists refer to as "reputational bonding". The idea is that when weak institutions undermine formal contracting, affected parties may make sacrifices to clearly signal to valued resource holders their willingness to forgo short-term gains (Aldrich and Zimmer 1986; Licht and Siegel 2006; Siegel 2005). These strategies can lead to sustainable relationships as long as the resource provider is seen to have ongoing value (Moran 1973; Siegel 2009). The PE business model maintains incentives for entrepreneurs' good behavior beyond investment through the promise (and delivery) of access to other holders of scarce resources and shared benefits from maximization of firm value.

Hypothesis 1: PE performance improves in countries with weaker contract enforcement institutions.

This paper's first hypothesis posits that PE firms are able to profit from market failure in difficult institutional environments, in part at least, through expertise in managing alliances with investees endowed with valuable local resources. However, just as local resources enable investees to capitalize on weak local contract enforcement, a similar logic can be applied to PE firms themselves. At this level, local resources should enable PE firms to better source deals, better understand the complexities and opportunities faced by investees, and better manage the constant threat of expropriation by investees. Consistent with this idea, Delios and Beamish (2001) find that more host country experience

contributed to greater survival among Japanese JVs in foreign countries, though not improved returns. Given the variety of benefits MNCs can gain from JVs, however, survival can itself be seen as a metric of performance.

As noted in the introduction, there is a parallel between the importance of local resources for addressing institutional challenges in emerging economies and the role they play for PE firms dealing with an inability to contract against many risks in markets for startups (Sorenson and Stuart 2001; Saxenian 1994). "Entrepreneurs are the smartest guys in the world. They know if you don't know how things get done. If a Chinese VC wants to start doing deals in Silicon Valley, but doesn't want to leave Beijing, they're not going to do very well either. So the importance of being local is hardly unique here, " argues Tom Tsao, founding partner of Gobi Partners in China, a PE firm investing in early stage Chinese technology firms. "That said, in the early days here, it was very closed and opaque, with limited information sharing. So then you really needed to be on the ground."

A key way in which strong local resources have clearly mattered to PE firms is in enabling them to follow through on the promise of being true value-adding partners. Henry Nguyen, the Managing General Partner of IDG Ventures Vietnam, stresses the importance of the local network his firm has developed over several years:

> "Our network and the relationships we develop are a critical part of our work. There are plenty of potential investments that mainly come about thanks to the relationships we build up over time. In addition, because these companies are often tightly connected to our networks, it makes the process of managing these investments a lot easier. Furthermore, since we built a portfolio of companies, we

have a sort of 'keiretsu' of companies that are working together for their mutual benefit."

But developing such contracts requires local immersion. "One of the mistakes with some of the foreign funds is you see them only once a year. Why would that work?", asks Gobi's Tsao. "[Investees] ask themselves, 'You only care about us enough to come see us once a year?'" IFC investment officers tell stories of many investments gone bad in the 1990s because PE firms saw themselves as primarily financial engineers and not active participants in major strategic decisions. In these cases, the entrepreneurs often came to feel they had given shares away too cheaply and were then willing to employ accounting means that reduced returns to the PE investor, who usually was left with essentially no legal recourse.

A number of PE firms emphasized, though, that poor contract enforcement should not be taken to mean that contracts or the provisions included therein are not important. "We don't see the term sheet as some sort of legal hammer," says IDG's Nguyen. According to Chris Freund, founder of Mekong Capital in Vietnam:

"The legal agreement may occur to people more as paperwork rather than a series of choices that they made. We have learned that when negotiating agreements, if we review each line of the legal agreements very carefully to ensure they understand the implications, and if they agree verbally to those terms, then it's much easier to hold them accountable. The written agreements also must be accurate and

comprehensive, but the written agreement is more like a record of what was agreed verbally."

Hypothesis 2: The performance effect of PE firms' local resources increases when investing in countries with weaker contract enforcement institutions.

2. Data and Variables

3.1 The Sample

Data for this study was sourced from the International Finance Corporation (IFC), which first entered PE in 1973 with its commitment of $5 million to Fundo de Desenvolvimento in Brazil. IFC estimates its own share of PE in emerging economies at approximately 10 percent, likely making the organization the most substantial single investor at the industry's true geographic frontiers.[4] As a part of the World Bank, IFC has an explicit mandate to promote development of new PE industries in emerging economies, which explains the unique spread of their portfolio across emerging economies. Its development mandate has the further virtue, with regard to this study, of helping to connect the sample to a clear population, i.e. investments at the aforementioned geographic frontier. In fact, the study can be seen as somewhat of a quasi-natural experiment, in that IFC funding has, by design, drawn PE firms into emerging economies earlier than likely would have otherwise been the case.

[4] According to an analysis of ThomsonReuters' SDC Platinum database, IFC-invested funds account for 14% of all funds raised in the same year and country as an IFC-invested fund (not including funds raised in advanced economies). IFC's industry share during this period is actually likely to be higher if size of funds is measured as well, since IFC-invested funds are likely to have been able to leverage IFC's name into larger funds.

The unit of observation in the original IFC dataset is each individual portfolio company investment of each sample fund. This level of analysis is analogous to the JV subsidiaries of MNCs—with the main practical difference being the possibility that a particular portfolio company shows up more than once because it has been invested in by more than one IFC-invested fund.[5] While this deal level unit of observation is used for some supplemental and robustness analyses, the main work in the paper is based on a sample that aggregates the database's deal data to the level of total activity by each PE firm in each country and initial year of investment. One sample observation, for example, is composed of the five deals entered into by IFC-invested and H&Q-managed funds in the Philippines beginning in the year 1999.

The primary challenge of the data is that it all comes from a single economic actor, making it susceptible to the charge of sample selection bias. Given IFC's prominent role in emerging economies and rigorous due diligence process, there is good reason to believe the contention of IFC investment officers that the organization consistently got access to the funds of better than average quality PE firms. This means sample performance is likely better than that of the true population of PE activity at the geographic frontier. Descriptive statistics in Table 1 and probit regressions in Table 2 support this picture, with first-time fund managers clearly less likely to get IFC backing than PE firms with a track record. Fortunately, this bias alone does not undermine the aims of this paper.

More problematic, for the purposes of this study, is the possibility that the quality advantage of firms that received IFC funding, relative to their contemporaries, is greater in

[5] There are 41 instances in the dataset where a company is found to have been invested in by more than one IFC-invested fund, 4 of which were invested in by 3 IFC-invested funds and 2 of which were invested in by 4 IFC-invested funds.

countries where institutions are less complete. If this were the case, any relationship found between performance and institutions could simply be an artifact of IFC's fund selection process. This scenario, however, is unlikely given the time frame under study, when few other prominent institutional investors were yet venturing into any emerging economies. Table 2 provides more quantitative comfort on this point by regressing the likelihood of IFC funding on interactions of a measure for the strength of country contract enforcement and dummies for either local or foreign experience. Coefficients on both interactions are insignificant, indicating no change across institutional settings in the probability that IFC-invested firms are experienced. This finding is inconsistent with an argument that IFC's greater access to higher quality PE firms was reduced in countries with stronger contract enforcement. The novelty of the IFC data, by definition, makes it challenging to examine this much deeper.

INSERT TABLES 1 & 2

The 702 deals and 348 PE firm-country-year observations studied here are spread across 51 emerging markets. The number of observations per country and mean economic and institutional characteristics for of each respective country is presented in Table 3. India accounts for 97 of the deals (13.8% of all deals), while 18 countries were home to only a single investment. Poland actually accounts for the largest share of the main sample with 35 PE firm-country-year observations (10.1% of main sample). The former Soviet Bloc economies of Russia and Eastern Europe, in general, account for a disproportionate

35.8 percent of the full sample, reflecting the World Bank's heavy involvement in the region's economic transition.[6] African countries account for 10.9 percent.

About 30 portfolio companies invested in by IFC-invested funds, but based in the United States, Japan, Germany, Finland, Austria, or South Korea were dropped from the main analysis for the sake of clarity regarding the population of interest. The database includes another 89 investments made by IFC-invested funds before July 1, 2003 that could not be included in the sample studied here because the countries in which they were based are not covered ICRG's Investment Profile measure.[7]

INSERT TABLE 3

Investments were carried out by 71 PE funds managed by 47 PE firms. At the high end of the spectrum, one PE firm accounts for 63 deals (9%) and 24 PE firm-country-year observations (6.8% of the sample), while three others contributed only a single deal and one PE firm-country-year observation each. As Table 4 shows, the database is quite diversified across industries, with information technology (18.7%) and consumer discretionary products (17.9%) accounting for the largest shares of total deals. Because of the clustering of information technology investments at the end of the 1990s, its share of PE firm-country-year observations is lower (9.6% of the sample). The largest shares in the main sample are consumer discretionary (16.2% of the sample) and telecommunications (11.6% of the sample).

[6] Findings are robust to exclusion of the transition economies.
[7] These investments cover 9 countries (Bosnia, Fiji, Georgia, Macedonia, Mauritius, Slovenia, Turkmenistan, Ukraine, and West Bank/Gaza) and two for which the headquarter country is unknown.

INSERT TABLE 4

3.2 Time Period of Interest

The sample studied in this paper covers the period July 1, 1989-July 1, 2003. New deals initiated subsequent to July 1, 2003 are not considered in the main analysis in order to minimize not-yet-exited investments and the censoring problem they present. This seven-year cutoff is conservative relative to US-based studies that use a five-year cutoff, taking into account evidence that holding periods are longer in emerging economies. As with IFC's development mandate, the cutoff also has the virtue of further reinforcing clarity about the study's focus on the true geographic frontier of PE's global expansion, since it predates relatively dramatic recent developments in the development of certain emerging economies' PE industries.[8]

Figure 1 shows that the number of deals in the database increased rapidly over the 1990s, reaching a height of 118 (16.8%) in 2000, before falling precipitously over the following two years. Figure 2 shows that PE firm-country-year observations also peak in 2000 at 50 (14.4%). These numbers are consistent with general trends in global PE, with regard to general growth in number of funds up until the economic crisis at the end of the 1990s and the limited number of firms looking to raise new funds in its immediate aftermath.

[8] Capital commitments to PE in emerging economies increased from a high of just $3 billion in 2003 to nearly $70 billion in 2008 (EMPEA 2010a) and their share of global totals continues to rise (EMPEA 2010b). Leading incumbents have even joined the fray: of the top 30 PE firms, 18 now have offices in China or India (BCG 2010). And most promisingly, PE returns in emerging economies over the recent economic crisis substantially outperformed those in the US and Europe, as well as public markets in emerging economies (Cambridge Associates 2010).

INSERT FIGURES 1 & 2

3.3 Dependent Variable

The dependent variables for performance used in this study are quasi-internal rates of return (henceforth QIRR) at the aggregated PE firm-country-year level and at the deal level. The measure is not a standard internal rate of return (IRR) because data at the deal level is only available on: i.) aggregate money invested in each portfolio company and an initial date of investment on the entry side; and ii.) aggregate money returned and the final date of distributions on the exit side. Investments entered by July 1, 2003 but not yet exited as of September 1, 2010 are counted among complete writeoffs (QIRR=-100%).

QIRR is lower than the true IRR, as it exaggerates the holding time for money invested in follow-up rounds or returned over time through partial exits. In this way, it is perhaps best conceptualized as a time-adjusted variant of an investment multiple, the commonly used PE performance measure of money out over money in.

3.4 Independent Variables

Institutions. There are numerous measures of the strength of country institutions for contract enforcement. In this paper, I use the International Country Risk Guide (ICRG)'s Investment Profile. The measure is taken at initial entry to represent the information available to PE firms about the institutional environment as they made each investment decision. In keeping with this perspective, all independent and control variables in the study are measured at initial entry.

Countries are scored by ICRG analysts on a scale of 3 (incomplete) to 12 (complete) based on risks relating to three subcomponents: i.) contract viability/expropriation; ii.) profits repatriation; and iii.) payment delays.[9] Mean score in the sample is 7.5 and the median is 7. Information on mean scores in the sample for each country is included in the earlier presented Table 3. The ICRG measure is one of few available for the full sample time period and has been used in well-cited previous studies on the role of contract enforcement (Rajan and Sibramanian 2007; Bekaert et al 2005). As noted in the earlier discussion of the sample, a downside of the measure is that it misses a few countries that are home to portfolio companies of IFC-invested funds.

Some measures of institutions focus solely on reflecting laws on the books, while others evaluate the implementation of laws. The ICRG indices all fall into the latter group. While easier to conceptualize, the downside of more objective measures of a country's laws is that variation in implementation of laws is a key institutional characteristic distinguishing countries in the developing world (Roe and Siegel 2009). As a practical result, measures based on perception of implementation—like those of ICRG—tend to be more reliable predictors of economic outcomes (Woodruff 2006).

Robustness checks are done using two additional well-established "soft" measures of contract enforcement: the World Bank's Regulatory Quality measure and the Heritage Foundation's Property Rights index. The World Bank measure is based on surveys of local firms and rates "the incidence of market-unfriendly policies" (Kaufmann et al 2006). It ranges from just under -3 at the bottom end to just over 3 at the top end. Heritage's Property Rights measure, in turn, is somewhat mislabeled: Woodruff (2006) describes it as

[9] ICRG also has a measure for just the first of these three components, but this has only been publically available since 2000.

"a broader measure of the legal institutional environment, constructed in a manner similar to the [ICRG] expropriation risk index." All of the Heritage indices range from 10 at the bottom end to 90 at the top end. Neither of the two measures covers the full time period.[10]

Location-Specific Resources. The second set of independent variables relates to the origins and experience of investing PE firms. I measure firm origins with a dummy variable that equals one for PE firms first established in the emerging economies in which they are investing and zero for those started up in an OECD country. I create two dummies for experience—one for local experience based on whether or not the investing PE firm had previously raised any other funds investing in the same country and a second for foreign experience based on whether it had previously raised any funds that did not invest in the same country. I use dichotomous variables for experience because of the high share of firms on their first fund.[11]

Of the 71 funds in the sample, 31 (43.7%) were managed by the 26 PE firms originating in the country or region in which they invested. With regard to experience, 29 funds (40.8%) were managed by PE firms working on their first fund of any sort. Of the remaining 42 funds, 23 (32.4% of all funds) were managed by firms that had previously raised at least one PE fund outside of the country or region of focus, 11 (15.5% of all funds) by firms that had raised at least one PE fund within the local country or region, and 8 (11.3% of all funds) by firms had both types of experience.[12]

[10] I fill in missing data with the institutional score from the closest year. In the case of the World Bank data, I use the closest previous score whenever possible. The World Bank numbers begin in 1996, while the Heritage indices all began in 1995. Costa Rica is not covered by the Heritage measure.
[11] Findings are robust to use of logged counts for fund order and local funds.
[12] The main source of this data is Thomson Reuters' ThomsonONE database. IFC investment officers confirmed that sample funds missing from the ThomsonReuters database were managed by first-time fund managers.

3.5 Controls

As noted in the opening sentence of the paper, previous research has found that PE investors are less likely to invest in countries with less complete institutions (Guler and Guillen 2010; Jeng and Wells 2000). As a result, an alternative explanation for why PE might perform better in more institutionally challenged countries is that these countries are home to less competition for PE deals. At the same time, however, it is worth keeping in mind that all of the investments in the sample occur in countries where PE as an industry is still at a very nascent stage. In this context, the sociological literature on the life of industries actually predicts that the positive legitimizing role of increasing firm density should overwhelm the negative effect of heightened competition (Hannan and Freeman 1988; Caroll and Hannan 1989).

The median number of other funds present in the same country in the sample is nine, with 14.4 percent of observations occurring when there were not yet any funds headquartered in the country. In order to control for the fact that larger markets can handle larger numbers of funds, I divide the number of total funds in each country at the time of investment (including the investing fund) by the country's GDP for that same year.[13] I then log this quotient in order to create a more normal distribution. This variable for industry competition is positively correlated with contract enforcement at the levels of .302, .176, and .140 for the ICRG, World Bank, and Heritage measures, respectively. Given multi-colinearity concerns, I show that results are robust to including and not including this variable.

[13] Number of funds by year and country is sourced from the ThomsonONE database.

The only other control is based at the basic level of analysis: logged aggregate investment by each PE firm in each country and year. Variance on this measure was quite significant, with median investment in the sample at $7.1 million and a mean of $23.4 million. The expected relationship is that funds may invest larger amounts when they feel more confident in the prospects of a particular company or particular investment environment.

3.6 Descriptive Statistics

Table 5 presents descriptive statistics for the dependent and independent variables for the full sample. The mean QIRR for the full sample is -6.4 percent. This number rises to 2.3 percent when weighted by aggregate investment per firm-country-year observation. Median QIRR is 0.2 percent.[14] An important characteristic of the QIRR is that approximately one fifth of all deals in the sample (20.7%) are complete writeoffs, i.e. investments with no known returns at all. This results in 33 PE firm-country-year observations (9.5% of the sample) with returns of -100%.

Table 5 also presents means and standard deviations for paired subsamples based on high or low levels of target country contract enforcement, PE firm origins, and PE firm local experience and t-statistics on the differences in means between pairs subsamples. The subsamples for PE activity in high contract enforcement and low contract enforcement

[14] As noted earlier, these numbers are lower than the actual fund-level returns of sample funds. There is, however, no reason to believe that the downward bias is correlated with institutions in a way that works against the hypothesis testing in the paper, i.e. that the difference between the QIRR and the true IRR is greater in countries with weaker contract enforcement. Correlation between fund-level QIRR based on aggregate investments and aggregate proceeds for all deals associated with each fund and the IRR of actual cash flows between funds and the IFC is 0.685.

countries include investments made in countries with ICRG Investment Profile scores of 10 or higher and 5 or lower, respectively. High contract enforcement countries include: Botswana, Bulgaria (late '90s and on), Chile, Czech Republic(early '00s), Estonia, Hungary (late '90s and on), Mexico, Philippines (early '00s), Poland (late '90s and on), Singapore, Slovakia, Slovenia, South Africa, and Tunisia. Low contract enforcement, in turn, include: Argentina, Brazil, Bulgaria(early '90s), China, Colombia, Czech Republic (early '90s), Haiti, Hungary (early '90s), India, Indonesia, Moldova, Nigeria, Peru, Philippines (early '90s), Poland (early 90s), Romania, Russia, Ukraine, Vietnam, and Zimbabwe. Note that the four countries that overlap these two groups (and include reference to periods in parentheses) are all Eastern European transition economies. The firm origins and local experience subsamples are based on the related dummies described in the earlier independent variables section.

Consistent with Hypothesis 1, Panel A of Table 5 indicates that PE performance was significantly and sizably better in low contract enforcement countries. Unweighted QIRRs in low contract enforcement countries produce a mean of one percent, while those in high contract enforcement countries result in a mean of -16 percent. Consistent also with previous research showing that entry increases with more complete institutions, the number of competing PE firms at the time of investment is higher in the high contract enforcement group. This is true despite GDP actually being lower than in the low contract enforcement group. The higher GDP of the low contract enforcement group reflects the particularly large populations of the so-called BRIC countries (Brazil, Russia, India, and China), as well as countries like Nigeria and Indonesia. PE firms in the high contract

enforcement group have more local and foreign experience, which makes the lower returns even more surprising.

Panel A in Table 5 also indicates that firms originating in OECD countries perform substantially better than firms established in emerging economies. Given that 64 percent of these foreign firms have previously raised firms in other countries, compared to 2 percent of their locally originating competitors, this suggests that general industry experience still plays a significant role in emerging economies. The relatively poor performance of locally originating firms happens despite being substantially more likely to have previously raised a local fund. Foreign PE firms also commit about two times more money to investments per year and country.

The basic descriptive statistics on the subsamples divided according to local experience provide similarly little support for Hypothesis 2 on the importance of localness in emerging economies. The t-test shows no significant difference between the mean returns of -8 and -6 percent, respectively, for firms with experience and those without. Firms with local experience tend to be active in better institutional settings, face more competition from other PE firms, higher GDPs, and to invest about 50 percent more per observation. This all relates to the relatively high correlation (0.30) between local experience and year of investment, which is to be expected given the nascent nature of the population of study.

Indications of a moderating role for localness are more discernable in Panel B of Table 5, which considers the origins- and local experience-based subsamples within high and low contract enforcement settings. This shows that foreign firms have a sizable and

highly significant performance advantage over their locally originating competitors (-2 percent compared to -42 percent) in high contract enforcement countries, but also that this advantage disappears in low contract enforcement countries. With regard to local experience, there is no indication that it makes a difference when contract enforcement levels are high. However, firms with local experience get 8 percent mean returns in low contract enforcement countries and -2 percent in high contract enforcement countries—a difference in means for which the t-test falls only just short of significance.

Table 6 shows that correlations between institutions and performance are not only negative, but often significantly so. The negative correlation of the main institutions variable, Investment Profile, with QIRR is -.084. While this correlation falls short of significance, the negative correlations of the alternative institutions with performance are both negative and highly significant at the $p<.01$ level. Figures 3 and 4 provide graphical representations of how the negative institutions-performance relationship appears to be moderated by features of firm localness.

INSERT TABLES 5 & 6

INSERT FIGURE 3 & 4

4. Results

4.1 The Performance Effects of Institutions and Firm Resources

The OLS models in Table 9 provide evidence in favor of the hypothesized negative relationship between contract enforcement and PE performance in emerging economies. Coefficients on the main contract enforcement measure are negative and weakly significant, falling just short of the standard p>.05 benchmark for statistical significance. This is robust to use of the alternative measures of contract enforcement Models 4 and 5. The control for industry competition is highly insignificant and has little effect on the size or significance of the institutions variable across models. Controls for both originating locally and for having previously raised a fund in a foreign country are significant and positive across models.

Model 6 replaces contract enforcement as the main country-level independent variable with a measure of financial development. This is intended to test the law and finance theory's perspective that the main way that institutions shape firm outcomes is through their effect on the financial system. Similar results with this independent variable would indicate that PE firms' success in countries with weak contract enforcement is the result of larger unmet demand for financing, in particular. Model 6, however, shows no relationship at all between development of the domestic banking sector and PE performance. This indicates that PE services create value in emerging economies that goes beyond financial intermediation.

Based on results for the full model including controls for firm characteristics and industry competition (Model 3), a one-point increase in the main contract enforcement measure leads to 3.4 percent decrease in expected return on investment. At the extremes, holding other variables constant, this implies expected returns in countries with famously difficult institutional environments like those of Haiti, Vietnam, and Zimbabwe (ICRG

Investment Profile scores of 4-5) that are about 20 percent higher than in far more favorably viewed emerging economies like Estonia and Botswana (ICRG scores of 10-11).

INSERT TABLE 9

4.2 The Interaction of Institutions and Firm Origins and Experience

Table 10 presents strong evidence in support for the Hypothesis 2 that being more local moderates the performance effects of contract enforcement. The importance of localness in overcoming incomplete contract enforcement shows up both with regard to locally originating PE firms and their somewhat intrinsic local resources and the acquired local experience of foreign-originating PE firms. In sum, it appears that local PE firms begin with a clear advantage in capitalizing on weak contract enforcement, but foreigners are able to make up ground by putting in the time and learning.

The first two models in Table 10 split the sample between investments by firms originating from emerging economies (Models 1) and those originating from OECD countries (Model 2). Coefficients on contract enforcement are negative for both subsamples and actually significant only for the foreign firms subsample. This is likely affected by the large share of locally originating firms that operate in only one country, meaning that there is substantially less variation in institutions in their subsample. The result when I interact local origins and contract enforcement in Model 3 is a large and highly significant positive coefficient on local origins and a similarly highly significant negative coefficient on the interaction. The results indicate that, despite the negative interaction and holding experience constant, local origins remain a positive influence on performance at all levels of contract enforcement.

The second exercise is to split the sample between PE firms that previously raised at least one local fund (Model 4) and those still on their first local fund (Model 5). The coefficient on institutions is weakly significant only in Model 4 and substantially more negative than in Model 5. This indicates that local experience steepens the negative relationship between contract enforcement and performance. The significance of this difference is confirmed in Model 6, which introduces the interaction of local experience and institutions. Model 6 coefficients on both the local experience dummy and the interaction term are highly significant and quite large, portraying clearly that PE firms with local experience substantially outperform new entrants when contract enforcement is less complete. The interaction implies that the advantage of local experience lasts through the score of 7.5, the mean for ICRG's Investment Profile measure.

The findings that both local origins and local experience are associated with better performance in countries with weaker contract enforcement naturally leads to the question of whether the benefits of local learning might differ in accordance with firm origins. As in Models 1 and 2, Models 7 and 8 again split the sample between PE firms originating in emerging economies (Model 7) and those originating in OECD countries (Model 8), but also adds in the interaction of local experience and institutions. In Model 7, neither the dummy for local experience nor its interaction is significant. In fact, the coefficient on the interaction is actually positive. Consistent with earlier findings that locally originating firms do perform better when contract enforcement is weaker, the main institutions variable is negative and just short of significance. Model 8, in contrast, produces highly significant coefficients on both local experience and the interaction, indicating that foreign originating firms with local experience generally outperform new foreign entrants in

countries with contract enforcement scores up to and including the median ICRG score of 7.5.

INSERT TABLE 10

4.3 Examining Assumptions: Minority Stakes and Domestic Market Orientation

Before exploring some supplemental analysis with the deal data, it is useful to confirm that the main results can also be replicated at this level. In addition to shifting to the deal level, I also consider an alternative dependent variable, the public market equivalent (PME). The PME, which has become popular in research on PE, is the result of identifying the return that would have been earned from an identical investment in the stock market and subtracting this from PE returns. Given that there was no stock market in many of the countries in the sample used here, I instead calculate these opportunity costs using the MSCI Emerging Markets Index. With the exception of Model 1, all models replace QIRR with PME as the dependent variable.

Models 1-5 in Table 11 show that findings are largely robust to shifting analysis to the deal level. The coefficient on contract enforcement is identical and weakly significant in Models 1-3, showing no change when the QIRR is replaced with the PME in Model 2 or when the industry competition control is added. Models 4 and 5 confirm the significant, moderating role of localness at the deal level.

The aim of the first supplemental analysis is to confirm an assumption made about the main results. The framing of the paper implies that the main results can be interpreted as reflecting the impact of contract enforcement on the performance of non-controlling shareholders. This framing is generally consistent with discussions with IFC investment

officers indicating that most deals made by IFC-invested funds involved minority stakes. But, of course, saying the sample is made up primarily of minority deals is not the same as showing the results directly for minority deals. While IFC does not have ownership shares for all deals in the sample, share at entry is available for 564 of 702 (80%) deals. I create a dummy variable that equals one if a fund buys fully 50 percent or more of a portfolio company. Majority deals account for 15.2 percent of the overall sample.

Models 6 and 7 consider just the subsample of 402 minority deals and provide results that are consistent with, though weaker than, the main findings on the moderating role of localness. Model 6 returns a positive, but insignificant coefficient on local origins and a substantial, negative and highly significant coefficient on the interaction of local origins and contract enforcement. Model 7, in turn, returns a positive and significant coefficient on local experience and a negative, but not statistically significant one on its interaction with institutional completeness.[15]

The second supplemental analysis attempts to dig in a bit more into the mechanism by which localness is an asset in countries with weaker contract enforcement by considering the geographic market orientation of the investees. The proposition is that investees focused exclusively on domestic markets operate in a less efficient market and less competitive space than do more internationally oriented firms. The effect of incomplete contract enforcement should be greater in these spaces than in those where firms are selling their products to customer in other countries because the latter transactions may, at least, in part come under the governance of buyers' institutions. Given

[15] I also created a less restrictively defined control share dummy that equals one if a fund owns 30 percent or more of the company, given that such a share will often give investors at least veto power. Deals meeting this threshold account for 38.3 percent of the sample. In regressions not shown here, replication of the models using this alternate measure produce similar, but more significant results.

less market efficiency, the importance of local resources for substituting institutions should be heightened in domestically oriented investments.

Data on market orientation is, again, not complete. It comes from a survey that I carried out in collaboration with IFC during the second half of 2009, including the question "What was this company's primary target market?" Responses were received for 299 deals across 38 countries and managed by 20 PE firms. Results indicate that 69.9 percent of investees were oriented towards domestic markets only.

Models 8 and 9 focus on just those deals that focused on domestic markets and show a strong magnification of the study's main results. Despite the significantly smaller number of observations, the localness dummies are positive, large, and significant, while the interaction terms are negative, large, and more significant in both local origins (Model 8) and local experience (Model 9). As such, the moderating role of localness becomes more important as the impact of weak institutions is intensified through focus n domestic markets. It is also worth noting that the coefficients on foreign experience flip from positive to negative in both models, with the coefficient in Model 8 showing up as high significant.

5. Conclusions

This paper provides empirical evidence that market failure due to weak contract enforcement can serve as a business opportunity for firms with the right strategy and local resources. This alternative perspective on how institutions matter offers encouraging findings for two groups. First, it indicates that intrinsic resources serve as a competitive advantage that can give local firms an advantage over even experienced foreign

competitors in seizing on opportunities arising from market failures in countries with weaker contract enforcement. Second, it shows MNCs that challenges related to contract enforcement in any foreign market can be overcome through local experience.

The findings here lead naturally to questions for additional research. Most obvious are questions regarding specifically which local resources are most important for capitalizing on weak institutions and whether there are shortcuts to accessing those resources. In the particular context of PE, for example, can foreign funds rent local resources through syndication of deals with locally originating funds? And does such rental have lasting benefits for subsequent solo investments? Related is investigation of the value of the network of either country offices or local partnerships that a PE firm establishes when investing internationally.

Another means to potentially acquire local resources more quickly is through human resources strategy. Like legal and consulting services firms, PE firms are unusually loose organizations wherein individual managing partners who run funds are highly incentivized. As a result, well-endowed leading PE firms should be able to buy almost any human resources they need. Study of this issue should benefit from the nascent nature of PE in emerging economies, which has led to many cases where new PE firms are made up of experienced partners that have spun off together from a more established organization. Future work, therefore, should be able to separate the local resources of PE firms from those of the individual partners that run their funds.

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Table 1: Survey Sample and Other Same Country Year Fund Characteristics

The data in this figure is sourced from ThomsonReuters' SDC Platinum and is made up of data on all funds with a combination of vintage year and country headquarters connected to an IFC-invested fund. IFC-invested funds listed as being based in OECD countries are not included, as it would be misleading to compare these emerging markets oriented funds to the overwhelmingly domestically oriented funds in these countries.

	Full Sample in IFC-invested Countries-Vintage Years					*IFC-invested Funds Only*				
Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
IFC Fund (Dummy)	658	0.1	0.3	0	1					
Local Experience (Dummy)	658	0.4	0.5	0	1	93	0.5	0.5	0	1
Previous Local Funds	658	1.3	3.1	0	24	93	1.2	1.8	0	9
Foreign Experience (Dummy)	658	0.1	0.3	0	1	93	0.2	0.4	0	1
Total Previous Funds	658	4.6	18.1	1	208	93	3.0	3.0	1	14
Investment Profile (ICRG)	646	8.0	2.2	3	12	88	7.7	2.3	3	12
Aggregate Country Funds	658	97.4	77.0	1	250	93	50.2	63.5	1	250
GDP (USD billion)	653	628.0	645.0	3.6	2,660.0	92	383.0	512.0	3.6	2,660.0
Bank Credit / GDP	636	87.0	46.4	8.6	198.1	87	81.7	50.2	8.6	198.1

Table 2: Testing for Selection Bias in the IFC Sample

The dependent variable in the following 6 probit models is a dummy variable that equals one for IFC-invested funds and zero for all other funds. The sample across models is all funds in the SDC Platinum database with a combination of vintage year and country headquarters connected to an IFC-invested fund. A primary independent variable is a measure of the completeness of institutions, ICRG's Investment Profile index. Three additional independent variables are dummies for funds: i.) focused on VC investments; ii.) managed by firms that had previously raised funds based in the same country; and iii.) managed by firms that had previously raised funds based outside of the same country. Model 1 includes all four independent variables, while Models 3-5 individually add in interactions of the institutional completeness measure with each of the dummy variables. Model 5 includes all three interaction term variables. All models include controls for country fund density, market size, and access bank credit.

	(6)	(7)	(8)	(9)	(10)
	IFC Fund	IFC Fund	IFC Fund	IFC Fund	IFC Fund
Investment Profile	-0.063	-0.053	-0.039	-0.066	-0.038
	(0.049)	(0.049)	(0.075)	(0.049)	(0.077)
Country Funds (Logged)	0.297	0.264	0.255	0.293	0.222
	(0.241)	(0.229)	(0.242)	(0.244)	(0.232)
GDP (Logged)	-0.295	-0.266	-0.344**	-0.327*	-0.341**
	(0.190)	(0.182)	(0.171)	(0.181)	(0.141)
Trade / GDP (Logged)	-0.813**	-0.863***	-0.873**	-0.861**	-0.959***
	(0.329)	(0.332)	(0.357)	(0.344)	(0.359)
Bank Credit / GDP	0.0151***	0.0144***	0.0152***	0.0153***	0.0147***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Foreign Experience (Dummy)	0.566*	1.196	0.563*	0.566*	1.185
	(0.331)	(1.193)	(0.328)	(0.331)	(1.187)
Local Experience (Dummy)	0.712***	0.709***	1.000*	0.714***	0.948*
	(0.144)	(0.143)	(0.534)	(0.146)	(0.567)
Venture Capital Fund (Dummy)	0.047	0.055	0.043	-0.071	-0.068
	(0.323)	(0.317)	(0.319)	(0.398)	(0.391)
Interaction: Foreign Experience * Investment Profile		-0.077			-0.076
		(0.124)			(0.123)
Interaction: Local Experience * Investment Profile			-0.036		-0.029
			(0.062)		(0.067)
Interaction: VC * Investment Profile				0.022	0.022
				(0.034)	(0.034)
Vintage Year FE	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Constant	9.125*	10.57**	8.648*	10.15**	10.95***
	(5.221)	(4.640)	(5.053)	(5.006)	(3.776)
Clustering of Errors	Country	Country	Country	Country	Country
Observations	616	616	611	616	611
R-squared	0.236	0.214	0.235	0.236	0.236

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 3: Country Measures by Country

	Deal Level Obs	*PE firm-Country-Year Obs*	*GDP (USD billion)*	*Previous Country Funds*	*Bank Credit/ GDP*	*Trade/ GDP*	*Market Capitalization/ GDP*	*Investment Profile (ICRG)*	*Property Rights (Heritage)*
Algeria	2	2	56	0	36.9	53.3	0	8.5	30
Argentina	23	13	256	5	31.3	18	23.6	6.5	67.4
Bolivia	1	1	7	0	48.7	37.6	1.4	6	50
Botswana	1	1	6	0	-61.8	86.1	18.7	11	70
Brazil	38	20	616	24.8	79.9	15.5	28.9	5.7	50
Bulgaria	10	7	14	2.4	30.9	90.6	4.3	9.9	50
Burkina Faso	1	1	3	0	13.5	31.3	0	9	30
Cameroon	1	1	11	2	14.2	33.7	0	6.5	30
Chile	20	11	77	1	77.3	47.4	88.1	8.6	90
China	39	19	908	37.3	101.9	38.2	16.7	6.7	30
Colombia	10	8	99	0	43.1	25.4	16.2	4.9	50
Costa Rica	1	1	17	6	37.1	73.9	15.4	8.5	--
Cote d'Ivoire	5	3	12	0	22	64.2	11.7	7.9	30
Croatia	26	7	24	0.8	46.4	59.6	14.4	8.7	30
Czech Republic	13	12	60	13.2	57.5	93	21.5	8.1	70
Ecuador	1	1	17	0	41.8	44.8	2.5	6	50
Estonia	3	3	7	3	40.1	145.2	26.9	10.3	70
Guatemala	1	1	18	0	25.3	37	1.2	8	50
Haiti	1	1	4	0	32.6	36.9	0	4	10
Honduras	1	1	3	0	30.8	87.8	7.9	6	50
Hong Kong	9	6	156	84.4	140.3	237.9	281.7	6.7	90
Hungary	36	18	44	6.3	84.3	74	10.4	6.3	70
India	97	28	446	77.2	50.5	19.2	34.2	5.8	50
Indonesia	5	4	187	6.2	56.1	50.5	33.6	6	50
Jamaica	2	2	7	0	38.6	62.2	30.8	7.5	60
Mali	1	1	3	0	17	54.3	0	8	50
Mexico	26	16	555	2.3	36	56.4	23.3	9.5	50
Moldova	1	1	1	0	28.7	89.7	3.2	5	50
Morocco	5	3	40	1.2	76.4	48.4	25.6	9.3	46
Nicaragua	1	1	4	1	95.7	62.2	0	6	30
Nigeria	10	6	40	1.9	18.5	62.4	9.4	5.6	44
Papua New Guinea	4	3	4	0	31.7	87	0	9	50
Paraguay	1	1	8	0	30.7	49.4	3.9	8	30

Peru	9	8	53	0.3	17.2	24.5	22.3	7.4	54.4
Philippines	63	17	66	6.4	55.2	67.8	55.8	6.2	58.9
Poland	61	35	162	29.6	34.6	43.7	12.1	9.3	66.1
Romania	35	18	40	8.3	18.9	57.7	3.5	7.9	30
Russia	44	17	341	0	29.1	45.5	16.7	6.1	48.2
Senegal	1	1	5	0	21.4	47.9	0	6	70
Singapore	9	9	90	112.2	90.6	285.4	181.2	10.2	90
Slovakia	5	5	29	3.2	60.6	85.3	4.9	9.2	50
Slovenia	3	2	21	2.3	41.7	91.5	11.8	10	70
South Africa	44	15	136	44.2	149.6	44.1	156.3	8.1	50
Tanzania	1	1	9	0	9.3	27.2	4.2	7.5	30
Thailand	1	1	168	2	141.3	75.7	84.3	6	90
Tunisia	18	5	20	10.2	71.6	72.9	12.9	9.7	50
Turkey	3	3	263	2.7	35.9	33.8	19.8	7	56.7
Ukraine	1	1	31	7	23.8	91.3	6	3	30
Venezuela	2	2	91	0	18.2	36.7	8.3	6	50
Vietnam	1	1	31	3	35.1	96.6	0	5	10
Zimbabwe	5	3	7	0.6	58.7	71.9	26.4	5.2	38

Table 4: Sample Distribution, by Industry (GICS Code)

	Deals	*Share of Deals Database*	*Mean Share of Investments per Country-Year Unit*
Consumer Discretionary	119	17.0	16.1%
Consumer Staples	67	9.5	8.2%
Energy	26	3.7	4.3%
Financials	49	7.0	7.0%
Health Care	34	4.8	3.9%
Industrials	100	14.3	7.5%
Information Technology	123	17.5	9.6%
Materials	70	10.0	7.1%
Telecommunications	91	13.0	11.6%
Utilities	8	1.1	2.0%
Unknown	15	2.1	1.7%
Total	702	100.0	

Table 5: Descriptive Statistics by Contract Enforcement Regime, Firm Origins, and Firm Experience

This table presents means, standard deviations, and t-statistics from tests of differences in means for country and firm-level variables between: i.) foreign and locally originating PE firms; ii.) locally experienced PE firms and first time local entrants; and iii.) low contract enforcement and high contract enforcement environments. Foreign Origins refers to firms established in the US or Western Europe, while Local Origins are firms established in emerging economies. Local Experience refers to firms that are on at least their second fund oriented towards the country of investment. Finally, Low Contract Enforcement refers to observations based in countries with a score on the main contract enforcement measure, ICRG's Investment Profile, of 5 or less, while High Contract Enforcement is those with at least a score of 10 (ICRG's measure goes from 3-12).

A. One-Way Simple Divisions: By Origins, Experience, and Contract Enforcement

	Full Sample		Low Contract Enforcement (1)		High Contract Enforcement (2)		t-stat. of Diff. in Means	Foreign Origins (3)		Local Origins (4)		t-stat. of Diff. in Means	No Local Experience (5)		Local Experience (6)		t-stat. of Diff. in Means
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	(2)-(1)	Mean	Std. Dev.	Mean	Std. Dev.	(4) - (3)	Mean	Std. Dev.	Mean	Std. Dev.	(6)-(5)
QIRR	-0.06	0.44	0.01	0.34	-0.16	0.55	2.105**	-0.02	0.43	-0.15	0.45	2.670***	-0.06	0.43	-0.08	0.48	0.46
Investment Profile (ICRG)	7.51	2.12	4.68	0.59	10.82	0.63	-57.593***	7.53	2.16	7.46	2.07	0.28	7.28	2.05	8.18	2.20	-3.485***
Regulatory Quality (WB)	0.32	0.60	-0.04	0.50	0.75	0.47	-9.199***	0.34	0.63	0.28	0.53	0.91	0.35	0.61	0.25	0.54	1.34
Property Rights (Heritage)	54.21	17.06	47.58	11.90	64.46	12.99	-7.757***	54.07	17.98	54.44	15.37	-0.20	54.54	17.82	53.22	14.59	0.62
Country PE Funds (Logged)	2.23	1.44	2.26	1.40	2.87	1.28	-2.590**	2.20	1.43	2.29	1.46	-0.59	2.10	1.42	2.63	1.42	-2.976***
GDP (Logged USD billions)	25.39	1.39	25.68	1.48	25.22	1.22	1.953*	25.27	1.43	25.60	1.29	-2.171**	25.29	1.40	25.69	1.31	-2.334**
Foreign Experience (Dummy)	0.42	0.49	0.35	0.48	0.52	0.50	-2.032**	0.64	0.48	0.02	0.15	14.102***	0.42	0.49	0.43	0.50	-0.13
Local Experience (Dummy)	0.25	0.43	0.24	0.43	0.38	0.49	-1.762*	0.21	0.41	0.33	0.47	-2.461**	0.00	0.00	1.00	0.00	--
Local Funds (Logged)	0.23	0.44	0.24	0.48	0.31	0.41	-0.941	0.16	0.32	0.35	0.57	-4.097***	0.00	0.00	0.92	0.36	--
Local Origins (Dummy)	0.36	0.48	0.42	0.50	0.35	0.48	0.822	0.00	0.00	1.00	0.00	--	0.33	0.47	0.47	0.50	-2.461**
Aggregate Investment (Logged)	1.27	1.78	1.05	1.63	1.42	1.57	-1.321	1.53	1.67	0.82	1.88	3.671***	1.32	1.64	1.14	2.15	0.82
Firm-Country-Year Observations	348		65		66			222		126			261		87		

Table 5 (continued): Descriptive Statistics by Contract Enforcement Regime, Firm Origins, and Firm Experience

B. Two-Way Sample Division: By Origins and Local Experience WITHIN High and Low Contract Enforcement

	High Contract Enforcement									Low Contract Enforcement								
	Foreign Origins (1)		Local Origins (2)		t-stat. of Diff. in Means	No Local Experience (3)		Local Experience (4)		t-stat. of Diff. in Means	Foreign Origins (5)		Local Origins (6)		t-stat. of Diff. in Means	No Local Experience (7)		Local Experience (8)		t-stat. of Diff. in Means
	Mean	Std. Dev.	Mean	Std. Dev.	(2) - (1)	Mean	Std. Dev.	Mean	Std. Dev.	(3)-(4)	Mean	Std. Dev.	Mean	Std. Dev.	(6)-(5)	Mean	Std. Dev.	Mean	Std. Dev.	(8)-(7)
QIRR	-0.02	0.56	-0.42	0.46	2.882***	-0.16	0.63	-0.17	0.42	0.061	0.07	0.32	-0.07	0.36	1.624	-0.02	0.24	0.08	0.57	-0.998
Investment Profile (ICRG)	10.90	0.63	10.67	0.63	1.415	10.85	0.68	10.78	0.56	0.430	4.55	0.69	4.86	0.36	-2.144**	4.64	0.60	4.81	0.54	-1.025
Regulatory Quality (WB)	0.85	0.52	0.56	0.30	2.419**	0.84	0.46	0.59	0.46	2.148**	-0.07	0.50	0.00	0.51	-0.510	-0.02	0.53	-0.09	0.44	0.497
Property Rights (Heritage)	66.67	13.91	60.43	10.22	1.885*	67.00	11.59	60.40	14.28	2.041**	45.26	12.68	50.71	10.16	-1.874*	47.20	13.41	48.75	5.00	-0.451
Country PE Funds (Logged)	2.85	1.34	2.92	1.21	-0.219	3.09	1.21	2.52	1.35	1.779*	2.04	1.39	2.57	1.38	-1.521	2.01	1.32	3.06	1.38	-2.753***
GDP (Logged USD billions)	25.19	1.26	25.28	1.16	-0.276	25.11	1.11	25.40	1.38	-0.955	25.42	1.53	26.04	1.35	-1.727*	25.41	1.54	26.53	0.80	-2.756***
Foreign Experience (Dummy)	0.79	0.42	0.04	0.21	8.016***	0.50	0.51	0.56	0.51	-0.465	0.61	0.50	0.00	0.00	6.452***	0.40	0.49	0.19	0.40	1.558
Local Experience (Dummy)	0.43	0.50	0.30	0.47	0.976	0.00	0.00	1.00	0.00	--	0.11	0.31	0.43	0.50	-3.215***	0.00	0.00	1.00	0.00	--
Local Funds (Logged)	0.32	0.38	0.30	0.47	0.161	0.00	0.00	0.81	0.19	--	0.07	0.22	0.46	0.63	-3.512***	0.00	0.00	0.98	0.47	--
Local Origins (Dummy)	0.00	0.00	1.00	0.00	--	0.40	0.50	0.28	0.46	0.976	0.00	0.00	1.00	0.00	--	0.32	0.47	0.75	0.45	-3.215***
Aggregate Investment (Logged)	1.81	1.54	0.69	1.36	2.932***	1.14	1.47	1.86	1.64	-1.850*	1.42	1.53	0.53	1.64	2.266**	1.26	1.49	0.38	1.89	1.933*
Firm-Country-Year Observations	42		23			40		25			38		28			50		16		

Table 6: Sample Variable Correlations

	QIRR	ICRG	WB	Heritage	Local Origins	Local Exp	For Exp	Funds	Agg Inv
QIRR	1.000								
Investment Profile (ICRG)	-0.083	1.000							
Regulatory Quality (WB)	-0.160***	0.398***	1.000						
Property Rights (Heritage)	-0.140***	0.263***	0.764***	1.000					
Local Origins (Dummy)	-0.142***	-0.015	-0.049	0.011	1.000				
Local Experience (Dummy)	-0.025	0.184***	-0.072	-0.034	0.131**	1.000			
Foreign Experience (Dummy)	0.093*	0.160***	0.058	0.045	-0.604***	0.007	1.000		
Country Funds / GDP (Logged)	0.016	0.303***	0.141***	0.176***	-0.087	0.041	0.137**	1.000	
Aggregate Investment (Logged)	0.154***	0.028	0.150***	0.068	-0.194***	-0.044	-0.013	-0.252***	1.000

Table 7: PE Performance and Firm Origins and Experience

	Yes	No
Firms Originating in Emerging Economies	-2.7%	3.9%
Firms with Previous Local Fund	2.3%	2.0%
Firms with Previous Foreign Fund	3.8%	1.3%

Figure 1: Database Deals by Initial Year of Investment

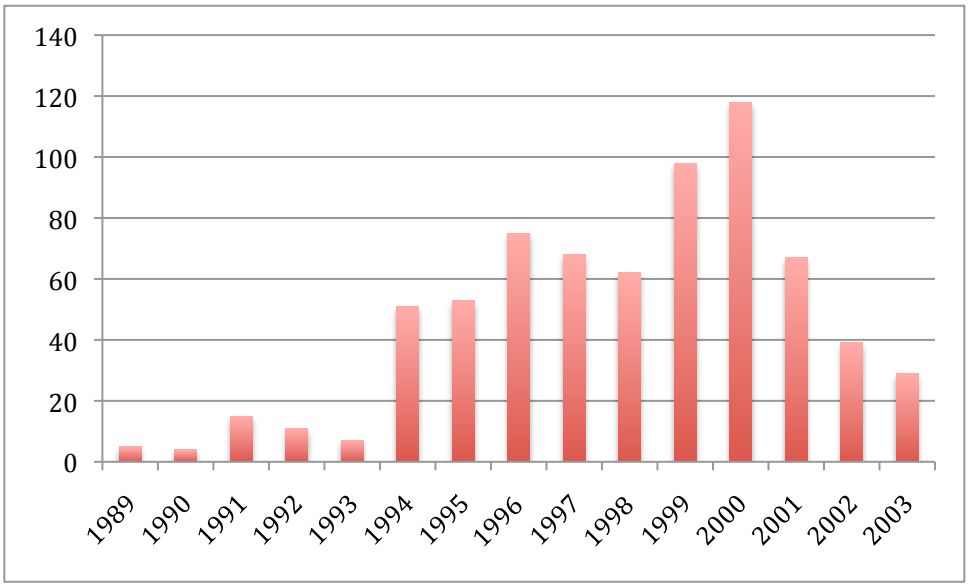

Figure 2: Sample Observations by Initial Year of Investment

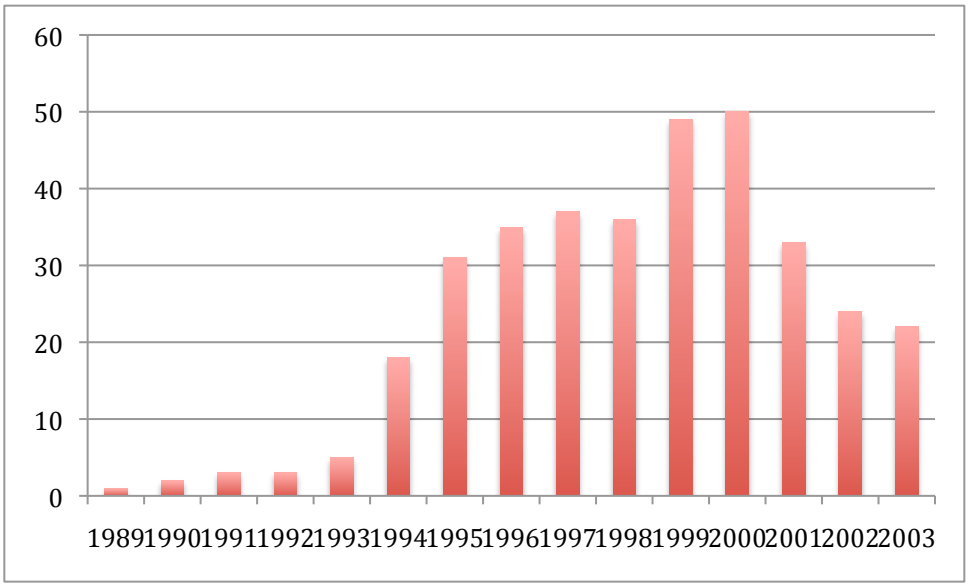

Figure 3: Correlation of Performance and Contract Enforcement, by Firm Origins

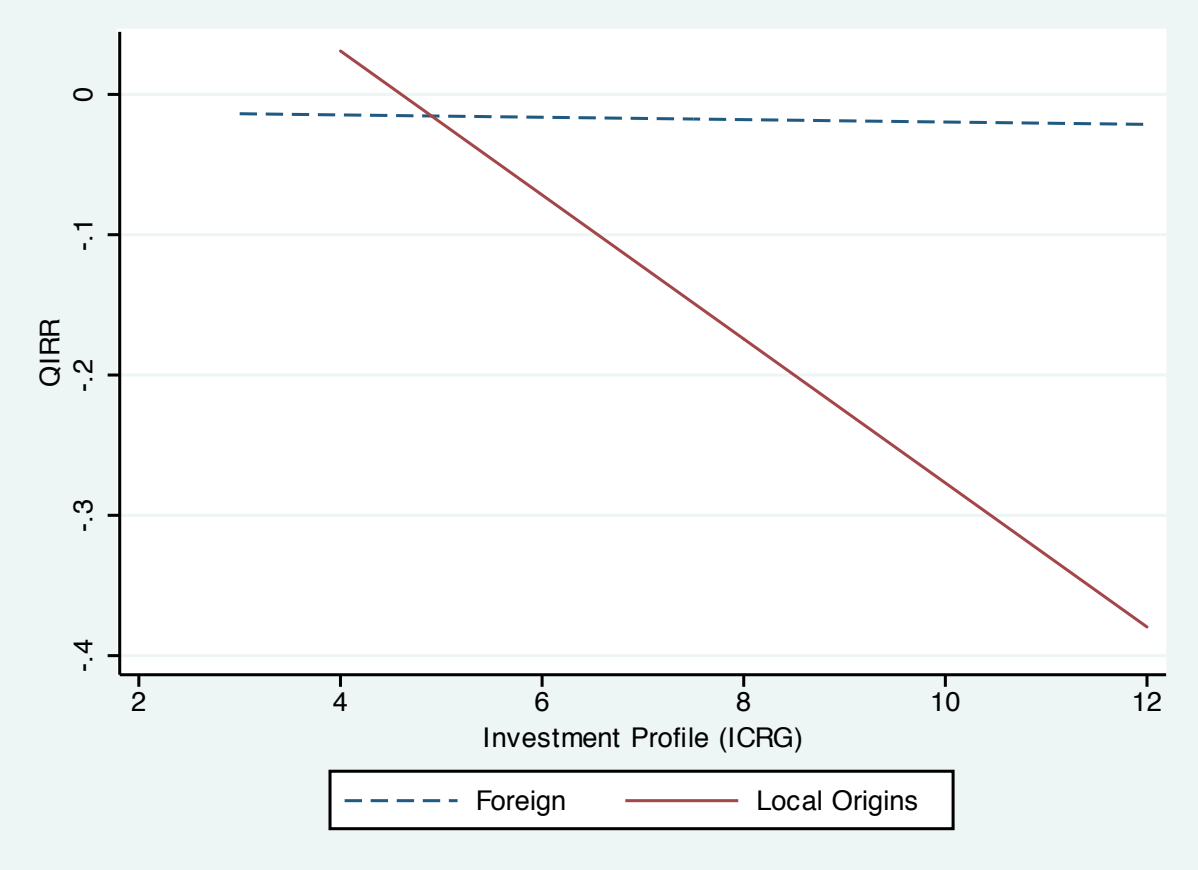

Figure 3 (cont.): Correlation of Performance and Contract Enforcement, by Local Experience

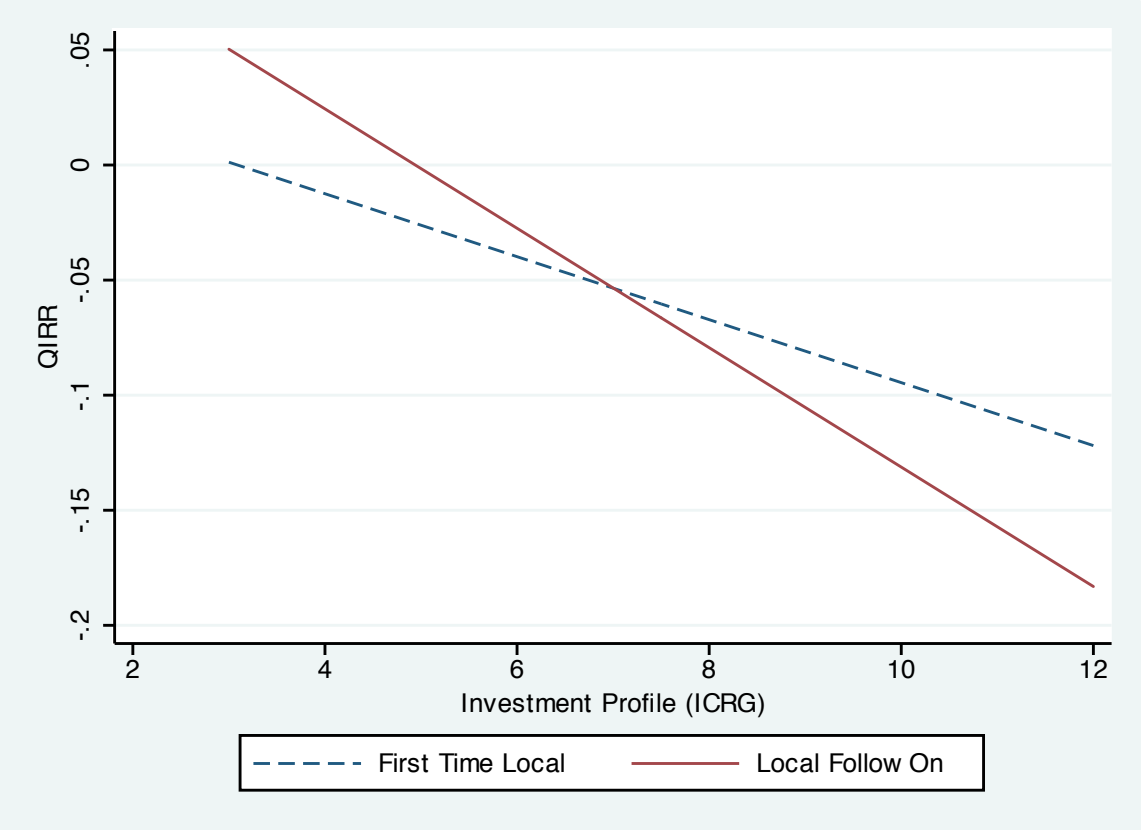

Table 9: Contract Enforcement and PE Performance in Emerging Economies

This table presents 6 OLS regressions on the performance of PE firms in emerging economies, including variables for industry share, fixed effects for year, country, and firm, and two-way clustering of errors for both country of investment and PE firm. The unit of observation is total deals initiated by a particular PE firm in a particular country and a particular year. The dependent variable is the return on investment for each firm-country-firm observation. The independent variable used to proxy for contract enforcement in Models 1-3 is the ICRG's Investment Profile measure, while Model 4 uses World Bank's Regulatory Quality measure, Model 5 uses Heritage Foundation's Property Rights index, and Model 6 uses a measure of financial development calculated by dividing domestic credit by GDP (source: World Bank). A control for total investment per observation is included in each model.

		(1) Basic	(2) Competition	(3) Full	(4) WB	(5) Heritage	(6) Finance
Institutions	Investment Profile (ICRG)	-0.039*	-0.036*	-0.034*			
		(0.021)	(0.019)	(0.019)			
	Regulatory Quality (World Bank)				-0.391**		
					(0.160)		
	Property Rights (Heritage Foundation)					-0.0131*	
						(0.007)	
	Financial Development: Domestic Credit / GDP						0.000
							(0.003)
Firm Exp. & Origins	Locally Experienced Firm (Dummy)			-0.017	-0.036	-0.052	-0.018
				(0.116)	(0.103)	(0.098)	(0.122)
	Locally Originating Firm (Dummy)			0.780**	0.803**	0.722**	0.885**
				(0.334)	(0.332)	(0.353)	(0.355)
	Foreign Experienced Firm (Dummy)			0.747***	0.887***	0.750***	0.793***
				(0.140)	(0.143)	(0.143)	(0.139)
Controls	Industry Competition: Country PE Firms / GDP (Logged)		0.094	0.108	0.053	0.055	0.132
			(0.141)	(0.142)	(0.105)	(0.129)	(0.156)
	Aggregate Investment per Observations (Logged)	0.060	0.060	0.060	0.056	0.060	0.060
		(0.043)	(0.043)	(0.041)	(0.041)	(0.040)	(0.042)
	Industry Shares	Yes	Yes	Yes	Yes	Yes	Yes
	Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
	Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
	PE Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
	Observations (Country-Firm-Year)	348	348	348	348	347	348
	Two-way Clustering	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country
	Country Clusters	51	51	51	51	51	51
	PE Firm Clusters	47	47	47	47	47	47
	R-squared	0.034	0.037	0.046	0.064	0.059	0.036

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 10: The Performance Effect of the Interaction of Contract Enforcement and Firm Resources

This table presents 10 OLS regressions on the performance of PE firms in emerging economies, including variables for industry share, fixed effects for year, country, and firm, and two-way clustering of errors for both country of investment and PE firm. The unit of observation is total deals initiated by a particular PE firm in a particular country and a particular year. The dependent variable is the return on all investments for each observation. Model 4 uses a subsample of just investments by firms that previously raised a local fund and Models 5 includes only the investments of firms working on their first local fund. The sample is then split into firms originating in emerging economies in Models 4 and 7 and those originating in OECD countries in Models 5 and 8. The main independent variable used to proxy for the completeness of institutions in all models in this table is the ICRG's Investment Profile measure. A control for total investment per PE firm-country-year observation is included in each model.

		(1) Local Origins Only	(2) Foreign Origins Only	(3) Origins Interact	(4) Local Exp. Only	(5) First Time Local Only	(6) Exp. Interact	(7) Local Origins Only	(8) Foreign Origins Only	(9) Triple interaction	(10) Both Interactions
	Contract Enforcement (ICRG)	-0.025	-0.050**	-0.012	-0.084*	-0.008	0.000	-0.033	-0.003	-0.031*	0.025
		(0.025)	(0.023)	(0.020)	(0.051)	(0.019)	(0.016)	(0.029)	(0.017)	(0.017)	(0.018)
Firm Exp. & Origins	Locally Experienced Firm (Dummy)	-0.020	0.012	-0.052			0.742***	-0.147	1.087***	0.054	0.733**
		(0.159)	(0.156)	(0.130)			(0.275)	(0.298)	(0.381)	(0.142)	(0.309)
	Locally Originating Firm (Dummy)			1.287***	0.364	1.219*	0.872***			0.819**	1.414***
				(0.372)	(0.564)	(0.626)	(0.322)			(0.327)	(0.381)
	Foreign Experienced Firm (Dummy)	1.093**	1.060***	0.774***	-0.041	0.813***	0.778***	1.132**	1.021***	0.803***	0.808***
		(0.434)	(0.110)	(0.131)	(0.334)	(0.112)	(0.122)	(0.443)	(0.067)	(0.130)	(0.114)
Interactions	Interaction: Local Exp.*Contract Enforcement						-0.094***	0.016	-0.136***		-0.097***
							(0.032)	(0.039)	(0.045)		(0.037)
	Interaction: Local Origins*Contract Enforcement			-0.073***							-0.078***
				(0.020)							(0.025)
	Interaction: Local Exp.*Local Origins*Contract Enforcement									-0.043**	
										(0.020)	
Controls	Industry Competition: Country PE Firms / GDP (Logged)	0.245**	0.087	0.120	0.056	-0.052	0.091	0.232*	0.007	0.135	0.104
		(0.118)	(0.170)	(0.145)	(0.307)	(0.116)	(0.122)	(0.122)	(0.113)	(0.139)	(0.123)
	Aggregate Investment per Observations (Logged)	0.119***	-0.008	0.057	0.088**	-0.005	0.057	0.120***	-0.006	0.052	0.054
		(0.038)	(0.045)	(0.041)	(0.037)	(0.060)	(0.039)	(0.039)	(0.037)	(0.041)	(0.038)
	Industry Shares	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PE Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Observations	126	222	348	87	261	348	126	222	348	348
	Two-way Clustering	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country
	Country Clusters	24	47	51	23	46	51	24	47	51	51
	PE Firm Clusters	26	21	47	15	42	47	26	21	47	47
	R-squared	0.172	0.059	0.063	0.185	0.024	0.077	0.172	0.132	0.057	0.097

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 11: Deal Level Robustness and Supplemental Analyses

This table presents 9 OLS regressions on the performance of PE firms in emerging economies, including fixed effects for industry, year, country, and firm, and two-way clustering of errors for both country of investment and PE firm. The unit of observation is the individual company deals of IFC-invested funds. The dependent variable in Model 1 is the return on investment for each deal. For Models 2-9, the dependent variable is the Public Market Equivalent, which is the same return measure used in Model 1 minus the return that would have come from a simultaneous investment into the MSCI Emerging Markets Index. The independent variable used to proxy for contract enforcement in all models is ICRG's Investment Profile measure. A control for total investment per observation is included in each model. Models 1-5 involve the full sample, while Models 6-7 examine a subsample of deals where the PE fund owned less than 50%, and Models 8-9 consider just deals where the portfolio company's main target market was its domestic market.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		DV= QIRR	DV=Public Market Equivalent							
		Full Sample					Minority Deals Only		Domestic Market Only	
		Basic	Basic	Competition	Exp. Interact	Origins Interact	Origins Interact	Exp. Interact	Origins Interact	Exp. Interact
	Contract Enforcement (ICRG)	-0.037*	-0.037*	-0.037*	-0.008	-0.004	0.025	0.004	-0.008	-0.014
		(0.022)	(0.022)	(0.022)	(0.019)	(0.026)	(0.034)	(0.031)	(0.054)	-0.065
Firm Exp. & Origins	Locally Experienced Firm (Dummy)				0.592**	0.052	0.105	0.546*	0.224**	1.120***
					(0.284)	(0.049)	(0.110)	(0.283)	(0.102)	-0.19
	Locally Originating Firm (Dummy)				-0.229*	0.269	0.956*	0.109	0.973	-0.468*
					(0.137)	(0.192)	(0.550)	(0.293)	(0.682)	-0.282
	Foreign Experienced Firm (Dummy)				0.533***	0.546***	1.031**	0.948**	-0.320	-0.921***
					(0.133)	(0.121)	(0.487)	(0.460)	(0.239)	-0.156
Interactions	Interaction: Local Exp.*Contract Enforcement				-0.069*			-0.054		-0.132***
					(0.036)			(0.040)		-0.032
	Interaction: Local Origins*Contract Enforcement					-0.090***	-0.120***		-0.152**	
						(0.029)	(0.045)		(0.062)	
	Industry Competition: Country PE Firms / GDP (Logged)			-0.046	-0.041	-0.040	-0.081	-0.064	0.379**	0.428**
				(0.139)	(0.125)	(0.141)	(0.132)	(0.121)	(0.155)	-0.185
Controls	Aggregate Investment per Observations (Logged)	0.016	0.016	0.016	0.010	0.011	0.021	0.024	-0.044	-0.051
		(0.031)	(0.030)	(0.030)	(0.030)	(0.030)	(0.028)	(0.028)	(0.073)	-0.07
	Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	PE Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Observations	702	702	702	702	702	420	420	209	209
	Two-way Clustering	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country	PE Firm & Country
	Country Clusters	51	51	51	51	51	42	42	30	30
	PE Firm Clusters	47	47	47	47	47	43	43	17	17
	R-squared	0.006	0.006	0.006	0.016	0.018	0.029	0.017	0.038	0.042

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

APPENDIX A: Random Coefficients Modeling

An alternative empirical strategy, given the multilevel nature of the data, is a Random Coefficient Modeling (RCM) (Rabe-Hesketh and Skrondal 2005; Bliese and Ployhart 2002; Ployhart and Vandenberg 2010; Gelman and Hill 2007). RCM is specifically designed to deal with data for which the OLS assumptions of independent and normally distributed residuals is violated due to multiple sampling of observations within groups with shared characteristics. In this paper, I apply a mixed RCM strategy that maintains fixed effects for year of investment at the first level and then accounts for the second level groupings of country and PE firm.

Table 12: Random Coefficients Model

This table presents 8 Random Coefficients Modeling (RCM) models on the returns of private equity firms in emerging markets. The unit of observation is the individual company deals of IFC-invested funds. The dependent variable is the return on all investments for each observation. All models include fixed effects for year of investment, variables for each industry (based on 2-digit GICS) on the share of total investments per observation, and controls for competition between PE funds in the country of investment and total invested capital per observation. Models 1-5 and 8 use the full sample, while models 6 and 7 split it by whether the PE firm has local origins (Model 6) or Foreign Origins (Model 7). All models use the ICRG's Investment Profile as the main independent variable for institutional completeness.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Full Sample					Local Origins	Foreign Origins	Full Sample
	Basic	Competition	Full	Exp. Interact	Origins Interact	Exp. Interact		Both Interact
Contract Enforcement (ICRG)	-0.032**	-0.033**	-0.035**	-0.023	-0.017	-0.079***	0.004	-0.006
	(0.015)	(0.015)	(0.015)	(0.016)	(0.017)	(0.028)	(0.019)	(0.018)
Local Experience (Dummy)			0.054	0.389*	0.041	-0.159	0.713**	0.364*
			(0.056)	(0.204)	(0.056)	(0.317)	(0.282)	(0.203)
Local Origins (Dummy)			-0.025	-0.035	0.372**			0.356**
			(0.066)	(0.066)	(0.181)			(0.182)
Foreign Experience (Dummy)			0.083	0.081	0.071	0.223	0.048	0.069
			(0.063)	(0.063)	(0.063)	(0.273)	(0.067)	(0.063)
Local Experience*Contract Enforcement				-0.041*		0.042	-0.085***	-0.040*
				(0.024)		(0.040)	(0.032)	(0.024)
Local Origins*Contract Enforcement					-0.053**			-0.052**
					(0.023)			(0.023)
Industry Competition: Country PE Firms / GDP (Logged)		0.037	0.035	0.034	0.035	0.068	0.016	0.034
		(0.024)	(0.024)	(0.025)	(0.024)	(0.046)	(0.027)	(0.025)
Aggregate Investment per Observations (Logged)	0.057***	0.062***	0.060***	0.063***	0.056***	0.097***	0.027	0.059***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.026)	(0.023)	(0.016)
Industry Shares	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.306	1.184*	1.098	1.031	1.017	1.800*	0.510	0.959
	(0.410)	(0.712)	(0.709)	(0.722)	(0.710)	(1.065)	(0.765)	(0.724)
Observations	348	348	348	348	348	126	222	348
Countries	51	51	51	51	51	51	51	51
PE Firms	47	47	47	47	47	47	47	47
LR Test vs. OLS (Prob > chi2)	0.01	0.02	0.04	0.02	0.02	0.29	0.48	0.01

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1