Considerations In Establishing Specific, Dedicated **Allocations to**

Emerging Markets Infrastructure and Private Equity

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Some of the world's largest, most sophisticated asset owners and fiduciaries (collectively "asset owners") have established dedicated allocations to emerging markets infrastructure and/or private equity, as part of their strategic asset allocations or other means of deploying their risk budgets.[1] This note is intended to help educate asset owners who have not yet established such allocations, regarding some of the common considerations that come into play as asset owners work through their deliberations on the pros and cons of establishing such allocations.

Some definitional issues

For purposes of this note, we define emerging markets infrastructure as one asset class, and emerging markets private equity, by which we mean venture capital and early stage growth private equity (as opposed to buyout), as a separate asset class. Further sub-divisions and other definitions are possible, but these are two "asset classes" we commonly see added for consideration, by asset owners that already invest in "infrastructure" and "private equity" in developed economies. In some cases, selective, opportunistic or more systematic investment is also deliberately made in some markets considered "frontier". For simplicity, we explicitly consider emerging markets exposure only, while acknowledging implicitly that some institutional investors have gone beyond the emerging markets in an effort to potentially further enhance their expected returns and diversification.

We acknowledge that the distinction between "developed" and "emerging" is becoming less and less meaningful, and in any case was typically established for consideration of public market equity investments.[2] For example, Taiwan has per capita GDP of US$32k per annum as of 2022 (non-purchasing power parity adjusted), and South Korea $33k per annum, just below Japan's per capital GDP of $34k.[3] Taiwan's corruption perceptions index score is 68, just one point below the United States score of 69 on a 100 point scale. (Japan has a score of 73 and South Korea a score of 63.)[4] To be provocative, if we took the facts, data and experience of policymaking and government/regulatory stability in the US and UK since 2016 – a period which has seen populist political outcomes in both countries, a government bonds crisis in the UK that forced a government out of power, repeated threats to shut down the US government, a physical invasion of the US capital building, etc. -- and documented these facts while leaving out the names of the countries, would an impartial observer perceive these countries as "stable"?

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[1] See 2023 Industry Data & Analysis by GPCA (Global Private Capital) for recent years trends in deployment into venture capital, other private equity, and infrastructure by region.

[2] See 2023 MSCI Annual Market Classification Review.

[3] See International Monetary Fund 2023 data for GDP per capita, current prices (USD per capita)

[4] See Transparency International 2022 Corruption Perceptions Index for Taiwan

Nonetheless, we observe that most asset owners, other than those that are actually domiciled in an emerging/frontier economy as their home market, typically begin their infrastructure and private equity investment programs by investing in "developed" economies, where regulation, available court precedents, and the perceived "rule of law" tend to be stronger. As these developed market-focused programs are deployed and gain critical mass, adding dedicated strategic exposure to the rest of the world (i.e. to the emerging markets) is typically taken up as a separate and distinct issue. In this context, this note is likely most relevant for asset owners that already allocate to infrastructure and private equity, with a focus on developed markets.

One common driver for emerging market allocations to be given explicit consideration is the recognition that most of the world's economic growth is being delivered by the emerging markets, and that this is projected to remain the case for the foreseeable future given demographic trends and the opportunity for emerging economies to leapfrog technologies and move up the per capita GDP curve relatively quickly. Another common driver is recognition that commercial general partners and in-house investment staff, unless they are given specific direction to undertake due diligence efforts focused on emerging markets, will tend to only make such investments opportunistically, tactically and at the margin as part of "global" mandate. As such, an asset owner may observe that its infrastructure and private equity programs, which were intended in part to provide diversification, are actually exposed mainly to the same local economic drivers as its public markets equity and fixed income programs.

Qualitative considerations

Here are some of the key qualitative considerations that typically come into play:

First, the emerging economies represent an outsized share of global GDP, GDP growth and population. According to World Economics, the emerging markets account for 50% of global GDP as of 2022 and 66% of global GDP growth for the 10 years ended 2022.[5] (The frontier markets account for an additional 7% of global GDP and 10% of global GDP growth.) The emerging markets are home to 54% of the world's population. (The frontier markets are home to an additional 14%.)

On a forward-looking basis, the IMF expects emerging market and developing economies to grow by 4% in both 2023 and 2024, while advanced economies grow by 1.5% in 2023 and 1.4% in 2024.[6]

Because per capita income is lower on average in emerging markets, these economies are expected to continue grow faster as they adopt global technologies and move up the economic development curve.

A case can be made that global multinationals, of the type commonly held in globally diversified public equity portfolios, already provide exposure to the GDP growth potential in emerging economies. These multinationals may engage in production in emerging markets, and derive revenue and earnings from sales in emerging markets. This case is harder to make for infrastructure investments, and for venture capital and early stage growth investments except those made in entities that operate globally even early in their lifecycles. When an infrastructure investment is made in a particular economy, its relative success or failure is typically highly correlated with the economic and political health of the specific country in which the investment is made. When a venture capital or early stage private equity

[5] See World Economics data for emerging markets and frontier markets, November 2023
[6] See International Monetary Fund, World Economic Outlook: Navigating Global Divergences, October 2023

investment is made, typically the portfolio company is focused first and predominantly on its home country market.

So, to obtain private markets exposure to emerging economies, investors must "go local". And, by doing so, they can expect to achieve attractive diversification relative to their private market investments in developed economies, since the underlying growth drivers (local economic health and political stability) are so country-specific and therefore uncorrelated.

The quantitative case

It has become generally recognized that returns to asset classes are not distributed in line with a mean/normal distribution. Nonetheless, it remains common practice to use mean-variance optimization (MVO) to develop candidate strategic asset allocations, for input into more complicated/nuanced capital market simulation models that seek to correct for the shortcomings of mean-variance optimization.

Whatever model is used, asset owners generally consider the opportunity, the risk, and the potential diversification benefits of adding exposure to any given asset class.[7] In an MVO model, these expectations are quantified in terms of expected returns, standard deviation of returns, and correlation of returns with other asset classes in the model.

Simply put, the case for investment in either or both asset classes can be made quantitatively because, compared to their developed market equivalents, on a forward-looking basis the assumptions are generally that:

1. Expected returns can potentially be higher
2. Volatility of expected returns can potentially be higher, and
3. Correlation of returns with those to other major asset classes already in the portfolio (mainly developed market public equities, fixed income and alternatives) might potentially be lower

Quantitative modeling typically finds these two "new" asset classes so attractive, that a "reasonableness constraint" must be applied to limit their allocation.

Mercer developed assumptions for these asset classes as an addition to our standard set of US$ capital market assumptions as of October, 2023. We applied a reasonableness constraint of 2.5% of the total fund to be allocated to each of these asset classes. This aggregate 5% allocation improved the expected returns at points on the efficient frontier relevant for a typical sovereign wealth fund (SWF), or for an endowment or foundation (collectively, "E&F") by more than 35 basis points at the total fund level.[8]

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[7] Diversification does not guarantee a profit or protect against a loss.

[8] Based on Mercer's US CMO Report – October 2023. Portfolio expectations are hypothetical, forward looking and reflective of Mercer's Capital Market Assumptions. Expected returns for this analysis have been developed as net of the fees, brokerage and other commissions that would normally apply to a large institutional investor, and assumes the reinvestment of dividends and other earnings. Periods over one year are annualized. Hypothetical performance results and any related statistics do not represent the results of actual trading using client assets. Actual results may significantly differ from the hypothetical returns being presented. Investors may experience loss. The time periods shown represent a variety of economic and market conditions, including the unpredictability of such conditions and includes periods of market volatility. There are limitations with the data presented above as each client would have its own investment objectives, risk tolerance, goals and benchmarks for its portfolios, and the hypothetical performance shown is intended only to illustrate return expectations for different asset class

While this result is specific to our current assumption set and relative to strategic asset allocations we believe to be representative of an "average" SWF or E&F, it is qualitatively similar to the results we have observed in live strategic asset allocation and risk budgeting studies for large, sophisticated asset owners. While 35 bps may not appear to be a large number, for a $1 bn E&F it represents $3.5M more per year in additional expected return to help fund that organization's mission. For a $50bn SWF, it represents an additional $175M per year.

We applied 2.5% reasonableness constraints in the quantitative analysis referenced above. For asset owners domiciled in developed markets, we typically see these types of reasonableness constraints applied. However, for emerging and frontier market asset owners, often they have much larger allocations to these two asset classes for their home country, in some cases for similar investments in neighboring countries, and in some cases for emerging markets in general. Even excluding home country exposures, we have observed exposures in the 10-20% range to each of these asset classes. We observe that asset owners domiciled in emerging and frontier markets do not perceive the level of risk inherent in these asset classes that their developed market peers express in practice by applying relatively low "reasonableness constraints".

Risks

There is a great deal of variety and variance of economic, regulatory and capital market circumstances across the emerging and frontier markets, and therefore generalization about these markets is likely to be a mistake. Within both infrastructure and early stage private equity, there is also a huge variety of types of underlying investment opportunities and vehicles and governance arrangements by which these can be potentially accessed. With all of that said, some of the major risks that investors considering these asset classes typically assess include:

- Risk of economic underperformance by the host economies.
- Political risk – A political regime can change, or a given political regime can "change the rules" after an investment has been made.
- Currency risk.
- Counterparty credit risk.
- Potential for corruption, unsafe labor standards, use of child or prison labor, and other reputational risks.
- Lack of historical data based on which assumptions around future expected returns, standard deviation of returns and correlations can be established. And even where historical data exists, local economic growth and changes in the political, regulatory and capital market environment may render that data less relevant as a basis for developing forward-looking expectations.

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allocations and does not attempt to account for active management within those allocations. Performance results for individual client portfolios will vary depending on active management decisions, as well as due to possible inclusion of cash and cash equivalents, reinvestment of dividends, interest and other earnings including timing of investments, withdrawals among other reasons.

Implementation considerations

Some of the emerging and frontier market native asset owners we reference above have been investing in these asset classes in their home countries and neighboring countries for more than 20 years. As such, the market environment, provider community, and precedents for such investment are well established in a broad subset of emerging markets. With that said, as with any statement about the emerging economies, there is huge variation in circumstances and one-size does not fit all.

In practice, most asset owners will ask commercial general partners (GPs) to implement their dedicated allocations to these asset classes, either by picking from amongst the growing lineup of specialist private market funds that focus on these markets, or by asking a panel of GPs that have experience managing such portfolios to manage separate account of fund-of-one structures based on the same research and deal flow as supports these "flagship" multi-client funds. As asset owners progress up the learning curve, and build relevant talent in-house, they may pursue co-investment, secondary or even direct market transactions, in a directionally equivalent way to what they may already be doing for their developed market alternative exposures. It is true that the number of predecessor funds for a given GP are likely to be lower, and their historical track record shorter, in these asset classes relative to their developed market equivalents. And, the range of fund vehicles available in a given vintage year will be more limited. However, there is now a significant and growing range of firms operating in these asset classes, with plenty of relevant funds to choose from, such that "availability of appropriate managers and vehicles" should no longer be a practical barrier to implementation.

Environmental, social and corporate governance (ESG) considerations

The entire note set out above rests on economic and market analysis that does not explicitly factor in ESG considerations. We observe that asset owners that have explicitly considered these asset classes have generally found the case for investment to be compelling, without factoring in any ESG considerations.

With that said, there are a number of ESG considerations that can be factored in, which can make the case even stronger. These are set out below.

Before we get to the positive arguments, we must acknowledge that the "ESG screening" approach and emphasis on global reporting standards that some asset owners have adopted for their public market stock and bond portfolios, or more broadly including their alternative asset classes, actually tend to "penalize" investment in emerging markets. While there is huge variety across these countries and one-size doesn't fit all, in general environmental regulations and labor standards may be less stringent, the availability of data including emerging standards for climate or natural capital reporting (TCFD and TNFD) may be more limited, and some negative practices such as corruption may be more prevalent. An investor that is screening to identify "good" actors may screen out investments in these countries. Alternately, we observe some asset owners that believe they should focus on shifting companies "from brown to green" in environmental terms, or the equivalent on social and corporate governance terms. These latter investors will tend to find fertile opportunities to improve dynamics in emerging markets. By contrast, a "screen for green" approach will tend to underweight the emerging markets.

Turning to the positive ESG case, as relates to mitigating the risk of climate change and helping the world migrate to net zero, a strong case can be made that a dollar invested in green infrastructure, clean

technology or green technology in the emerging markets will produce greater impact than the equivalent dollar invested in the developed markets. The developed economies have already "bent the curve" on their carbon emissions, reducing their emissions substantially since peak emissions years of 2004 in Europe and 2007 in the US.[9] While much more work needs to be done, including by means of additional green infrastructure, clean tech and green tech investment in developed economies, the developed economies have generally started down the relevant path. Emissions from emerging markets, by contrast, are rising.[10] And, as the Shanghai Cooperation Council's 2022 communication made clear, emerging market governments have competing financial priorities related to basic economic development, and are unlikely to be able to give primary focus to climate change.[11] As one example, 10 years ago (in 2013), for every dollar invested in infrastructure in sub-Saharan Africa, $25 was invested in North America and Western Europe. As of 2022, that differential has actually deteriorated, to more than 50:1. Simply put, the money is not going to where it would have the greatest marginal impact.[12]

Many asset owners considering these asset classes will apply a broader ESG lens, considering issues beyond climate. As relates to alleviating poverty, ensuring access to basic healthcare, and other sustainable development goals besides climate, practically any infrastructure or early stage private equity investment in the emerging markets is going to aid in local economic development, create higher-quality jobs, improve local quality of life, and help create or free up resources for local governments to address other pressing issues. From a diversity, equity and inclusion (DEI) lens, the emerging markets also provide attractive opportunities to help address inequalities in the distribution of wealth, income, educational and employment opportunities by race and gender.

In our experience, impact-focused investors generally conclude their money can have greater impact in the emerging markets than in the developed economies. Those values-based investors that are location agnostic (as opposed to focusing on their own local community, country, et.) generally also see strong alignment with their missions.

One other observation that some asset owners make is that there is a strong Universal Shareholder argument for investing in these asset classes. Most large asset owners effectively own a share in global GDP through their investment in a diversified portfolio of global public market equities. As was mentioned previously, many global multinationals engage in production in the emerging economies, and derive a large proportion of their revenue and profits from these economies. When an asset owner makes local infrastructure or early stage private equity investments in these countries, these generally produce positive externalities, which help raise local GDP growth. Those "externalities" get captured by the universal shareholder, in part, through their globally diversified public market equity holdings. I.e., the multinationals have higher earnings from their emerging market sales, because of the local economic stimulus from the asset owner's investment. To the extent an asset owner adopts the viewpoint of a universal shareholder, and believes its investments will create relatively greater positive externalities in

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[9] See CarbonBrief analysis "Global CO2 emissions have been flat for a decade, new data reveals", November 4, 2021.

[10] Ibid.

[11] See the communique by the Shanghai Cooperative Council, "Joint communiqué following the 21st meeting of the SCO Heads of Government (Prime Ministers) Council"

[12] See Irena analysis, "Global landscape of renewable energy finance 2023", page 54

emerging economies (because of relative scarcity, the opportunity to improve productively via technology transfer, etc.), this provides yet another argument in favor of these asset classes.

Conclusion

While there are always specific investments in a portfolio that disappoint relative to the expectations at the time the investment was made, on balance we observe that these asset owners have been happy with these allocations, and are generally increasing them over time. In other words, for those that have moved into these asset classes, the experience has generally been deemed favorable from an investment perspective, as well as from an ESG perspective where this has been a criteria.

When we have helped asset owners consider initiating investment into these asset classes, both the qualitative and the quantitative cases have generally been deemed compelling.

Implementation was daunting 20 year ago and challenging even 10 years ago, but is now relatively straightforward, with options continuing to improve.

For impact-oriented, values-based and other ESG-oriented investors, these asset classes and themed sub-components of these asset classes may be considered to be attractive, relative to their developed market equivalents.

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