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Using PPPs to fund critical greenfield infrastructure projects

For institutional investors and government agencies, greenfield infrastructure projects are ripe with opportunity. By structuring them as public-private partnerships, both parties have better chance of meeting their individual goals.

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The global infrastructure funding gap is now widely acknowledged: approximately \$57 trillion must be invested in infrastructure to maintain GDP growth through 2030, according to the McKinsey Global Institute.¹ The World Bank Group has offered similar estimates.² Given the long life span of most infrastructure assets—from 15 to more than 100 years—a higher share of global savings will have to be allocated to infrastructure in coming years. The fast-growing savings managed by institutional investors—estimated at \$75.1 trillion in 2011 by the Organisation for Economic Co-operation and Development—must play a central role.

Funding for infrastructure projects can take a number of forms, including non-infrastructure

financial products (such as government bonds, infrastructure-related corporate equity, or debt products) and dedicated *pure* infrastructure financial products. The focus of this article is the latter. Dedicated infrastructure financial products include unlisted equity investment in infrastructure and infrastructure project debt. To date, these products represent a limited share of institutional investors' asset allocation—less than 5 percent on average, but more than 10 percent for large investors, such as Canadian and Australian pension funds. However, this share is growing, and this asset class is becoming more noteworthy to investors and, subsequently, to regulators.

A particularly interesting area is so-called greenfield infrastructure—or new infrastructure—

projects, which are developed as public–private partnerships (PPPs). While PPPs represent a limited share of total infrastructure investments, they are gaining speed. In the United Kingdom, the new framework to fund low-carbon energy-generation projects, the so-called Contract for Difference scheme, strongly resembles a traditional PPP. Also, PPP schemes are becoming more popular in mature economies like the United States and are expected to play a major role in addressing the infrastructure challenges of fast-growing economies like Africa's.

Why greenfield infrastructure is attractive to institutional investors

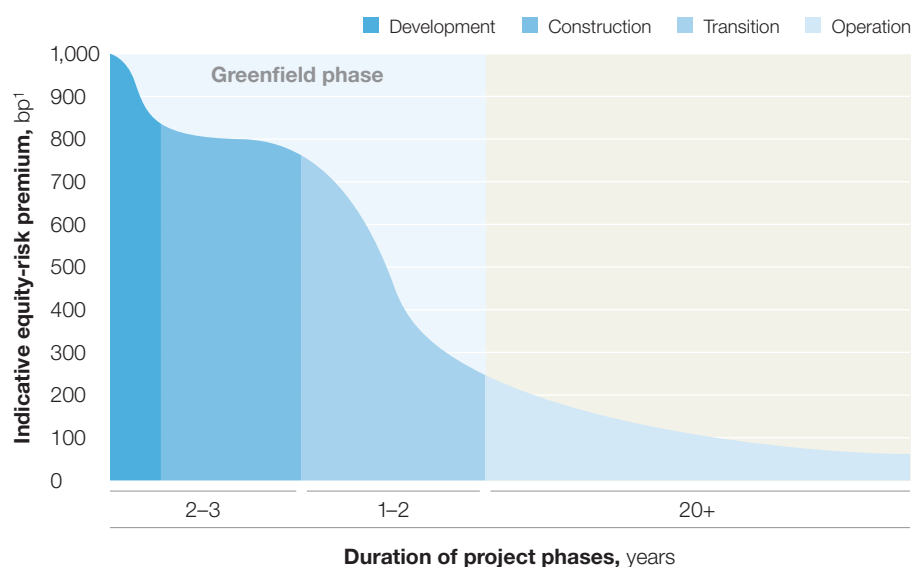
Traditional infrastructure-market players, such as governments and utilities, are under financial

pressure, and their budgets are strained. They are increasingly looking to private investment to fund infrastructure projects. PPPs can offer a number of benefits, including a whole-life costing approach that optimizes construction, operation, and maintenance costs, better risk management, and efficient project delivery. Well-structured PPPs can help ensure that greenfield projects are delivered on time and within budget and at the same time generate attractive risk-adjusted returns for investors.

Investors that enter a project in its early stages can capture a premium of several percentage points. Such a return usually takes the form of patient capital, or long-term capital. Investors must wait for the end of the construction period before

Exhibit 1

The indicative risk premium and timeline for an infrastructure investment varies by project phase.



¹Basis points.

they can expect a project to begin generating yield. Depending on the complexity of the project, this can take five years or longer (Exhibit 1); for instance, high-speed rail projects are known to be on the longer end of this timeline. However, investors in patient capital are willing to forgo quick returns for greater long-term returns. Typically, while investors in patient capital expect a return, they also value the economic and social benefits of a project.

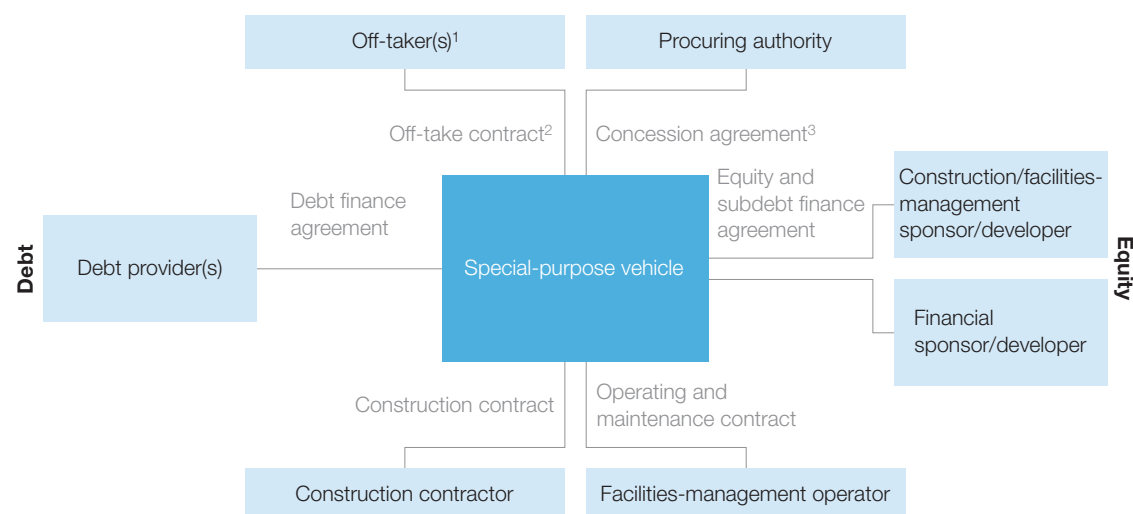
To secure this premium, investors must ensure that the risks associated with a project are properly managed. Greenfield projects usually begin with a clearly defined contractual framework that allocates risks to the most natural owners. Exhibit 2 illustrates a generic,

multicontract framework that will be familiar to project-finance professionals.

Contract frameworks bring structure and discipline to the execution of greenfield infrastructure projects. For example, the construction risk associated with greenfield projects is typically greater than brownfield projects. By transferring construction risk to experienced contractors and by establishing fixed prices and specific design and build deadlines, project managers and investors can protect against the delays and cost overruns that can plague infrastructure projects. The impact of such rigor can be significant: according to experts, the average cost overrun is below 3.5 percent for project-finance schemes—

Exhibit 2

A project-finance structure identifies parties and agreements.



¹ The off-taker is the party buying the service or product that the project produces.

² An off-take contract specifies the price and volume of the future product and helps ensure a market for it.

³ A concession agreement concedes the use of a public infrastructure asset to the project company for a specified period of time.



in particular PPPs—and close to 27 percent for a traditionally procured project.³

For investors to secure long-term returns, contracts must address the key risks inherent to all infrastructure projects, not only greenfield projects. Examples include revenue and volume risk, which relate to the effective use of the infrastructure at expected tariff levels (for instance, road traffic), or the availability and affordability of a critical input (for example, gas supply to a gas-fired power plant). These risks can be managed through risk-sharing mechanisms like minimum traffic guarantees from public authorities and long-term off-take agreements.

Political risk assessment and management is also essential over the long term. An infrastructure asset is captive by essence, and its performance relies on the willingness of local counterparties to respect the commitments made at inception. Managing this risk over the long term typically involves focusing on critical assets with proven added value (for example, a strategic urban-transportation project or a power plant essential to national energy supply), negotiating robust contractual agreements, and fully addressing the environmental, social, and governance aspects of all infrastructure projects. Project participants

that do this are more likely to secure and sustain support from key government stakeholders and simultaneously protect their investment over the long term.

What government can do to encourage investment

As investment in infrastructure is based on specific assumptions regarding the stability of legal frameworks and public policy over a projected investment period, government agencies can take several steps to encourage PPPs. One, governments are more likely to attract long-term investment if they can provide a clear pipeline of investment opportunities. Investors will only develop internal knowledge and skills in a specific sector, such as infrastructure, if concrete investment opportunities exist. Similarly, government agencies must establish clear guidelines and reasonable timelines from project announcement to award in order to convince investors to develop their internal skills. Put another way, to make development risk manageable for investors, procurement agencies must avoid any “stop and go” when launching infrastructure projects. This will be instrumental to building credible pipelines of investable opportunities and enabling institutional investors to actually engage.

Two, long-term investment requires visibility into cash flow. PPP frameworks, and in particular, contracted cash flows, provide this visibility and also ensure predictability. Predictability, in addition to the natural correlation of cash flows to inflation, contributes to the attractiveness of PPP projects for institutional investors seeking assets that match their long-term goals. Still, some industries that are of great importance to the public sector suffer from a lack of investment predictability. The power sector in Europe offers a case in point. Securing funding for critical facilities such as thermal power plants is proving more difficult when revenues are derived from European deregulated wholesale markets. In the United Kingdom, where merchant and regulated energy assets did not typically benefit from the visibility that private-finance-initiative assets could provide—specifically with regard to appropriate mitigation of a change in law or public policy, force majeure, or hardship risks—low-carbon facilities may be an inflection point.

This is also the case in the rest of Europe, where regulated power transmission and distribution networks are better suited to short- or medium-term private-equity strategies, because visibility on tariffs is typically limited to five years.⁴ In contrast, the power sector in Africa, which is dominated by PPP-like independent-power-producer projects, can be considered more predictable by long-term investors. By providing greater and enduring visibility to investors, typically under contractual arrangements akin to PPPs, European governments could attract long-term investors in the power sector.

Three, financial regulations help ensure economic and financial stability. They also affect long-term investment. Government agencies must think strategically about how regulations can encourage long-term investment in infrastructure projects and whether they reflect the risk-reward equation of these nuanced investments. For instance, it will be interesting to see how Europe's forthcoming



Solvency II framework evolves and potentially affects infrastructure investment. Regulations should also be built on hard data. For example, an academically validated index for equity investment in infrastructure projects will be instrumental to ensuring that all parties are aware of the financial realities associated with greenfield infrastructure.

Finally, government agencies can play a key role in addressing market failures, either directly or through public development banks. They can act as facilitators and provide credibility to infrastructure projects. By funding transactions or supporting active market players, development banks provide a powerful signal to the private sector. Their presence suggests political support and stability over the long term. In addition, dedicated financial instruments—such as guarantee instruments, long-term funding, seed investment, and early-development stage facilities—can encourage long-term investment.

Channeling wealth and savings into productive investments, including greenfield infrastructure, will be essential for the global economy to grow. This is a historic opportunity for institutional investors and governments around the globe to secure both financial stability and performance and at the same time contribute to long-term growth fueled by efficiently managed infrastructure. ○

¹ Richard Dobbs et al., “Infrastructure productivity: How to save \$1 trillion a year,” McKinsey Global Institute, January 2013, mckinsey.com.

² *Capital for the Future: Saving and Investment in an Interdependent World*, The World Bank Group, 2013, econ.worldbank.org.

³ See Frédéric Blanc-Brude and Dejan Makovsek, “Construction risk in infrastructure project finance,” EDHEC Business School working paper, February 2013, edhec.com.

⁴ In Belgium, Italy, and Spain, the current regulatory period for electricity-transmission activities is four years; in Germany, it is five years. The only exception is the United Kingdom, where the Office of Gas and Electricity Markets now offers eight-year visibility on tariffs.

