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ABSTRACT

There is growing interest in impact investing, the idea of deploying capital to obtain both financial and social or environmental returns. Examination of every equity investment made by the International Finance Corporation, one of the largest and longest-operating impact investors, across 130 emerging market and developing economies shows that this portfolio has outperformed the S&P 500 by 15 percent. Investments in larger economies have higher returns, and returns decline as banking systems deepen and countries relax capital controls. These results are consistent with imperfect integration of international capital markets, and a core thesis of impact investing that some eligible markets do not receive sufficient investment capital.

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I. Introduction

There is growing interest in impact investing, the idea that financial capital can be deployed to obtain both financial as well as (measurable) social or environmental returns. The idea is controversial. Brest, Gilson and Wolfson (2018) for example argue that an impact investor can make a difference in the world by deploying capital[2] only if their pursuit of social or environmental goals leads them to invest in projects that would not have been financed otherwise, and, if capital markets are perfectly integrated, the impact investor will therefore obtain *lower* risk-adjusted returns than traditional investors. An alternative perspective argues that there are frictions preventing the flow of capital between markets, that commercially-viable projects fail to receive financing, and that impact investors can promote social objectives while also earning attractive financial returns.

This paper offers a fresh look at the question by analyzing the cash flows associated with every equity investment made by the International Finance Corporation (IFC), a member of the World Bank Group, across 130 emerging market and developing economies (EMDEs). Founded in 1956 with a mandate to *"further economic development by encouraging the growth of productive private enterprise in member countries*, *particularly in less developed areas,"* the IFC's understanding of how its investments contribute to improvement in social or environmental outcomes is shared by other investors and is predicated on the view that some eligible markets do not receive sufficient investment capital. The charter states that *"the Corporation shall...assist in financing...in cases where sufficient private capital is not available on reasonable term"*. The Corporation explicitly seeks a commercial return on investment.

The IFC's history and approach to investing in EMDEs makes its portfolio uniquely suited for an investigation of whether certain markets offer expected returns that are systematically higher than others, and thus opportunities for the impact investor to invest in projects that are not already being financed at the lowest competitive rate available in this set of markets. Previous studies of this question have tested for cross-country covariance in the return to public equity indices (Campbell and Hamao, 1992; Harvey, 1995) or for a common marginal product of capital implied by the

[2] Investors could plausibly affect outcomes in other ways as well, such as by insisting on adherence to environmental, social or governance (ESG) criteria, which could affect company performance.

national accounts in a cross section of countries (Caselli and Freyer, 2007). The IFC portfolio is unique in that it allows one to test for differences in returns to *private equity investments* across many countries in a way that is free from sampling problems such as survivorship bias.[3] The portfolio is more diversified across countries than either foreign direct investment (FDI) inflows or the MSCI Emerging Market (MSCI EM) index of public equities, both of which have a high concentration in the largest economies such as China and Brazil. Relative to the market, the IFC also has a substantially higher share of investment in very poor countries (i.e. those with real GDP per capita of $1,000 or less).

A principal concern when comparing investment returns across countries is that differences reflect differences in risk rather than in the risk-adjusted return per se. We address this issue in three ways. First, since we observe the timing of cash flows we are able to measure returns in terms of a public market equivalent (PME), which accounts for both the absolute level of return and the diversification value of payouts that are less correlated with a global risk factor as in the capital asset pricing model (Kaplan and Schoar, 2005; Sorensen and Jagannathan, 2015). Second, since the IFC invests across many sectors, including those considered especially conducive to economic development such as financial institutions (Levine, 2005) and infrastructure (Aschauer, 1989; Roller and Waverman, 2001), we are able to compare returns across countries within production technologies that may vary in their level of non-diversifiable risk. Third, the length of the time series, the longest in existence of which we are aware, provides assurance that differences in average returns across countries are not driven by the realization of non-diversifiable country risk in a few particular years.

The analysis yields three main results. First, in pursuing its strategy, the IFC has achieved attractive returns over the long run. Benchmarking the IFC's equity investment portfolio to the S&P 500 (available for our entire sample period), we calculate that the total portfolio has obtained a PME of 1.15, indicating that the portfolio has returned 15 percent more over its life than an equivalently timed investment in the public index would have. Alternative benchmarks yield similarly attractive estimates such as a PME of 1.30 when using the MSCI EM index (after 1988, when the index

[3] Our paper is related to a few, employing data on the complete portfolio of a single private equity investor: Gompers and Lerner (1997) study the portfolio of Warberg Pincus and Kerr, Lerner and Schoar (2014) study the portfolio of two prominent angel investment groups, Tech Coast Angels and CommonAngels.

becomes available). Given that our data include the portfolio of a single investor we do not claim that this performance is representative of the universe of EMDE private equity investments. The IFC's membership in the World Bank Group for instance may offer it protection from expropriation not available to other investors. Nonetheless, given it is the only international investor with a portfolio spanning such a large and diverse set of countries and because it co-invests with a number of funds, the portfolio provides a unique view of the return to private investment in EMDEs.

Second, we demonstrate that two groups of country-level covariates, market size and financial system openness and development, predict performance in a way that is economically and statistically significant. More populous EMDEs have higher mean and median returns within sectors. Returns fall within economies as they relax capital controls and deepen their banking sectors. These results are inconsistent with the hypothesis of a perfectly integrated international capital market, under which expected returns are equalized across economies. The existence of such international capital market imperfections has been recognized as a principle on which the World Bank was originally founded (Clemens and Kremer, 2016).

Third, country risk factors including political risk, perceived corruption, and ease of doing business measured at the time of investment do not significantly predict financial performance. Macroeconomic conditions over the course of the investment however have material effects, with a 1 percent increase in cumulative annualized real GDP growth over the life of the average investment—8 years—associated with an additional 6.62 percentage points of excess return on that investment. On the other hand, local currency depreciation worsens the performance, while local inflation (controlling for the depreciation) is associated with higher returns. There is some evidence that improvement in sovereign risk during the investment period improves returns. These results suggest that what matters most in country risk assessment is the forecast of macroeconomic fundamentals, rather than the situation at the time of investment.

Our paper contributes to at least three literatures. First, we add to the understanding of the returns to private equity investments generally, and impact investing in particular. While the U.S. private equity industry has been well studied (see Kaplan and Sensoy, 2015, for a comprehensive review)

there is very little rigorous evidence available on returns in EMDEs. Lerner et al. (2009) provide an important exception: they use data from Capital IQ to construct a database of private equity investments around the world starting in about 1990. The authors find that emerging markets comprise a small fraction of total private equity investment, and that country characteristics have some influence on whether funds pursue strategies of financial engineering, governance engineering, and/or operational engineering. While they are unable to measure returns, they examine exits, and find a lower likelihood of success in wealthier countries, and that deals that are undertaken in "hot" markets are more likely to fail. Our paper contributes to this literature by a) providing a history of time series over twice as long, and b) providing the first systematic evidence of returns relative to a benchmark (PME) free of survivorship bias.

A smaller and more recent literature examines the performance of impact investing strategies. Kovner and Lerner (2015) examine 28 community development venture capital firms in the United States (CDVCs). While they cannot characterize returns, they find that such funds invest in less developed US geographies and make earlier stage investments than traditional VC funds. Grey et al. (2016) survey 53 impact investing private equity and venture capital funds, collecting both survey reports of returns and audited financials. Using the Russell Microcap 2000 as a comparator, they estimate that a "pooled end-to-end aggregate PME calculation for the 170 market-rate-seeking investments in the sample returns a PME gross of fees, expenses and carried interest of 0.98." A potential concern with this study is that funds could choose whether to report performance or not; Cochrane (2005) shows that selective reporting can have important effects on estimates of the returns to venture capital investing. Finally, Barber, Morse, and Yasuda (2020) obtain data from PreQin on 159 impact funds between 1995 and 2014, and, comparing them to a similar set of non-impact funds, find that impact funds on average achieve a 4.7 percentage point lower IRR. Their paper focuses on impact investing strategies in general, rather than seeking to distinguish between funds that seek to obtain market (commercial) returns and funds that explicitly promise investors lower (concessional) returns. A finding that the average return for both types of these funds—that is, when pooled together—is below market does not necessarily indicate that funds seeking market returns obtain below market returns. By analyzing IFC data we provide the first estimate of the long-run return to an impact investing strategy that seeks market returns.

Second, we contribute new firm level evidence to the long standing debate about whether international credit frictions exist, and their quantitative implications for the economy (Feldstein and Horioka, 1980; Lucas, 1990; Alfaro, Kalemli-Özcan and Volosovych, 2008; Chari and Rhee, 2020). Existing examples of variable or excessively high marginal products of capital at the firm level in EMDEs are from enterprises with assets less than $400,000 within an individual country (Banerjee and Duflo, 2014). In contrast, we compare across many countries the return to financial capital in large firms. For instance, the average size of a transaction in the IFC's equity portfolio was $19.5 million in the most recent decade.

Third, we add to the literature on macroeconomic risk through the analysis of the relationship between key macroeconomic variables and investment returns. Given that equity investments represent real assets, economic theory suggests that equity investments may be used as a hedging instrument against unexpected inflation, and we should therefore expect a positive correlation between performance and inflation. Exchange rate movements are also expected to impact equity returns such as in the case of exporting firms whose competitiveness increases when the home currency depreciates. However in the empirical literature there is some evidence of a negative correlation between equity returns and depreciation (Hau and Rey, 2006). Sovereign risk ratings, which approximate a set of macroeconomic risk factors, have shown to be negatively correlated with equity returns as shown for a set of countries by Brooks et al. (2004) and in the case of Argentina by Hébert and Schreger (2017).

The paper proceeds as follows: Section II provides background on the IFC's strategy and operations. Section III reviews the equity portfolio data and measurement of financial returns at the investment (firm) level. Section IV describes the allocations and summarizes portfolio and individual investment performance. Section V develops and implements an empirical approach to test for perfect capital market integration using the investment level data. Section VI concludes, with reference to the ongoing popular discussion of impact investing.

II. IFC, Private Equity, and Impact Investment

The IFC was created in order to advance economic development and for this reason identifies as an impact investor.[4] Through its investments the IFC today seeks to contribute to improvement in social and environmental outcomes aligned with the United Nations' Sustainable Development Goals (IFC, 2019b). 185 member countries own and govern the institution, determine its policy, and provide equity capital. The balance sheet size stands at approximately $99 billion, of which $43 billion are development-related investments and the rest are liquid securities (IFC, 2019c). The carrying value of the equity investment portfolio comprises 30% of development-related investments.

The IFC charges market-based rates for its loans and seeks market returns on equity investment (IFC, 2019d).[5] The institution's investment on its own account generally does not exceed 25% of the value of a project, with other private investors participating through loan syndications, parallel investments, and other instruments. Given its co-investment with others, we view its portfolio as potentially informative about the returns available to private investors in the markets in which it operates.

Figure I charts the institution's financial history in three ratios: return on equity (net income/total capital), leverage (total assets/total capital) and administrative expense (non-interest expense/total assets).[6] The IFC made its first loan in 1957, providing $2 million to Siemens' Brazilian affiliate (IFC, 2018). In 1961, the charter was amended to allow holding equity, leading to a surge in equity investment during 1963-64 to about 50% of total investment (Kapur et al., 1997).[7] Equity invest-

[4]See the foreword by CEO Philippe Le Houérou to IFC (2019a). Though the origin of the term "impact investing" is usually attributed to a conference held by the Rockefeller Foundation in 2007 the concept is much older: Around the year 200 Rabbi Shimon ben Lakish is reported to have said, with regards to helping a needy person, that "a loan is greater than a donation, and a business partnership is greater than all of them" (Levine, 2010, p.291).

[5]One exception to charging market-based rates comes in the form of a facility for "blended finance" established in 2017. Here, IFC capital is blended with concessional capital from donors in order to allow IFC to earn a commercial return on an investment that would otherwise not be profitable. Such projects are located exclusively in the poorest ("IDA") countries, and the decision to include concessional capital is made before the investment is executed. Our dataset includes four such investments.

[6]Values used in calculating these ratios are reported in Appendix Table A.

[7]By the end of the 1960s, this share had decreased to 35%. During the 1980s, the equity share declined to its lowest level to date at 15%, mainly driven by currency crises and global economic turmoil. At the beginning of the 1990s, the equity share again increased to around 23%, driven by investments in the financial sector and infrastructure. This share remained in the mid- 20% range until the Global Financial Crisis leading to an increase in the share of equity to total investments above 30%. Figure II discussed in Section IV.A. shows the volume of investment over time.

ment in private markets would become the basis for growth in the capital base through retained earnings, with realized gains from these investments leading to high points in return on equity seen in Panel A in 1989 (RoE = 12.4%) and in 2005 (20.5%).

The IFC also raises funds for its operations at international capital markets. As shown in Panel B, the IFC's leverage ratio was 3.6 as at 2019. The peak in 2000 and rapid subsequent decline in leverage after that year is partially due to a change in accounting standards (FASB No. 133) requiring certain derivatives to be held at fair rather than book value. The extent of borrowing varies substantially across institutions owned by governments that seek to promote economic development through investment in private firms. For instance, the United Kingdom's CDC Group (2019) has a leverage ratio of 1.0, indicating it does not borrow at all, while the European Investment Bank (2020) has a leverage ratio of 5.8 and the China Development Bank (2017) has a leverage ratio of 12.9, indicating these banks borrow substantially more relative to their capital base compared to the IFC today.[8]

A small literature examines the role of the IFC as an investor and development institution. Dreher et al. (2019) investigate the link between IFC loan allocation and Board membership in the institution, and find a positive relationship between political influence and lending decisions. Taussig and Delios (2015) use data from the IFC's investment in private equity funds to examine the role of local expertise and performance, finding that local expertise improved performance more in countries with weak contract enforcement institutions. Kenny, Kalow, and Ramchandaran (2018) analyze the countries targeted by IFC investment between 2001 and 2016, noting a shift in allocation from low income countries towards middle-income countries. Neither of these papers reports on the returns obtained by the IFC. Desai, Kharas and Amin (2017) study the relationship between IFC project returns and ESG risk factors, though only in the period since 2005.

[8]The CDC Group and the European Investment Bank are signatories to the Operating Principles for Impact Management, an affirmation that they identify as impact investors. The leverage ratio reported here is total assets divided by total equity using values from annual reports. For the European Investment Bank, total equity is the sum of accruals and deferred income, provisions, subscribed capital, reserves, and profit for the financial year.

The IFC's long history and broad geographical diversification allow us to paint an unusually rich picture of emerging market private equity investment. It is worth, however, noting several caveats. First, while the IFC's charter prohibits it from taking government guarantees, to the extent that the IFC's affiliation with the World Bank Group provides additional protection from expropriation, the realized returns may not be representative of what is available to independent investors.

Second, Panel C in Figure I shows IFC's operating expenses at around 2% of assets during 1964-1988, though they have subsequently declined, and are today approximately 1.4% of assets. Relative to the "industry standard" of 2% of assets and 20% of profits, the IFC may be a relatively low cost operator. However, since it is not possible to accurately apportion fixed costs to each investment, and because the IFC engages in significant non-investment activity, such as research and field-building, we analyze portfolio and individual investment performance on a gross basis, without subtracting off operating expenses.

III. Data

III.A Investment Financial Performance

The main data used in this study are the complete set of cash flows to and from all 2,509 equity investments (in companies or funds) beginning at the founding of the IFC in 1956 until June 30th, 2019.[9] The IFC's equity investments are primarily made through the direct purchase of a minority stake in a company, or participation in a fund as a limited partner. The dataset includes the month of each cash flow, the exact value in US dollars, and the most recent mark-to-market valuation of investments that are still held in the portfolio. Each investment's "vintage year" is defined as the year of first cash flow to the company. Each company is categorized by the "country-of-risk", or the country in which the company generates most of its revenue, as well as by one of 23 sectors (e.g., electric power, food and beverage, finance and insurance). In Appendix Table B, Panel A shows the count of investments by decade and geographic region according to the World Bank Group regional classification and Panel B shows the count of investments by decade and sector.

[9]We focus on cash flows exclusively related to equity investments, and therefore do not include investments that include both equity and debt components (e.g., convertible loans).

Included among these investments are IFC's interests in individual companies acquired through its participation as a limited partner in funds managed by the IFC Asset Management Corporation (AMC).[10]

We use the cash-flows to calculate the financial performance of the entire portfolio as well as of the investment into each company (or fund). To do this the cash-flow stream is divided into its positive and negative parts, called distributions ($dist\,(t)$) and contributions ($cont\,(t)$). Distributions are the cash flows returned to IFC either through dividend payments or through the sale of the company's shares. For investments that are still held in the portfolio, we treat the valuation on June 30, 2019 as a positive distribution, as if the investment is liquidated on that date at its fair value, consistent with accounting practice (we also explore how sensitive our results are to these fair value marks). Contributions are IFC's investments into the company, including the payment of management fees in cases when the company is a fund.

Our measure of financial return is the Kaplan and Schoar (2005) public market equivalent, defined by

$$PME = \frac{\sum_t \frac{dist(t)}{1+R(t)}}{\sum_t \frac{cont(t)}{1+R(t)}}$$

where $R(t)$ is the realized total return of the market index from the year of first cash flow $(t = 0)$ to the time of the distribution or contribution (t)[11]. We use the S&P 500 index as a market reference for comparability to the literature on private equity performance, and because the time series is complete back to our first cash flow in 1961. In some results, we use the MSCI World index and the MSCI Emerging Markets index as alternatives, though these start later in 1970 and 1988. Index values are as reported by Bloomberg. For comparison, we also report a measure of financial return that does not correct for market risk or the time value of money, total value to paid-in capital, or

$$TVPI = \frac{\sum_t dist\,(t)}{\sum_t cont\,(t)}$$

[10] Cash flows between portfolio companies of third-party funds in which IFC is a limited partner are not observed.

[11] Sorensen and Jagannathan (2015) provide microeconomic theory that motivates the PME as a method to evaluate returns for an agent whose wealth is held in the index.

which is also known as the investment multiple, or multiple of money. Recall that if the investment has not been fully realized, its fair value on the final date of our data set is treated as a distribution. It is on this basis that the sum of distributions are called "total value."

Because this data set includes all equity investments IFC has ever made, we avoid two forms of selection bias that typically affect analyses of the performance of an asset class. A first source of bias is survivorship bias, such as when successful investments are more likely to appear in a dataset than failures (Carhart, Carpenter, Lynch and Mutso (2002) discuss this in the context of the mutual fund industry). Our dataset, however, includes all of IFC's investments—even the write-offs—so our analysis will not be affected by such bias. A second source of selection bias is infrequent valuation, as discussed in the context of venture capital by Cochrane (2005). An investor may value investments only upon a successful initial public offering (IPO) or after the company completes a successive round of fundraising. Because valuations are positively correlated with these events, ignoring investments that have not gone public or raised further funds could also lead to an upward bias in average performance. Our estimates are not subject to such bias, first because the majority have already exited, and second because we include the mark-to-market valuations of all unrealized investments on the same date (Gompers and Lerner, 1997). To check that our results are not driven by mark-to-market valuations that are difficult to determine given the youth of the investment, we report results also excluding the 5 most recent vintage years of investments.

III.B Country Covariates

In our analysis we relate returns to a variety of country-level covariates such as market size, openness, sovereign risk, and financial development. Two measures of market size, population and GDP per capita, are taken from the World Development Indicators (World Bank, 2019a). Our main measure of financial openness is the index of Chinn and Ito (2006, 2008), or the first principal component dummy variables codifying capital controls including multiple exchange rates, restrictions on current account transactions, restrictions on capital account transactions, and regulatory requirements to surrender export proceeds as reported in the IMF's *Annual Report on Exchange Ar-*

rangements and Exchange Restrictions. We complement this index with indicators from Fernández et. al. (2015) who codify the IMF's more detailed records, available after 1995, indicating whether foreigners specifically have the right to purchase or sell local equity shares. Our measures of financial development are the standard measures of private sector credit to GDP, indicating banking sector development, and stock market capitalization to GDP, indicating capital markets development. Both are reported in the Global Financial Development Database (World Bank, 2019b).

We also relate returns to several indices used by some investors to assess country risk or investability: (i) a political risk index of the PRS Group, (ii) the Economic Freedom index of the Heritage Foundation, (iii) perceptions of corruption by Transparency International, (iv) Economic Fitness, a dynamic measure of economic complexity that predicts growth (Cristelli et al., 2017), and (v) the Ease of Doing Business Distance to Frontier measure (World Bank, 2019a). Finally, we relate returns to several macroeconomic variables reported in the World Development Indicators: (i) real GDP growth, (ii) inflation and (iii) local currency deprecation; (iv) central government debt as a share of GDP as reported by the IMF as well as (v) a sovereign debt rating index produced by Oxford Economics based on an average of ratings by Moody's, S&P and Fitch.

IV. Allocations and Investment Performance

IV.A Location and Timing of IFC's Equity Investments

First, to provide context for the results on financial performance, we compare the IFC's equity portfolio cash deployed (i.e. contributions, as defined above) to FDI inflows reported by the United Nations Conference on Trade and Development (UNCTAD). FDI inflows are defined as the acquisition of an equity capital stake of 10 percent or more by investors resident in a country different than the one in which the enterprise is located, and hence include most cross-border private equity investment, either by funds or through mergers and acquisitions by firms.

Figure II shows the value of IFC equity contributions and global FDI inflows for each year in constant US dollars since 1970, the first year the FDI series is available. Overall, IFC invest-

ment has grown with FDI, and has been less volatile during certain downturns. While global FDI dropped substantially during the 2001 and 2008 recessions, in 2001 IFC investment actually increased and in 2008—though falling briefly—it grew substantially in subsequent years while global FDI plateaued. However, the year 2018 did see a large decline in both FDI and equity investment by the IFC. In 2017, the IFC began pursuing a capital increase from shareholders that was approved in 2019, suggesting the institution considered itself capital constrained at that point. The concurrent decline in FDI during these years is also consistent with a potential decline in available investment opportunities.

Table I reports the country allocation of IFC investment and FDI in constant dollars broken down by whether countries were classified as "advanced economies" or "emerging market and developing economies" (EMDEs) by the IMF in 2019. All values are in real terms. Overall, IFC equity investment accounts for 0.09 percent of total FDI. Unlike FDI however the IFC has been entirely focused on EMDEs, with 97.7 percent of its cash deployed in current EMDE and 2.3 percent in countries that have since transitioned to advanced economy status such as the Republic of Korea, Greece and the Czech Republic. In contrast, 61.3 percent of FDI has gone to advanced economies where the IFC has never deployed cash, such as the United States (which has received 18 percent of total FDI), the United Kingdom (6.9 percent) and Hong Kong SAR, China (4.3 percent). The IFC also has not deployed equity investment in certain jurisdictions through which some FDI into EMDEs is indirectly channeled (Coppola, Maggiori, Neiman and Schreger, 2020), namely the British Virgin Islands (2.2 percent of total FDI), the Cayman Islands (1.5 percent), and the United Arab Emirates (0.4 percent).

When examining geographic diversification within EMDEs, we find the IFC's portfolio is more diversified compared to FDI. East Asia and the Pacific together with Latin America and the Caribbean (defined using World Bank regional classifications) attracted 54.0 percent of FDI in EMDEs in which IFC has invested, whereas only 41.4 percent of IFC's investment has gone to these regions. While 11.3 percent of IFC investment has gone to Sub-Saharan Africa, the continent received only 5.3 percent of FDI among countries in which IFC has invested. Looking at the largest FDI destinations in each region, IFC is underweight in China (9.3 percent vs. 19.5 percent of FDI in EMDEs

in which IFC has invested), Brazil (6.5 percent vs. 9.0 percent), Nigeria (1.0 percent vs. 1.1 percent), and Saudi Arabia (0.2 percent vs. 2.3 percent), while it is overweight in India (9.6 percent vs. 4.3 percent) and the Russian Federation (5.4 percent vs. 4.6 percent). Standard public equity investment references in EMDEs are even more concentrated than FDI. As of June 2020, more than 75 percent of holdings in the MSCI Emerging Market stock index were located in just five economies: China, Taiwan (China), Korea, India, and Brazil. Compared to both public and private cross-border equity investment in EMDEs, the IFC appears highly diversified.

Kenny, Kalow and Ramachandran (2018) argue that, despite its overall focus on EMDEs, IFC still has a relatively small allocation towards the poorest countries within the group. This is consistent with the presence of fewer investable opportunities in smaller economies, where size is measured by real GDP. The capital asset pricing model (CAPM) predicts that, in equilibrium, each investor holds the world portfolio. If a country's investment opportunities are proportional to GDP, the CAPM investor's allocation will also be proportional to the country's GDP, a result consistent with the outsize allocation of FDI to large countries such as the United States and China. Under these assumptions the appropriate test for whether IFC overweighs a particular income group (relative to the CAPM investor) is whether its allocation to the group is larger *as a share of GDP*.

Figure III reports average annual FDI inflows/GDP (Panel A), and average annual IFC investment/GDP (Panel B) as a function of a country's real per capita income in order to conduct such a test. The countries in each group vary over time as real GDP per capita grows, so this figure describes the weighting of investment towards specific income levels rather than specific countries. Relative to our theoretical CAPM benchmark both types of investment appear to overweigh the poorest countries. FDI inflows are on average 1.4 percent of GDP in countries with over $10,000 in GDP per capita and 1.9 percent of GDP in countries with less than $1,000 in GDP per capita, or 35 percent more; IFC exhibits a much steeper slope, investing just 0.0002 percent of GDP in countries with per capita income over $10,000, and 0.0044 percent of GDP in countries with less than $1,000 in per capita income, or roughly twenty-two times more. IFC also overweights lower middle income countries (i.e., real GDP per capita of $1,001-$5,000) relative to upper middle income countries (i.e., real GDP per capita of $5,001-$10,000), whereas FDI is slightly lower as a share of

GDP in lower middle income countries relative to upper middle income countries. Interestingly, when comparing low income countries (i.e., real GDP per capita <$1,000) to lower middle income countries, FDI flows relative to GDP are 24 percent greater in low income countries, while the IFC only invests 1 percent more. An explanation for this may be that, relative to FDI, the IFC is underweight in oil, gas and mining, which comprise the bulk of FDI projects in low income countries (Dabla-Norris et al., 2010) but may not satisfy IFC's mandate to invest only in projects that could not secure financing from another source, nor satisfy certain ESG criteria.

A final question is how IFC equity investment is timed, relative to both FDI and lending to national governments by the World Bank. We investigate this question using a panel vector autoregression model, in which we regress three country year variables, IFC equity investment/GDP, FDI inflows/GDP and World Bank commitments/GDP on the values of each variable in the past two years, as well as dummies for banking, currency and sovereign debt crises as reported by Laeven and Valencia (2020). The VAR model allows for covariance between the error terms in each of the three regression equations to account for the fact that they may be jointly determined as a market equilibrium.

Results are reported in Table II, along with the p-values of Chi-squared tests for four instances of potential Granger causality between the series. The null hypothesis of the first test is that, in column (1), lagged values of FDI/GDP do not predict IFC/GDP, conditional on lagged IFC/GDP; here we cannot reject the null, with $p = 0.498$, indicating there is no evidence that more FDI leads to more IFC investment. The null hypothesis of the second test is that in column (2), lagged values of IFC/GDP do not predict FDI/GDP, conditional on lagged FDI/GDP. Here we also cannot reject the null hypothesis with $p = 0.216$. Together these first two tests suggest there is no significant relationship between FDI inflows and IFC equity investment at the country level. Two additional tests examine the significance of the relationship between IFC equity investment and World Bank commitments to lend to governments. Here we find no evidence that lagged values of either variable predict the other, consistent with limited coordination between activities of the sister institutions in the past, at least as regards equity investment.[12]

[12]Note that the IFC's most recent strategy, promulgated in 2016, does emphasize increased coordination with the World Bank going forward.

Turning to the dummies for different types of crises, it does appear that IFC invests less in times of crisis, though this effect is only statistically significant for instances of sovereign default. The picture is similar for FDI inflows. The World Bank however as expected is significantly more likely to commit to loans in times of banking crises, currency crises, or sovereign debt restructuring, though not during times of sovereign default.

IV.B Financial Performance of IFC's Equity Investments

We now describe the financial performance of the entire equity portfolio, and of its individual investments, focusing on the PME, which measures performance relative to a counterfactual of an equivalently timed investment into a public market index.

IV.B.1 Portfolio Performance

Table III reports the performance of the entire IFC private equity portfolio, where all cash flows from all investments have been pooled together. Columns of the table report the PME calculated on subsets of investments grouped by earliest vintage year beginning with all investments since the first in 1961, then all investments since 1970, since 1980 and so forth, in order to document the evolution of portfolio returns over time. In addition to PME the performance measure TVPI is reported. The two bottom rows of the table report the number of investments in each vintage year group, as well as the share of investments in that group that have been realized (i.e. have a current holding valuation equal to zero).

Looking first at the PME relative to the S&P 500, for which the longest series is available, the entire portfolio has achieved a PME = 1.15 since 1961. This result indicates that, over the long run, the portfolio has delivered 15 percent more than a counterfactual investment into the US public equity market. This is comparable to the median performance of advanced economy leveraged buyout funds (PME = 1.16) and venture capital funds (PME = 1.02) during the 1980s-2000s, as reported by Harris, Jenkinson, and Kaplan (2014); it is also better than the sample of 170 impact investments made between 2000-2014 studied by Gray et. al. (2016), which achieved a PME =

1.00 relative to the S&P 500. IFC's strategy therefore has outperformed public markets over the long run, obtaining returns comparable to many private equity funds in advanced economies. Note the PME relative to the alternative MSCI EM and World indices is systematically higher, consistent with the superior average performance of the S&P 500 over the long durations of time studied.[13] For instance, looking at all projects with vintage years after 1990—shortly after the initiation of the MSCI EM index—IFC achieved a PME = 1.30 relative to MSCI EM, a PME = 1.23 relative to MSCI World, and a PME = 1.14 relative to the S&P 500.

When restricting the portfolio to only investments with vintage years including 2010 and after, the PME has dipped below parity with all three public indices though it still achieved returns comparable to MSCI EM with a PME = 0.98 relative to that index. Relative to the S&P 500, the most recent decade of investments delivered a PME = 0.70, consistent with the significant rally in US equities since the global financial crisis. One potential explanation for this result is that far fewer investments in the recent decade have been realized—25.8 percent compared to 69.2 percent of realized investments since 1961. Newer investments may be held with the expectation that their market valuations will increase.

IV.B.2 Individual Investment Performance

We now summarize the performance of individual investments, which are the basis for the regression analysis in the next section. Appendix Table C reports average and median values of these return measures by decade. Figure IV plots the density of realized PME (Panel A) and TVPI (Panel B) for all IFC investments, by decade of initial investment. For the graph, values above 3 were recorded as 3. Decade refers to the vintage year, so even though an investment is classified under the decade in which it originated its return may be based on an exit in a different decade, or the current holding value.

[13] For instance, the MSCI EM outperformed the S&P 500 only during the 2000s, whereas the S&P 500 has outperformed MSCI EM in both the 1990s and 2010s.

One way to assess the relative performance of each decade is to compare mass to the right of the center under each distribution. By this measure, the greatest mass of high return projects (measured by PME) was found in 1961-1969, followed by 2000-2009, followed by 1990-1999. The variance of the distribution appears smallest (not accounting for outliers) when considering the most recent decade 2010-2019. This is expected given the large share of unrealized investments valued at close to their cost. Notably, the worst performance (measured by PME) was for investments originated in 1980-1989; the density function for that decade is skewed further to the left than investments made in 2010-2019.

In Table IV, we report the size distribution of IFC investments, and also the performance of portfolios constructed by grouping together all investments of the same size. Specifically, we classify each company into investment size quartiles by decade, defining size as the nominal value of total cash deployed in the investment. Panel A reports the cutoffs for each quartile in each decade. Prior to 1990, size quartiles were relatively stable across decades, with the cutoff for the bottom quartile ranging from $0.33 million to $0.35 million, and the cutoff for the top quartile at about $2.00 million to $2.50 million. The average investment size rose considerably in subsequent decades, with the bottom quartile cutoff rising to $0.60 million in 1990-99, $2.04 million in 2000-09, and $4.00 million in 2010-19. This growth in average investment size is much more than could be explained by inflation. The share of large investments also increased substantially, with the top quartile cutoff rising to $6.09 million in 1990-99, $15.45 million in 2000-2009, and $21.76 million in 2010-19. IFC's portfolio therefore reflects a combination of different investment sizes, with some on the scale of those executed by large private equity funds, and others more on the scale of small venture capital investments.

Panel B of Table IV reports the returns to portfolios constructed by pooling cash flows from all investments in the same size quartile together—where quartiles are defined by the cutoffs in Panel A. This ensures that whether an investment is classified as "small" or "large" is defined relative to the time period. Here we see that there is a relationship between investment size and performance, but it is not monotonic. Relative to the S&P 500, the portfolio of the smallest (1st quartile) investments has a PME = 1.48, higher than for the overall portfolio. The second quartile portfolio

by size has PME = 1.16, also slightly higher than the overall portfolio. The largest (4th quartile) investments perform slightly better, with PME = 1.18, and the lowest returns are in the third quartile portfolio by size, which has PME = 1.02. These results contrast somewhat with the findings of Harris, Jenkinson and Kaplan (2014) who find that, in advanced economies, leveraged buyout funds—which typically do larger deals—have higher average returns than venture capital funds—which do smaller deals. However, Harris et al. do not report information that would allow us to evaluate differences in sector composition between our and their samples.

V. Financial Performance of Individual Investments and Country Characteristics

We now turn to our main analysis, which seeks to explain differences in the financial performance of individual private equity investments across countries. Our benchmark is the model of a perfectly integrated international capital market in which geography has no systematic effect on the returns investors receive in exchange for their capital. The logic of this model is well understood—if excess returns are available in a particular market, investors will divert their capital there until excess returns are no longer available, either due to competition (i.e., bidding up of entry multiples) or a decline in the marginal product of capital.

We test the model with our data using the linear regression equation

$$PME_{it} = \tau_t + \alpha_{s(i)} + X'_{c(i)}\beta + \varepsilon_{it} \tag{1}$$

where i indexes the investment, and t indexes the vintage year. The term τ_t is a fixed effect for each vintage year; in a perfectly integrated capital market the return to capital is constant across locations, but may still vary across time.[14] The term $\alpha_{s(i)}$ is a fixed effect for each sector s, included as a control to capture potential differences in ex-ante risk across technologies, which may affect ex-post returns measured by the PME. The vector $X'_{c(i)}$ includes various characteristics of country c, where the investment is located. The term ε_{it} is an error term summarizing residual risk. If all

[14]Our use of the PME to measure returns already corrects for some time variation in the cost of capital; the time fixed effects therefore capture residual variation in the price of capital not explained by the reference index, in this case the S&P 500.

countries participate in a perfectly integrated capital market, then $\beta = 0$; country characteristics would have no effect on the average financial performance of an investment since all investors receive the same price for their capital.

A thesis of impact investing is that in certain markets some commercially-viable projects fail to receive financing on "reasonable" terms, to use the verbiage of the IFC's charter. To make ideas precise, one could say this thesis is valid when $\beta \neq 0$. When $\beta = 0$ the price of capital is the same everywhere and so capital must be available in every market on reasonable terms. What else could "reasonable" mean, if not the competitive price? Conversely, when $\beta \neq 0$ the equilibrium price of capital is higher in certain markets. If the marginal product of capital (equal to its price in equilibrium) diminishes with scale, moving capital from the market in which the price is lower to the one in which it is higher will increase welfare. This could be called impact, or making a difference. Estimation of Equation (1) therefore offers a method to test whether international capital markets are perfectly integrated and also whether it is possible for an investor to have impact in the way described in IFC's original charter. We proceed to review estimates of Equation (1) using different sets of country level covariates suggested by theory.

First, we consider the effect on returns of market size, by including in the regression (log) population and (log) GDP per capita, the latter to account for the population's purchasing power. Table V reports the results of this regression, with Column (1) reporting the OLS estimates of Equation (1) and Columns (2)-(6) reporting estimates of a quantile regression, at the 10th, 25th, 50th, 75th and 90th percentiles. Panel A reports a specification with only vintage year fixed effects and Panel B reports a specification with vintage year and sector fixed effects. Panel C reports the same specification as in Panel B, dropping projects with vintage year of 2015 or later as a check to see that results are not driven by mark-to-market valuations of the newest projects, which may be more challenging to do accurately.

Looking first at the OLS regression in Column (1) the coefficients on both (log) population and GDP per capita are positive but statistically insignificant in Panel A. They increase in magnitude in Panel B such that the coefficient on (log) population becomes statistically significant at the 10

percent level, though not income. The difference between Panels A and B suggests that some lower observed returns in larger markets can be explained by the composition of sectors, reinforcing the value of sector fixed effects as a control for technological risk. The coefficient on population is no longer statistically significant in Panel C but well within standard confidence intervals of the coefficient in Column B, suggesting these results are not driven by the most recent investments. Turning to the quantile regressions in Columns (2)-(6), the statistical significance of the effects is much greater, and the coefficient on (log) GDP per capita also obtains statistical significance at standard levels, consistent with the idea that outliers in the returns distribution make it harder to obtain statistical significance using OLS. However because averages (and outliers) rather than medians drive portfolio performance we focus on the more conservative OLS specification in subsequent regressions.

Overall this table provides microeconomic evidence that international capital markets are not perfectly integrated. Systematically higher returns appear to be available in more populous countries; the quantitative magnitude of this effect is also large. For example, the log difference in population between Nigeria and Liberia is roughly $ln(200) - ln(5) = 3.68$. Multiplying this number by the coefficient on population in Panel B yields 3.68 x $0.038 = 0.14$, or an additional 14 percentage points in excess return (relative to the S&P 500) for each investment. Supposing the investment lasts for 8 years, the average duration of an IFC project reported in Appendix C, yields ($1.14^{(\frac{1}{8})}$ -1) x $100 = 1.65$ percentage points of excess return *per year.* Viewed in light of the theory proposed at the beginning of this section, these results suggest that larger markets within our sample of EMDEs are constrained for capital (relative to the perfect integration benchmark) because they have persistently higher returns that have not been bid away by the market.

Next, we examine whether investment performance depends on the financial openness and development of a country, which should improve access to capital, lowering average returns. Table VI reports results conditioning on select measures of financial development that may affect foreign and domestic equity investors. Variables are normalized as Z-scores by subtracting off the sample mean and dividing by the standard deviation. Column (1) includes only the financial openness index of Chinn and Ito (2006), Column (2) adds private sector credit to GDP, and Column (3) adds

stock market capitalization to GDP. While the coefficients are all negative, as expected, only the coefficient on stock market capitalization to GDP is statistically significant. In Column (4), we include dummies available after 1995 for the specific right of foreigners to buy and sell equity shares. Their effects are not statistically significant. In Column (5), where we drop the 5 most recent years of investments, coefficients also do not differ significantly.

In Columns (6)-(10) we repeat these same specifications, this time including country fixed effects, which isolate how returns vary over time within countries as the financial system opens and develops. Overall, some but not a great deal of variation is explained by country-specific factors; in Column (1) without country fixed effects the $R^2 = 0.134$ and in Column (6) it increases to 0.199. Once accounting for country fixed effects, the quantitative magnitude of the coefficients on financial openness and banking system development increases, along with their statistical significance. Using the specification in Column (6) a one standard deviation increase in financial openness reduces excess return (relative to the S&P 500) by 25.4 percentage points, or, for an 8 year investment $(1.254^{(\frac{1}{8})} - 1)$ x $100 = 2.86$ percentage points *per year*. Between 2000-2001 as Poland prepared to enter the European Union, its value of the Chinn-Ito openness index increased by approximately 1 standard deviation. In Column (8), a one standard deviation increase in banking sector development reduces excess return by 46.3 percentage points, or for an 8 year investment, $(1.463^{(\frac{1}{8})} - 1)$ x $100 = 4.9$ percentage points *per year.* A one standard deviation increase in private sector credit to GDP is 39 percentage points, approximately the amount of growth experienced by Brazil from 1990 to 2020, or half of the growth experienced by Kenya during the same 30 year period. Our interpretation of these results is that closed economies and those with less developed banking sectors are capital constrained.

In Column (8) we also see that financial performance increases in markets with deeper capital markets, as measured by larger stock market capitalization relative to GDP, the opposite of what was found in Column (3). An explanation for this could be that deeper local equity markets aid more efficient pricing of equity investments on exit—be it through private acquisition by new owners or initial public offering to the public market.

Table VII explores the association between financial performance and five factors that some investors use to gauge country risk or investability, when measured the year before the first cash flow, to capture the effect of information available at the time of investment. A challenge with these data is that the time series and country coverage are often incomplete, reducing the size of the sample. Of these variables, the only one for which we find a significant association is Economic Freedom, more of which is associated with negative returns. This is consistent with the hypothesis that firms in "freer" countries are less capital constrained. The nonsignificance of the political risk, corruption perceptions, and ease of doing business indices suggests that these measures are less relevant for investment analysis than may be assumed, perhaps because even if they are correlated with productivity (e.g., national income) they need not be correlated with the extent of capital market integration, which determines the level of returns.

We close by considering how returns vary with the macroeconomic variables that typically appear in a small open-economy macro model used for country risk analysis, namely real GDP growth, inflation, and local currency depreciation. We also consider central government debt to GDP and the sovereign risk rating as proxies for the country risk premium. In Table VIII, we consider how these variables relate to performance when evaluated in the year before first cash flow. In Table IX, we consider how annualized changes in these variables are between the year of first cash flow and the last cash flow are associated with returns.

Overall, Table VIII shows that macroeconomic variables measured in the year before investment have a less significant association with performance. The only significant coefficient (at 10 percent) is on real GDP growth in Column (6). Notably, the effects of central government debt as a share of GDP and the sovereign rating are estimated as precise zeros. Our interpretation of these results is that macroeconomic variables at time of investment do not have great predictive power over which capital markets are integrated with the international market.

Table IX shows the effects of changes in macroeconomic variables over the life of the investment. Such macro dynamics have significant predictive power for investment performance. In Column (1), one additional percentage point of GDP growth in each year of the investment is associated

with an increase in PME of 0.066 percentage points, or an additional 6.6 percentage points in excess return over the life of the investment. This is natural as GDP growth reflects broad-based productivity growth or increase in the labor supply, including for IFC investees. In Column (2), we see that investment performance declines significantly if the local currency depreciates over the course of the investment. Recall that financial returns are all measured in US dollars, and so depreciation of the currency implies a lower valuation of the firm's cash flow. In contrast, in Column (3), we see that faster growth of domestic prices (measured by the local currency GDP deflator) reduces performance, but this effect is not statistically significant. In Column (4), which includes together all three of the variables in the previous three columns, we see that the associations with currency depreciation and local currency inflation almost completely cancel each other out on average, consistent with what would be expected with a freely floating exchange rate. Real GDP growth remains a significant predictor of returns (at 10 percent significance), though its magnitude is reduced somewhat to 4.3 additional percentage points of excess return for an additional 1 percent of cumulative annualized GDP growth over the course of the investment. In Column (5), we see a negative association of investment performance and growth in the stock of government debt relative to GDP and in Column (6) we see a negative association between returns and deterioration in the sovereign debt rating. However, when these variables are combined with GDP growth, inflation, and local currency depreciation in Columns (7) and (8) these variables all lose statistical significance, though these specifications also have a smaller number of observations. As ratings are largely determined by a small number of country risk factors such as GDP growth and inflation (Cantor and Packer, 1996) this is not surprising.

Finally, in Table X we examine the association between investment financial performance and holding duration, where duration is measured as the number of years between the first and last cash flow. In this portfolio the 25th percentile of holding duration is 4 years, the 50th percentile is 7 years and the 75th percentile is 11 years. Column (1) reports that an additional year of duration increases PME by 0.04, and this result is statistically significant at one percent. Column (2) estimates this relationship using a spline function, which allows the slope between PME and duration to differ between three intervals: less than 5 years, between 5 and less than 10 years, and 10 years or more. Here, the slope remains positive and statistically significant at standard levels in all three intervals,

though the slope becomes less steep after 10 years. In Columns (3) and (4) these specifications are replicated restricting the sample only to realized investments, with no significant change in the estimated coefficients. A potential explanation for the outperformance of private equity investments relative to public markets is that outperformance reflects a liquidity premium—higher returns in exchange for a longer holding duration. These results are consistent with the existence of such a premium.

VI. Concluding Remarks

One candidate definition of the impact investor is an asset owner willing to "pay" for potential positive social externalities by taking below-market returns (Barber, Morse, and Yasuda, 2020); other investors argue they can address social or environmental problems while still earning competitive financial returns. This paper proposes a resolution to this inconsistency by offering an alternative definition of the impact investor: one that provides capital to eligible projects that would not have otherwise received funding due to imperfectly integrated financial markets. In practice, impact investors distinguish themselves from traditional investors by their *intent* to contribute to measurable social or environmental impact alongside financial returns, as for example with the Operating Principles for Impact Management, which translate this intent into a distinctive investment process that focuses attention on specific markets where they perceive the positive externalities of investment to be especially valuable.[15]

Our analysis of the portfolio of one signatory to these Operating Principles provides insight for any international investor who contemplates investing in emerging market and developing economies to realize an above market return on equity. Imperfect integration of international capital markets appears to have left available especially attractive opportunities in countries with less developed banking systems and capital controls, as well as in larger economies, creating scope for both financial profit and a social impact.

[15] A purpose of these Principles is to provide asset owners with (verifiable) information on the conduct of potential fiduciaries in pursuit of social or environmental objectives. Signatories to these Principles include asset managers specialized in "purposeful investing" such as MicroVest Capital Management LLC ($287 million in assets under management in accordance with the Principles), legacy private wealth managers such as Credit Suisse AG ($4.2 billion), and government-owned development finance institutions such as the European Bank for Reconstruction and Development ($51.7 billion). See https://www.impactprinciples.org/

The results on associations of financial performance and macroeconomic variables over the life of an investment also point to a specific public policy that could contribute to the integration of international capital markets in a world with a dominant currency. Given the substantial effects of ex-post currency depreciation observed on US dollar returns, there could be a benefit from initiatives that provide external convertibility of local currencies through products such as swaps and forward contracts, especially when those currencies are not widely traded. The Currency Exchange Fund (TCX) is an example of such an initiative. Such insurance mechanisms may help investors consider more volatile developing economies as viable investment opportunities, including those with the greatest capital shortages.

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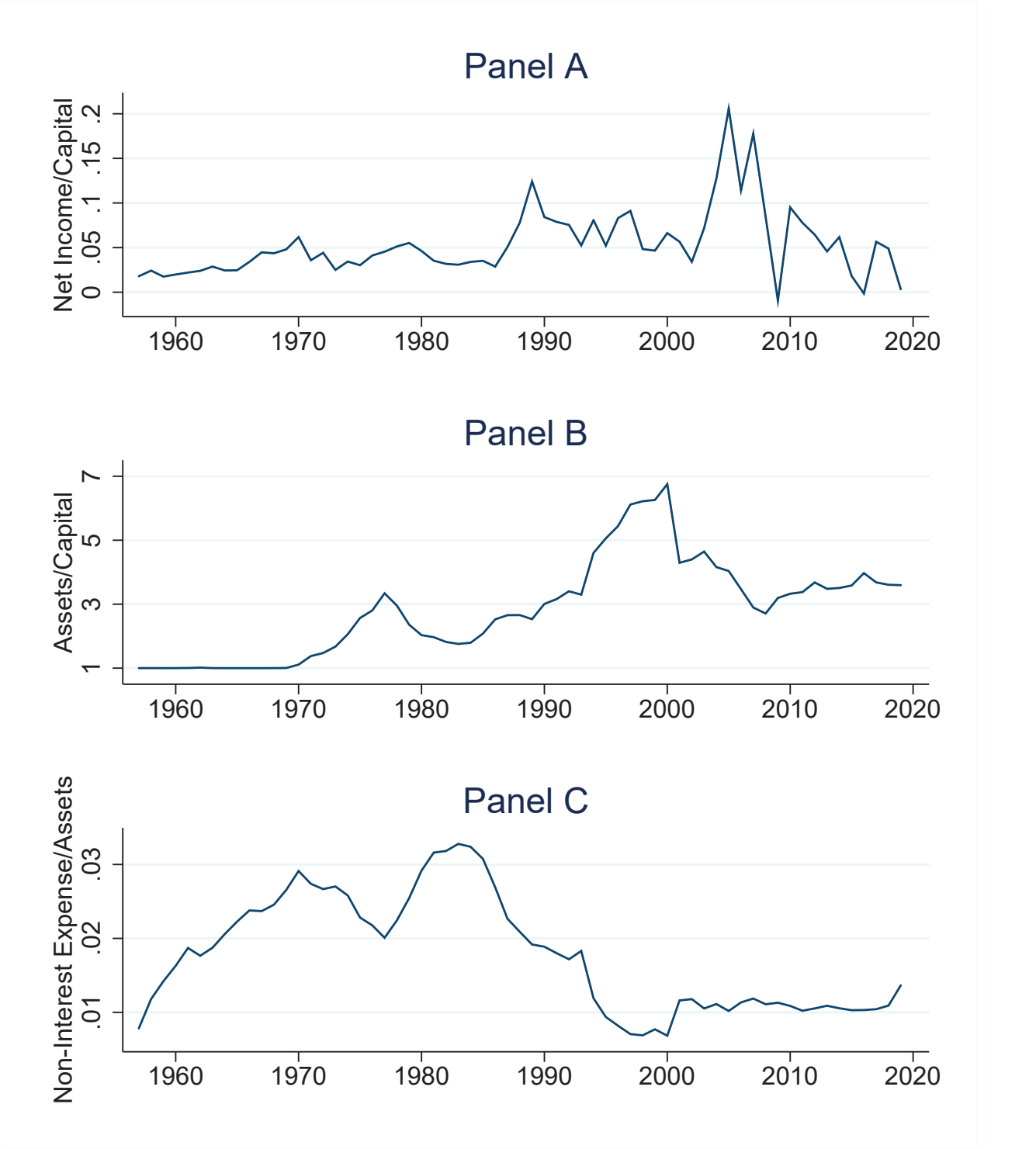


Figure I: Key financial ratios of the International Finance Corporation

Source: IFC annual reports

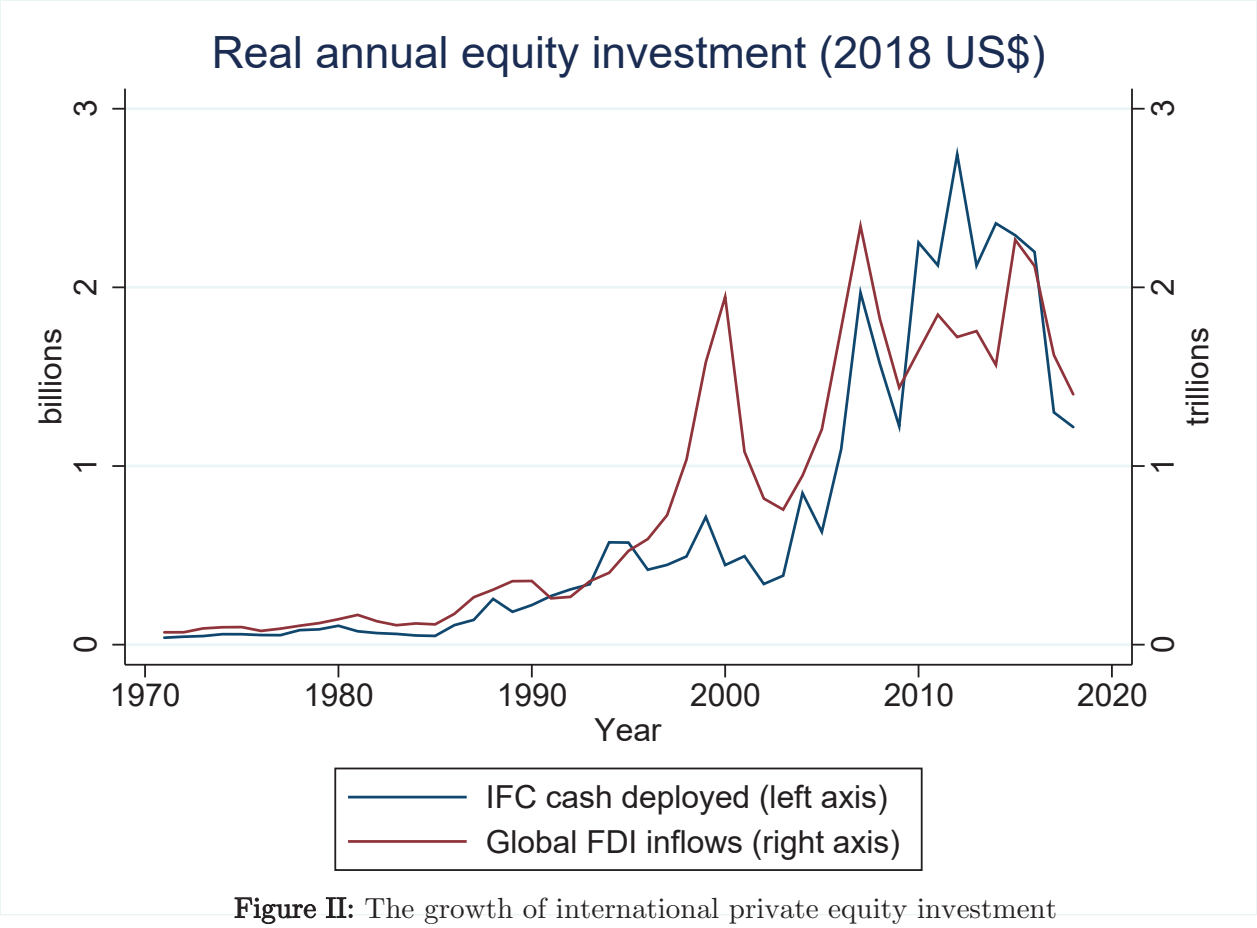


Figure II: The growth of international private equity investment

Sources: UNCTAD, IFC equity cash flows

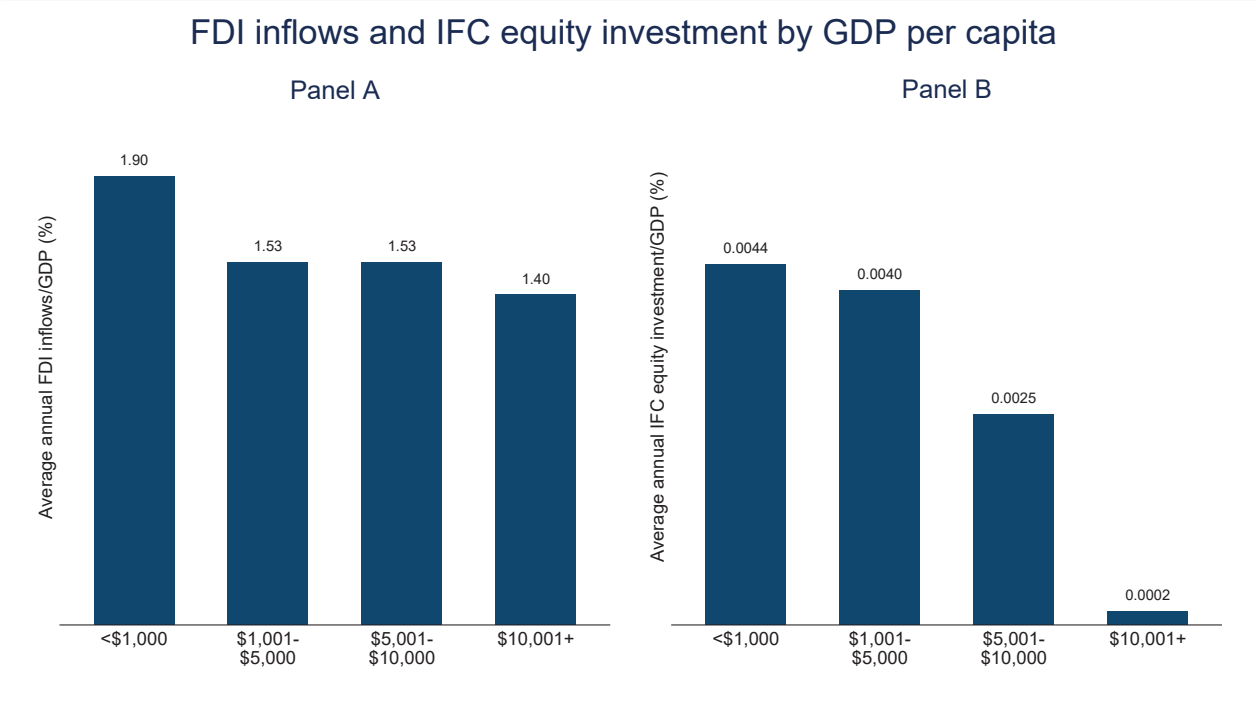
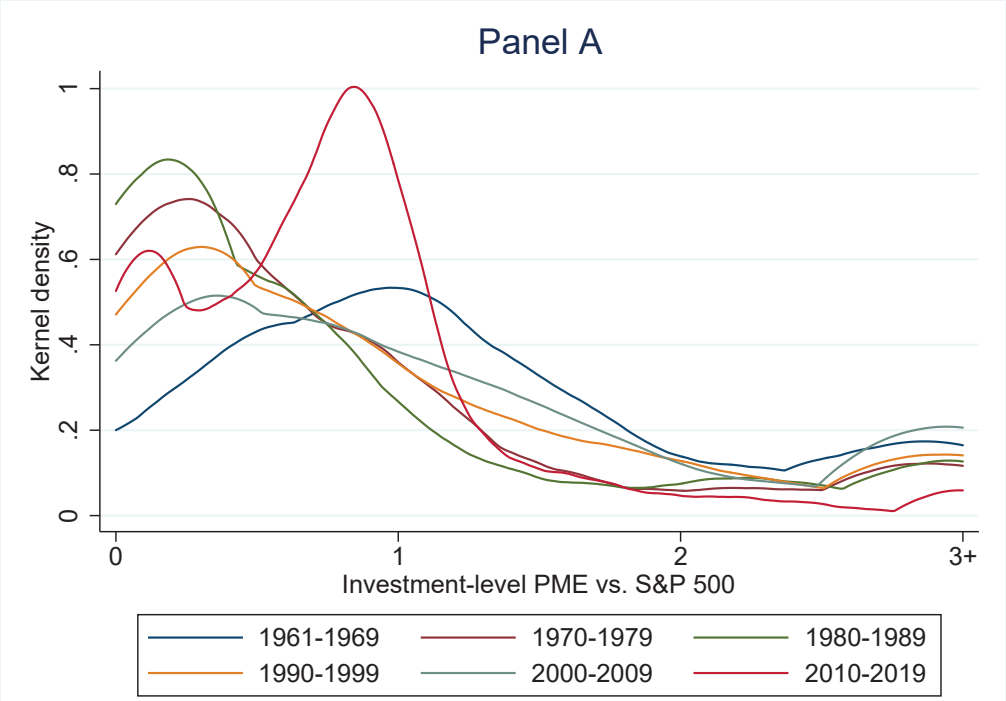


Figure III: Comparison of FDI inflows and IFC equity investment as a share of national income

Sources: UNCTAD, IFC equity cash flows, World Development Indicators.



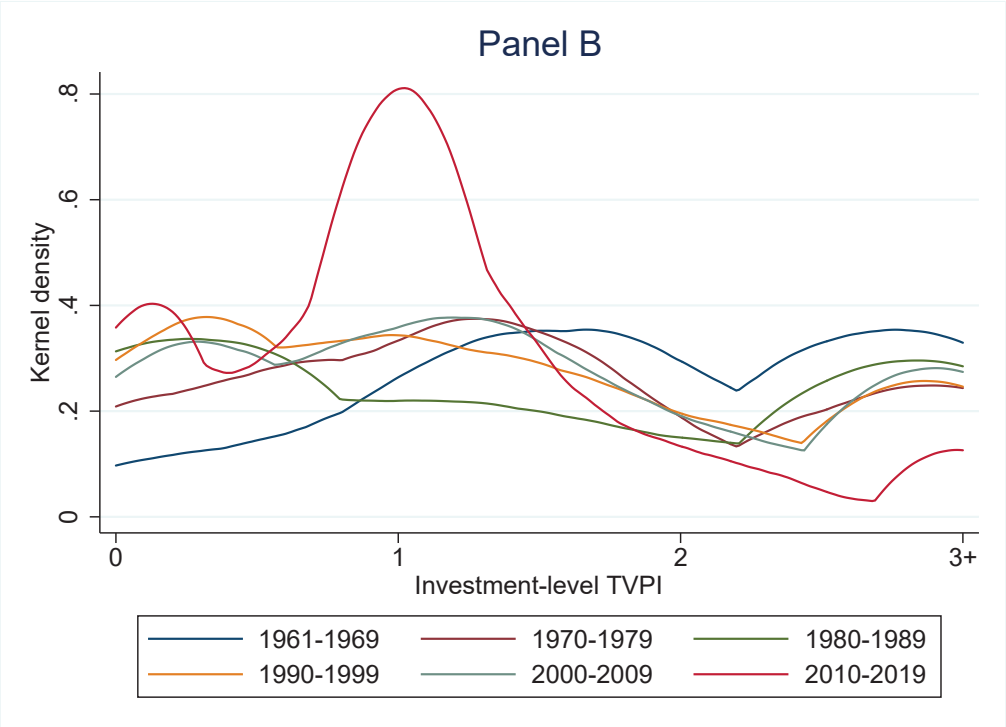


Figure IV: Individual equity investment performance by decade

Source: IFC equity cash flows

Note: For the graph, values above 3 were recorded as 3.

TABLE I: Geographic distribution of IFC equity investment compared to foreign direct investment. This table presents IFC equity investment and global FDI flows by region. Advanced economies are as classified by the IMF as of 2019. Advanced economies with IFC equity investments are, in descending order of real cash deployed: the Republic of Korea, Greece, Czech Republic, Slovak Republic, Latvia, Singapore, Estonia, Slovenia, Lithuania and Taiwan (China). Brazil; China, Russian Federation, Nigeria, India and Saudi Arabia are the largest FDI destinations in their regions. The United States; United Kingdom; and Hong Kong SAR (China) are the world's three largest FDI destinations among advanced economies. The British Virgin Islands, Cayman Islands and United Arab Emirates are the three largest Emerging Market and Developing Economies FDI destinations without IFC cash deployed. World region IFC projects are grouped under Emerging Market and Developing Economies. Regional IFC projects are grouped under their region. FDI inflows from UNCTAD up to 2018. Values are 2018 dollars, converted from nominal dollars using the US GDP deflator.

	IFC equity investment since 1956		FDI inflows since 1970			
	Billions ($)	Share of SUB-TOTAL	Trillions ($)	Share of SUB-TOTAL	Share of TOTAL	IFC / FDI
A) Countries with IFC cash deployed						
Emerging Market and Developing Economies	33.77	97.7%	11.33	85.9%	29.1%	0.30%
Latin America and the Caribbean	8.01	23.2%	3.45	26.2%	8.9%	0.23%
Brazil	2.23	6.50%	1.19	9.00%	3.10%	0.19%
East Asia and the Pacific	6.28	18.20%	3.67	27.80%	9.40%	0.17%
China	3.22	9.30%	2.57	19.50%	6.60%	0.13%
Europe and Central Asia	6.37	18.40%	2.02	15.30%	5.20%	0.32%
Russian Federation	1.85	5.40%	0.61	4.60%	1.60%	0.30%
Sub-Saharan Africa	3.9	11.30%	0.7	5.30%	1.80%	0.56%
Nigeria	0.35	1.00%	0.15	1.10%	0.40%	0.24%
South Asia	4.45	12.90%	0.67	5.10%	1.70%	0.66%
India	3.31	9.60%	0.56	4.30%	1.40%	0.59%
Middle East and North Africa	3.22	9.30%	0.81	6.10%	2.10%	0.40%
Saudi Arabia	0.08	0.2%	0.31	2.3%	0.8%	0.03%
World Region	1.54	4.5%	-	-	-	-
Advanced Economies	0.78	2.3%	1.87	14.1%	4.8%	0.04%
Korea, Rep.	0.30	0.9%	0.29	2.2%	2.2%	0.10%
Greece	0.20	0.6%	0.08	0.6%	0.6%	0.25%
Czech Republic	0.18	0.5%	0.17	1.3%	1.3%	0.11%
SUB-TOTAL	34.56	100.0%	13.19	100.0%	33.9%	0.26%
B) Countries without IFC cash deployed						
Emerging Market and Developing Economies			1.89		4.9%	
British Virgin Islands			0.84		2.2%	
Cayman Islands			0.59		1.5%	
United Arab Emirates			0.17		0.4%	
Advanced Economies			23.86		61.3%	
United States			7.02		18.0%	
United Kingdom			2.68		6.9%	
Hong Kong SAR (China)			1.68		4.3%	
TOTAL			38.95		100.0%	0.09%

TABLE II: IFC equity investment strategy described by a panel vector autoregression. An observation is a country year. IFC/GDP refers to IFC equity portfolio cash deployed as a share of GDP in a given country year. FDI/GDP refers to FDI inflows as a share of GDP. WB/GDP refers the value of board approved World Bank lending committments (through either the International Development Association and the International Bank for Reconstruction and Development) as a share of GDP. Crises and sovereign debt restructuring are as reported by Leaven and Valencia (2020). Standard errors are clustered at the country level. ***p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)
	(IFC/GDP)x100	FDI/GDP	WB/GDP
(IFC/GDP)x100 (t-1)	0.046*	0.056	0.006
	(0.027)	(0.062)	(0.010)
(IFC/GDP)x100 (t-2)	0.055*	0.008	0.005
	(0.032)	(0.038)	(0.006)
FDI/GDP (t-1)	0.005	-0.078	0.001
	(0.005)	(0.691)	(0.002)
FDI/GDP (t-2)	0.003	-0.098	0.000
	(0.003)	(0.370)	(0.001)
WB/GDP (t-1)	0.075	-0.418	0.005
	(0.103)	(0.472)	(0.143)
WB/GDP (t-2)	-0.001	-0.317	0.101
	(0.031)	(0.378)	(0.093)
Banking Crisis (=1)	-0.001	-0.006	0.003***
	(0.001)	(0.010)	(0.001)
Currency Crisis (=1)	-0.001	-0.016	0.004***
	(0.001)	(0.017)	(0.001)
Sovereign Default (=1)	-0.003*	-0.018**	-0.000
	(0.002)	(0.008)	(0.002)
Sovereign Debt Restructuring (=1)	-0.002	-0.011	0.005**
	(0.002)	(0.009)	(0.002)
Observations	7,686	7,686	7,686
p-values of Chi-squared tests:			
H0: Coefficients on both lags of FDI/GDP = 0 in Column (1)			0.498
H0: Coefficients on both lags of IFC/GDP = 0 in Column (2)			0.216
H0: Coefficients on both lags of WB/GDP = 0 in Column (1)			0.584
H0: Coefficients on both lags of IFC/GDP = 0 in Column (3)			0.715

TABLE III: Financial performance of the IFC private equity portfolio as of June 30, 2019. The public market equivalent (PME) is measured following Kaplan and Schoar (2005) as the ratio of cash in (disbursements) to cash out (client capital calls), where each series is discounted according to a public market index. The discount rate is given by the total return of the index, including dividends and price appreciation. Cash flows and the index value are observed on the last date of each month. For investments with non-zero holding valuation, the fair value is treated as a positive cash flow in June 30, 2019, as if the investment is sold on that date. An investment is considered fully realized if it has zero holding valuation.

	Index Start Date	Financial performance of the portfolio of all equity investments with vintage years including and since...					
		1961	1970	1980	1990	2000	2010
PME vs. MSCI Emerging Markets	1988				1.3	1.18	0.98
PME vs. MSCI World	1970		1.21	1.26	1.23	1.12	0.78
PME vs. S&P 500	1957	1.15	1.13	1.16	1.14	1.07	0.7
Total value to paid-in (TVPI)		1.71	1.70	1.69	1.61	1.47	1.15
Number of investments		2,509	2,429	2,304	2,053	1,433	803
Share of investments fully realized		69.20%	68.20%	66.40%	62.50%	47.50%	25.80%

TABLE IV: Investment financial performance and investment size. Total cash deployed across 2,509 companies is classifed into investment size quartiles by decade. Panel A reports the cut offs for each quartile. Panel B reports the returns to a synthetic portfolio made up of only the investments in each quartile. For the PME vs. MSCI Emerging Markets, projects are included in the calculation if they have vintage years after 1988, when the index began. For the PME vs. MSCI World, projects are included if they have vintage years on or after 1970. For the PME vs. S&P 500, all projects are included.

Panel A) Investment size cutoffs by decade (nominal $ millions)

Time Period	Bottom Quartile	Median	Top Quartile	Mean
1959-69	0.33	0.72	2.02	1.32
1970-79	0.35	0.88	2.00	1.85
1980-89	0.30	0.84	2.50	3.01
1990-99	0.60	2.22	6.09	5.28
2000-09	2.04	6.00	15.45	13.17
2010-19	4.00	10.00	21.76	19.49

Panel B) Portfolio performance by size quartile

Investment size	TVPI	PME vs. S&P 500	PME vs. MSCI World	PME vs. MSCI Emerging Markets
1st quartile (smallest)	2.18	1.48	1.44	1.85
2nd quartile	1.83	1.16	1.2	1.26
3rd quartile	1.68	1.02	1.11	1.21
4th quartile (largest)	1.69	1.18	1.24	1.36

TABLE V: Investment financial performance and market size. The dependent variable is the PME vs. S&P 500, winsorized at the 99th percentile. Independent variables are the population and GDP per capita of the country, on the year of the first cash flow associated with the investment. Panel A reports a linear regression with the constant not reported. Panel B reports the same regression, but with fixed effects for 22 subsectors that partition IFC's four sectoral departments: Manufacturing, Agriculture and Services; Financial Institutions; Infrastructure; and Collective Investment Vehicles (funds). Panel C reports the same regression, excluding the five most recent vintage years, whose performance is disproportionately determined by mark to market valuations. Standard errors are clustered at the country-year. *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)	(6)
		Quantile Regressions				
	OLS	0.1	0.25	0.5	0.75	0.9
	PME	PME	PME	PME	PME	PME
Panel A) Baseline specification						
Ln(Population)	0.028	0.003	0.010	0.019**	0.023*	0.025
	(0.021)	(0.005)	(0.008)	(0.009)	(0.014)	(0.026)
Ln(GDP per capita)	0.025	0.003	0.033**	0.050**	0.041	-0.068
	(0.044)	(0.010)	(0.013)	(0.020)	(0.029)	(0.048)
R-squared (pseudo)	0.096	0.035	0.060	0.072	0.096	0.164
Observations	2,069	2,069	2,069	2,069	2,069	2,069
Sample	Full	Full	Full	Full	Full	Full
Vintage year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	No	No	No	No	No	No
Panel B) Baseline specification with sector fixed effects						
Ln(Population)	0.038*	0.004	0.010	0.016*	0.022	0.050**
	(0.021)	(0.005)	(0.007)	(0.009)	(0.016)	(0.024)
Ln(GDP per capita)	0.033	0.004	0.019	0.055***	0.053	0.045
	(0.044)	(0.009)	(0.012)	(0.020)	(0.037)	(0.060)
R-squared (pseudo)	0.131	0.047	0.085	0.091	0.117	0.202
Observations	2,069	2,069	2,069	2,069	2,069	2,069
Sample	Full	Full	Full	Full	Full	Full
Vintage year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Panel C) Baseline specification with sector fixed effects, including only vintage years < 2015						
Ln(Population)	0.036	0.002	0.005	0.017	0.023	0.076**
	(0.024)	(0.006)	(0.007)	(0.011)	(0.018)	(0.039)
Ln(GDP per capita)	0.045	0.004	0.022	0.067***	0.068*	0.050
	(0.050)	(0.010)	(0.013)	(0.021)	(0.038)	(0.094)
R-squared (pseudo)	0.134	0.026	0.068	0.093	0.121	0.202
Observations	1,837	1,837	1,837	1,837	1,837	1,837
Sample	Pre-2015	Pre-2015	Pre-2015	Pre-2015	Pre-2015	Pre-2015
Vintage year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

TABLE VI: Investment financial performance and capital market development. The dependent variable is the PME vs. S&P 500, winsorized at the 99th percentile. The de jure financial openness index begins in 1970, and is the first principle component of dummy variables that codify the restrictions on cross-border financial transactions reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER) (Chinn and Ito, 2008). Specific equity transaction rights of nonresidents are reported in the AREAER after 1995, and are compiled by Fernández et. al. (2015). Private sector credit is domestic private credit to the real sector by deposit money banks; stock market capitalization is the value of listed shares. Both indicators of financial system depth are from the Global Financial Development Database. Explanatory variables are all measured in the year of first cash flow. Financial openness and financial system depth have been normalized as Z-scores by subtracting off the sample mean and dividing by the sample standard deviation. Standard errors are clustered at the country-year. *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	PME	PME	PME	PME	PME	PME	PME	PME	PME	PME
De-jure financial openness index	-0.034	-0.043	-0.042	-0.094	-0.037	-0.254***	-0.253***	-0.257***	-0.136	-0.271***
	(0.046)	(0.047)	(0.059)	(0.068)	(0.062)	(0.081)	(0.082)	(0.093)	(0.116)	(0.099)
Private sector credit by deposit money banks/GDP		-0.035	-0.049		-0.052		-0.201*	-0.463*		-0.476
		(0.034)	(0.072)		(0.088)		(0.107)	(0.250)		(0.310)
Stock market capitalization/GDP			-0.081*		-0.108**			0.266**		0.271*
			(0.043)		(0.049)			(0.129)		(0.145)
Non-residents can purchase local equity shares ϵ {0,1}				-0.038					0.300	
				(0.148)					(0.199)	
Non-residents can sell local equity shares ϵ {0,1}				-0.101					0.148	
				(0.162)					(0.272)	
R-squared	0.134	0.135	0.123	0.143	0.125	0.199	0.201	0.193	0.206	0.199
Observations	1,859	1,828	1,337	1,109	1,227	1,859	1,828	1,337	1,109	1,227
Sample	Full	Full	Full	Post-1995	Pre-2015	Full	Full	Full	Post-1995	Pre-2015
Vintage year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes

TABLE VII: Investment financial performance and country-level risk factors in year before first cash flow. The dependent variable is the PME with respect to the S&P 500, winsorized at the 99th percentile. Explanatory variables have been normalized as Z-scores by subtracting off the sample mean and dividing by the sample standard deviation. Standard errors are clustered at the country-year. *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)	(6)
	PME	PME	PME	PME	PME	PME
Political Risk (PRS Group)	-0.011					0.080
	(0.067)					(0.063)
Economic Freedom (Heritage Foundation)		-0.081*				0.032
		(0.047)				(0.074)
Corruption Perception (Transparency Int'l)			-0.034			-0.059
			(0.053)			(0.057)
Economic Fitness (Cristelli et al., 2017)				0.066		0.062
				(0.042)		(0.066)
Ease of Doing Business Distance to Frontier (World Bank)					0.037	0.032
					(0.036)	(0.088)
R-squared	0.138	0.127	0.139	0.037	0.091	0.117
Observations	1,009	1,029	1,031	707	446	392
Sample	Full	Full	Full	Full	Full	Full
Vintage year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

TABLE VIII: Investment financial performance and macroeconomic variables recorded in the year before the first cash flow. The dependent variable is the PME with respect to the S&P 500, winsorized at the 99th percentile. All independent variables are changes between the year of first cash flow and the previous year. Real GDP growth (in USD), inflation (change in LC GDP deflator) and currency depreciation (change in USD/LC) are from the WDI. Central government debt is from the International Financial Statistics. Sovereign rating is the (reverse) composite index provided by Oxford Economics based on the average of the sovereign ratings provided by Moody's, S&P and Fitch, ranging from 1 to 20, where 20 is the worst possible credit rating. Higher values indicate higher credit risk. Regression constant is not reported. Standard errors are clustered at the country-year.
*** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PME	PME	PME	PME	PME	PME	PME	PME
Real GDP growth rate	1.211					1.653*	1.966	0.444
	(0.969)					(0.991)	(1.203)	(1.323)
Inflation rate		0.140				0.017	0.021	0.745
		(0.126)				(0.483)	(0.583)	(0.618)
Currency depreciation rate			0.129			0.138	0.134	-0.749
			(0.128)			(0.494)	(0.602)	(0.636)
Central government debt (% GDP)				-0.001			-0.001	-0.001
				(0.001)			(0.001)	(0.003)
Sovereign rating index					-0.000			0.026
					(0.018)			(0.027)
R-squared	0.107	0.107	0.106	0.129	0.094	0.126	0.158	0.146
Observations	2,065	2,066	2,105	1,668	1,336	2,062	1,641	1,073
Sample	Full	Full	Full	Full	Full	Full	Full	Full
Vintage year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

TABLE IX: Investment financial performance and macroeconomics over the life of the investment. The dependent variable is the PME with respect to the S&P 500, winsorized at the 99th percentile. Explanatory variables are measured as annualized changes from the year of first cash flow to the date of the last cash flow. Real GDP growth (in USD), inflation (change in LC GDP deflator) and currency depreciation (change in USD/LC) are from the WDI. Central government debt is from the International Financial Statistics. Sovereign rating is the (reverse) composite index provided by Oxford Economics based on the average of the sovereign ratings provided by Moody's, S&P and Fitch, ranging from 1 to 20, where 20 is the worst possible credit rating. Higher values indicate higher credit risk. Regression constant is not reported. Standard errors are clustered at the country-year. *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PME	PME	PME	PME	PME	PME	PME	PME
Real GDP growth	6.620***			4.306*			2.869	-3.580
	(2.435)			(2.491)			(2.636)	(4.503)
Currency depreciation		-0.355*		-3.945***			-3.670***	-4.103**
		(0.192)		(1.158)			(1.376)	(1.619)
Inflation			-0.202	3.713***			3.341**	3.503**
			(0.192)	(1.145)			(1.361)	(1.647)
Central government debt (% GDP)					-0.020*		-0.004	0.025
					(0.012)		(0.012)	(0.028)
Sovereign rating index						-0.378**		-0.430
						(0.166)		(0.349)
R-squared	0.149	0.143	0.145	0.155	0.181	0.122	0.188	0.192
Observations	1,393	1,417	1,392	1,391	1,109	1,310	1,095	623
Sample	Full	Full	Full	Full	Full	Full	Full	Full
Vintage year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

TABLE X: Investment financial performance and holding duration Duration is measured as the number of years between the first and last cash flow. Columns 3 and 4 include only investments that have been realized, and have a current holding valuation equal to zero. Standard errors are clustered at the country-year. *** p<0.01, ** p<0.05, * p<0.1

	(1)	(2)	(3)	(4)
	PME	PME	PME	PME
Duration	0.040***		0.045***	
	(0.009)		(0.011)	
Duration X 1(Duration < 5)		0.090**		0.092**
		(0.038)		(0.037)
Duration X 1(5 ≤ Duration < 10)		0.089***		0.091***
		(0.020)		(0.022)
Duration X 1(10 ≤ Duration)		0.046***		0.050***
		(0.010)		(0.011)
R-squared	0.120	0.124	0.124	0.127
Observations	2,509	2,509	1,736	1,736
Sample	Full	Full	Realized	Realized
Vintage year fixed effects	Yes	Yes	Yes	Yes
Sector fixed effects	Yes	Yes	Yes	Yes

APPENDIX A: Historical IFC Financial Statements and Ratios. Balance sheet and income statement values are as reported in the annual report, including revisions. Total assets prior to 1974 do not include the undrawn portion of a loan from the International Bank for Reconstruction and Development. Return on equity is net income/total capital. Return on assets is net income/total assets. The leverage ratio is total assets/total capital. The expense ratio is non-interest expense/total assets.

Fiscal Year	Balance Sheet		Income Statement		Financial Ratios			
	Total Capital	Total Assets	Net Income	Non-Interest Expense	Return on Equity	Return on Assets	Leverage	Expense
	$ Mn	$ Mn	$ Mn	$ Mn				
1957	93.5	93.6	1.7	0.7	1.79%	1.79%	1.001	0.78%
1958	97.3	97.4	2.4	1.1	2.42%	2.42%	1.001	1.18%
1959	99.4	99.5	1.7	1.4	1.75%	1.75%	1.001	1.42%
1960	104.3	104.5	2.1	1.7	1.99%	1.99%	1.002	1.63%
1961	107.2	107.8	2.4	2.0	2.20%	2.19%	1.006	1.87%
1962	109.8	111.6	2.6	2.0	2.40%	2.36%	1.016	1.77%
1963	115.2	115.4	3.3	2.2	2.88%	2.87%	1.001	1.87%
1964	119.3	119.4	2.9	2.5	2.44%	2.44%	1.001	2.06%
1965	122.2	122.3	3.0	2.7	2.46%	2.46%	1.001	2.23%
1966	128.2	128.4	4.4	3.1	3.40%	3.40%	1.001	2.38%
1967	134.8	134.9	6.0	3.2	4.47%	4.47%	1.001	2.37%
1968	142.9	143.2	6.2	3.5	4.37%	4.36%	1.002	2.46%
1969	155.2	156.0	7.5	4.1	4.81%	4.78%	1.005	2.66%
1970	165.8	184.1	10.3	5.4	6.18%	5.57%	1.111	2.91%
1971	172.1	237.0	6.2	6.5	3.58%	2.60%	1.377	2.74%
1972	179.7	264.7	8.0	7.1	4.43%	3.00%	1.473	2.67%
1973	166.7	278.9	4.2	7.5	2.50%	1.49%	1.673	2.70%
1974	172.5	355.5	5.9	9.2	3.44%	1.67%	2.060	2.58%
1975	178.2	457.6	5.4	10.4	3.03%	1.18%	2.568	2.28%
1976	186.7	523.7	7.7	11.4	4.12%	1.47%	2.805	2.18%
1977	195.7	653.8	8.9	13.1	4.55%	1.36%	3.340	2.01%
1978	243.8	720.8	12.5	16.2	5.13%	1.73%	2.957	2.24%
1979	347.7	819.7	19.2	20.9	5.52%	2.34%	2.357	2.55%
1980	446.4	907.8	20.7	26.5	4.63%	2.28%	2.034	2.92%
1981	551.3	1,084.8	19.5	34.3	3.53%	1.80%	1.968	3.16%
1982	678.1	1,233.4	21.6	39.3	3.18%	1.75%	1.819	3.18%
1983	747.6	1,313.8	23.1	43.1	3.08%	1.75%	1.757	3.28%
1984	774.3	1,389.9	26.3	45.0	3.40%	1.89%	1.795	3.24%
1985	804.2	1,672.8	28.3	51.5	3.52%	1.69%	2.080	3.08%
1986	885.6	2,236.4	25.4	60.2	2.87%	1.14%	2.525	2.69%
1987	1,059.2	2,814.1	53.8	63.7	5.08%	1.91%	2.657	2.27%
1988	1,288.5	3,427.0	100.6	71.6	7.80%	2.93%	2.660	2.09%

Fiscal Year	Balance Sheet		Income Statement		Financial Ratios			
	Total Capital	Total Assets	Net Income	Non-Interest Expense	Return on Equity	Return on Assets	Leverage	Expense
	$ Mn	$ Mn	$ Mn	$ Mn				
1989	1,582.6	4,006.1	196.5	76.8	12.41%	4.90%	2.531	1.92%
1990	1,864.1	5,606.3	157.0	105.9	8.42%	2.80%	3.008	1.89%
1991	2,104.0	6,648.2	165.9	119.7	7.88%	2.49%	3.160	1.80%
1992	2,389.3	8,132.7	180.2	139.7	7.54%	2.22%	3.404	1.72%
1993	2,702.4	8,913.4	141.7	163.2	5.25%	1.59%	3.298	1.83%
1994	3,198.1	14,722.8	258.2	175.2	8.07%	1.75%	4.604	1.19%
1995	3,602.8	18,227.6	188.0	171.0	5.22%	1.03%	5.059	0.94%
1996	4,158.2	22,640.2	345.8	185.4	8.32%	1.53%	5.445	0.82%
1997	4,736.9	28,974.7	431.9	204.5	9.12%	1.49%	6.117	0.71%
1998	5,084.3	31,620.7	245.8	218.0	4.83%	0.78%	6.219	0.69%
1999	5,344.2	33,456.2	249.3	258.0	4.66%	0.75%	6.260	0.77%
2000	5,733.0	38,719.0	380.0	265.0	6.63%	0.98%	6.754	0.68%
2001	6,095.0	26,170.0	345.0	304.0	5.66%	1.32%	4.294	1.16%
2002	6,304.0	27,739.0	215.0	327.0	3.41%	0.78%	4.400	1.18%
2003	6,789.0	31,543.0	487.0	332.0	7.17%	1.54%	4.646	1.05%
2004	7,782.0	32,361.0	993.0	360.0	12.76%	3.07%	4.158	1.11%
2005	9,798.0	39,560.0	2,015.0	403.0	20.57%	5.09%	4.038	1.02%
2006	11,076.0	38,420.0	1,264.0	436.0	11.41%	3.29%	3.469	1.13%
2007	14,017.0	40,599.0	2,490.0	482.0	17.76%	6.13%	2.896	1.19%
2008	18,261.0	49,471.0	1,547.0	549.0	8.47%	3.13%	2.709	1.11%
2009	16,122.0	51,483.0	-151.0	582.0	-0.94%	-0.29%	3.193	1.13%
2010	18,359.0	61,075.0	1,746.0	664.0	9.51%	2.86%	3.327	1.09%
2011	20,279.0	68,490.0	1,579.0	700.0	7.79%	2.31%	3.377	1.02%
2012	20,580.0	75,761.0	1,328.0	798.0	6.45%	1.75%	3.681	1.05%
2013	22,275.0	77,525.0	1,018.0	845.0	4.57%	1.31%	3.480	1.09%
2014	23,990.0	84,130.0	1,483.0	888.0	6.18%	1.76%	3.507	1.06%
2015	24,426.0	87,548.0	445.0	901.0	1.82%	0.51%	3.584	1.03%
2016	22,766.0	90,434.0	-33.0	933.0	-0.14%	-0.04%	3.972	1.03%
2017	25,053.0	92,254.0	1,418.0	962.0	5.66%	1.54%	3.682	1.04%
2018	26,136.0	94,272.0	1,280.0	1,029.0	4.90%	1.36%	3.607	1.09%
2019	27,606.0	99,257.0	93.0	1,355.0	0.34%	0.09%	3.595	1.37%

APPENDIX B: Equity investments by region and sector. Regions follow the World Bank Group regional classifications as of 2019. Collective investment vehicles are private equity funds managed by an institution other than IFC.

	1961-69	1970-79	1980-89	1990-99	2000-09	2010-19	TOTAL
Panel A) Count of investments by region							
Latin America and Caribbean	34	33	71	143	119	158	558
East Asia and Pacific	7	29	53	97	122	154	462
Sub-Saharan Africa	13	20	58	117	95	149	452
South Asia	11	7	27	81	106	147	379
Europe and Central Asia	5	15	13	123	118	77	351
Middle East and North Africa	6	16	21	51	44	65	203
World	4	5	8	8	26	53	104
TOTAL	80	125	251	620	630	803	2,509
Panel B) Count of investments by sector							
Finance and Insurance	22	20	40	133	222	193	630
Collective Investment Vehicles	-	2	26	136	137	231	532
Oil, Gas and Mining	2	6	28	40	44	43	163
Industrial and Consumer Products	8	7	32	31	15	16	109
Chemicals	8	8	24	30	23	15	108
Food and Beverages	4	4	22	37	14	17	98
Electric Power	1	-	-	26	11	58	96
Nonmetallic Mineral Product Manufacturing	8	18	14	28	12	8	88
Agriculture and Forestry	2	6	19	13	16	24	80
Transportation and Warehousing	-	2	6	23	16	33	80
Textiles, Apparel and Leather	10	19	10	26	3	2	70
Information	1	-	1	23	20	23	68
Accommodation and Tourism Services	3	11	10	23	9	7	63
Professional, Scientific and Technical Services	-	-	3	5	30	24	62
Health Care	-	-	-	9	15	29	53
Pulp and Paper	5	8	6	13	7	4	43
Primary Metals	6	10	7	10	4	1	38
Utilities	-	-	-	1	10	20	31
Construction and Real Estate	-	-	-	4	4	19	27
Education Services	-	-	1	-	7	19	27
Wholesale and Retail Trade	-	-	-	5	7	15	27
Plastics and Rubber	-	4	2	4	4	2	16
TOTAL	80	125	251	620	630	803	2,509

APPENDIX C: Equity investment financial performance in emerging market and developing economies. In the weighted average, each investment is weighted by the share of cumulative contributions in that that vintage year. Before calculation of averages, variables have been winsorized at the 99th percentile, for consistency with the sample used in the regressions. Realized investments are those with zero holding valuation as of June 30, 2019.

Vintage Years	Investments	Realized Investments	Duration**	PME S&P 500			TVPI		
				Average	Median	Weighted Average	Average	Median	Weighted Average
1961-69	80	100.0%	17.4	1.44	1.02	1.35	3.18	1.84	2.75
1970-79	125	100.0%	14.0	0.90	0.51	0.94	3.22	1.37	3.51
1980-89	251	98.8%	11.5	0.98	0.45	1.17	2.90	1.21	3.30
1990-99	620	97.3%	9.3	1.34	0.65	1.39	2.47	1.19	2.54
2000-09	630	75.1%	8.2	1.60	0.87	1.84	2.32	1.26	2.59
2010-19	803	25.8%	4.5	0.81	0.74	0.84	1.23	1.00	1.25
ALL	2,509	69.1%	8.2	1.18	0.72	1.26	2.14	1.13	2.56

**Duration is defined as the average years between first and final cash flow or positive valuation