



Global Review of Public Infrastructure Funds

VOLUME I

IDENTIFYING KEY DESIGN FEATURES AND SUCCESS FACTORS FOR PUBLIC INFRASTRUCTURE FUNDS

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FOREWORD

Access to sustainable infrastructure is critical to enabling economic opportunity and meeting the Sustainable Development Goals (SDGs) by 2030. But developing countries around the world continue to face challenges in financing sufficient infrastructure – estimated at 4.5 percent of GDP for lower and middle-income countries – to meet the SDGs, increase economic growth, and reduce poverty and inequality. Further, climate change has exacerbated these infrastructure investment needs, and the incremental cost to supply climate resilient and environmentally sustainable infrastructure ranges from 9 percent to 27 percent over and above total investment needs.

With COVID-19 pandemic impacting the whole world, public budgets are becoming even more constrained, and mobilising private investment into infrastructure becomes ever more critical than ever as countries exit the crisis stage of COVID-19 even more fiscally constrained. The current COVID-19 crisis is highlighting importance of two key objectives: (i) safeguarding delivery of essential infrastructure services (and related jobs), by supporting infrastructure service providers in the private and public sectors; and (ii) stimulating economic recovery through investment in labor-intensive and growth-enhancing infrastructure projects through Development Banks, public investment and PPPs. As countries use infrastructure investment as a post-crisis economic stimulus and to meet the SDGs, they need to do so by being informed by best practices, good governance, transparency, fiscal sustainability, and ensuring that all infrastructure investment – by both public and private – supports low-carbon pathways and strengthened resilience to both climate change and shocks like COVID pandemic. One of public policy instruments implemented by governments to encourage private finance has been the establishment of Public Infrastructure Funds (PIFs).

Given public sector fiscal constraints under normal circumstances, and increased levels given COVID pandemic and climate change challenges, leveraging additional sources of finance for infrastructure development will be critical to closing the infrastructure financing gap. Supplementing scarce public resources by sustainably leveraging private financing lies at the heart of the World Bank Group's approach for mobilizing finance for development, which encourages the pursuit of private sector financing solutions for infrastructure development. Implementing such an approach requires the design of effective public policy approaches and instruments to address market failures that may inhibit or restrict access to private finance.

There is no one-size-fits-all public policy approach to creating an appropriate enabling environment for private finance. The World Bank Group and other Multilateral Development Banks (MDBs) provide a broad range of support to address specific market failures within a country context, such as improving investment climates, increasing the availability of long-term local currency financing, maturing underdeveloped capital markets, and deepening project pipelines through robust public investment planning to enable efficient absorption and allocation of additional infrastructure investment.

One of the most common, but least written about, public policy instruments implemented by governments to encourage private finance has been the establishment of Public Infrastructure Funds (PIFs). At this point, readers may ask "what are PIFs?" One of the benefits of PIFs is that they are unique, adapted to meet specific country contexts, but conversely this can make them hard to accurately define. Put simply, they are a specific type of infrastructure financing fund that uses public resources to leverage much larger amounts of private financing for infrastructure development. Indeed, the quest to adequately answer the "what are PIFs?" question, and understand their design features and success factors, motivated the development of this World Bank Group report.

This report presents the findings of a global review of a cross-section of PIFs in Argentina, Bangladesh, Canada, Colombia, Ghana, India, Indonesia, and South Africa. These case studies provided a range of differentiated lessons learned given their geographical distribution, governance structures, institutional capacities, availability and types of financing products, and purposes. Information on the case studies was drawn from country visits, interviews, and further desk research based on publicly available reports and archives. Detailed write-ups of each case study are included as a complementary Volume II to this report.

This report is intended to provide a resource for World Bank Group colleagues and public sector officials to use when considering the establishment of a PIF. We hope that you will find the information and analysis in this report useful and practical. Ultimately, this report's goal is to improve the design and performance of PIFs, and to enhance their contribution to the financing and provision of infrastructure services.

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EXECUTIVE SUMMARY AND INTRODUCTION

INFRASTRUCTURE NEEDS AND SUSTAINABLE DEVELOPMENT

Developing countries around the world continue to face challenges in providing the infrastructure needed to support economic growth and reduce poverty and inequality. Adequate and efficient infrastructure development is a key public-policy requirement closely linked to economic growth and sustainable development. In September 2015, countries from around the globe adopted the United Nations Sustainable Development Goals (SDGs) to end poverty, encourage green initiatives, and ensure prosperity for all as a vision for sustainable development. The SDGs include pledges to eradicate absolute poverty by 2030, build resilient infrastructure, combat climate change, and provide access to clean energy.¹

Significant investment is required to deliver infrastructure stock sufficient to achieve the SDGs. Significant investment is required to meet infrastructure needs, but public financing is unable to shoulder this burden alone. Low-income and lower-middle-income countries, in particular, face significant challenges in financing infrastructure development.² It is estimated that the current global infrastructure gap is US\$57 trillion, with nearly two-thirds of this occurring in emerging economies.³ The threat of climate change has exacerbated these infrastructure investment needs as countries increasingly look to both climate-resilient and environmentally sustainable infrastructure solutions. It is estimated that the incremental cost to supply such infrastructure ranges from nine to 27 percent over and above total investment needs, which previously was not included in global infrastructure-demand forecasts.⁴

INCREASING AVAILABLE FINANCING TO CLOSE THE GLOBAL INFRASTRUCTURE GAP

A lack of access to adequate financing is a critical impediment to closing the global infrastructure gap. Domestic public spending remains the largest supply of development resources; however, the greatest potential for expansion lies with private finance and the engagement of private business in the development process. To supplement scarce public resources, governments will need to leverage additional sources of financing, including through the mobilization of private capital.

The World Bank Group has doubled down on efforts to increase available financing without forcing the public sector to take on unsustainable levels of debt and contingent liabilities. This approach is laid out in a March 2017 Development Committee document, “Forward Look – A Vision for the World Bank Group in 2030 – Progress and Challenges.” It encourages the pursuit of private sector financing solutions for infrastructure, often via public-private partnership (PPP) arrangements, which can help achieve development goals while reserving scarce public finance for where it is most needed. The World Bank Group is now operationalizing this approach, which also complements other efforts to improve the efficiency and effectiveness of public financing and bolster domestic resource mobilization. This approach also builds on the Hamburg Principles, whereby multilateral development banks (MDBs) crowd in pri-

¹<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>.

²Country classification by the World Bank Atlas method. Low-income countries defined as those with a gross national income (GNI) per capita of US\$1,025 or less (2015); lower-middle-income economies are those with a GNI per capita between US\$1,026 and US\$4,035; and upper-middle-income countries are those with a GNI per capita between US\$4,035 and US\$12,475. High-income countries (developed countries) are those with a GNI per capita of more than US\$12,475.

³McKinsey Global Institute 2017.

⁴CCFLA 2015.

vate-sector finance for growth and sustainable development. The MDBs have jointly committed to support the increase of private financing for infrastructure by 25 to 35 percent over the next three years.⁵

PUBLIC-POLICY APPROACHES TO CROWDING IN INFRASTRUCTURE FINANCING

Designing effective public-policy approaches is critical to closing the global infrastructure gap in a sustainable and fiscally prudent manner. Financing infrastructure development requires a robust blend of policy making to address market failures, such as the lack of long-term local-currency financing, underdeveloped capital markets, and inadequate hedging mechanisms. Public-policy interventions to support infrastructure development have ranged from specific policies such as targeted end-user subsidies to the establishment of various instruments and institutions to leverage, attract, and crowd in private financing for infrastructure development, often via PPP arrangements for individual infrastructure projects. These include project-development funds, project-development facilities/cells, viability gap funds, contingent-liabilities funds, infrastructure-financing funds, and credit-insurance agencies.

One of the most common instruments implemented by governments has been the establishment of public infrastructure funds (PIFs). PIFs are a specific type of infrastructure financing fund that use public resources to leverage much larger amounts of private financing for infrastructure development. Since their inception, PIFs have demonstrated mixed performance, but given the persistence of market failures that inhibit private financing for infrastructure development, they remain a popular public-policy option for governments as the infrastructure gap widens.

This paper, or Global Review, has been conducted and written as a lessons-learned resource for public-sector officials considering implementing PIFs to promote infrastructure development in their countries. This paper attempts to take stock of the performance of PIFs to date, in order to identify lessons learned and success factors that can influence the design and implementation of PIFs moving forward. It reviews existing funds from a variety of geographic regions and evaluates their contributions to infrastructure development. The eight case studies were carefully selected to provide a variety of differentiated lessons learned, based on structures, institutional capacities, availability and types of financing, and purposes.

SELECTING THE EIGHT CASE STUDIES AND METHODOLOGY

This Global Review is based on eight case studies, seven of them in developing countries (Argentina, Bangladesh, Colombia, Ghana, India, Indonesia, and South Africa), and one in a developed country (Canada). The case studies were selected based on: geographical distribution; the institution's interest in participating in this sample; access to public information; and the range of product offerings. The case studies provide a rich range of activities and typology, whose characteristics are broken down as follows:

- Institutions that provided the full range of financial products supporting infrastructure finance (Colombia's Fondo de Desarrollo Nacional, FDN; Ghana Infrastructure Investment Fund, GIIF; India Infrastructure Finance Company Limited, IIFCL; and the Canada Infrastructure Bank, CIB);
- Institutions specializing in a single financial product line supporting private-capital mobilization (Indonesia Infrastructure Guarantee Fund, IIGF);
- Institutions exclusively supporting subnational infrastructure finance (Argentina's Fondo Fiduciario Federal de Infraestructura Regional, FFFIR);
- Institutions specializing in providing support to a single infrastructure sector (Bangladesh's Infrastructure Development Company Limited, IDCOL); and
- Institutions exclusively funded by international donors (Infrastructure Investment Programme for South Africa, IIPSA; Development Bank of South Africa).

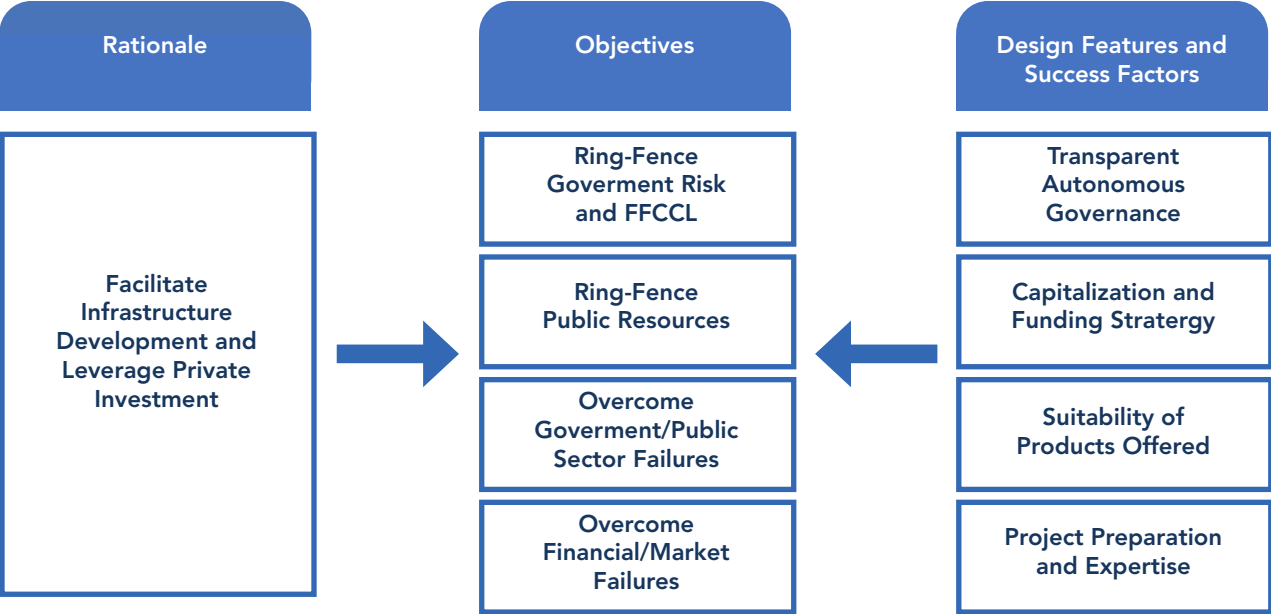
⁵Development Committee 2017b. See also <http://www.worldbank.org/en/about/partners/maximizing-finance-for-development>.

Information and data for this paper was collected from publicly available reports and archives. This desk research was supplemented by country visits to interview relevant government officials (notably the country’s Ministry of Finance or equivalent supervisory body) and senior officers and the CEO of each PIF. Beyond the initial country visits, follow-up conference calls were held to review and analyze related data and findings, and to hone in on key lessons learned to inform this paper. For PIFs where the World Bank and/or IFC played a supporting role in the PIF’s establishment and/or implementation, supplementary interviews were carried out with World Bank Group staff responsible for these operations.

PIF PERFORMANCE INDICATORS

From a policy perspective, PIFs are designed to leverage private finance and facilitate the use of infrastructure PPPs. Public-sector resources allocated to a PIF should have a multiplying effect in mobilizing additional private capital for infrastructure projects. However, the ability of a PIF to leverage private capital will be influenced by several variables related to country context. To address country context, each PIF will have differing objectives that will guide the PIF’s design. For example, some PIFs might focus on structured financial products, such as risk mitigation or credit enhancements (partial credit and partial risk guarantees), which are likely to have a larger impact on the mobilization of private capital (either by improving the credit rating of the underlying project and/or by expanding the investor base that will finance such projects) than institutions offering only debt financing. It is therefore too simplistic to judge the success of a PIF purely by private capital mobilized or leverage ratio. A more nuanced understanding of why governments establish PIFs and how PIF design reflects and influences the objectives and success of a PIF is therefore required. This Global Review is based on an analytical framework, captured in the figure below, that attempts to provide this nuance.

Figure 0.1. Analytical Framework for PIFs



Why do governments establish PIFs? To determine a PIF’s success and the appropriateness of their design features, it is important to identify common objectives that governments have in establishing PIFs. Based on an analysis of the eight case studies, this Global Review identified four broad categories of objectives for the establishment of a PIF. They often overlap and are common across the case studies. Meeting these objectives will lead governments to design their PIFs in different ways, depending on country context and the relative importance of each objective. These objectives are summarized below: **Vehicle for Optimizing the Use of Public Support**. Infrastructure PPPs often require a

range of government support to ensure viability. This can include direct financial support, such as subsidies/grants; equity investment and/or debt; and contingent support, such as guarantees, indemnities, and other credit enhancements. In order to fully utilize the range of government support available, it may be easier for governments to centralize these public resources within a PIF.

- **Vehicle for Effectively Managing and Ring-Fencing Government Risk and Associated Fiscal Commitments and Contingent Liabilities (FCCL).** Infrastructure PPPs can support the efficient delivery of infrastructure services. However, if not properly monitored and managed, FCCL arising from PPPs can jeopardize the government's ability to meet its obligations if the liabilities become too large and unmanageable. Centralizing the implementation of PPPs within a PIF can help governments to monitor and manage FCCL, and ensure that fiscal risk is ring-fenced within the PIF. However, it should be noted that a PIF's design is critical to its approach to FCCL, because without appropriate oversight, PIFs can be used to bypass traditional fiscal and budgetary mechanisms.
- **Overcoming Financial Market Failures.** Governments may develop projects that should be able to attract private finance. However, these projects are unable to attract private finance due to a range of financial or market failures. These failures include: lack of long-term local-currency financing due to underdeveloped capital markets; liquidity constraints; relatively high interest rates; and poor access to global financial markets. PIFs can therefore be established to develop and support projects to overcome these failures.
- **Overcoming Government Failures.** Infrastructure projects are often complex, and preparation can be time-consuming and resource-intensive. Structuring these projects as PPPs often adds further complexity. Infrastructure planning processes are often not well set up to determine the most efficient use of scarce public resources as part of a PPP program, and government officials often lack the capacity to identify, prepare, and implement PPPs due to a lack of experience within line ministries and the Ministry of Finance. Centralizing these processes within a PIF can help to remove priority infrastructure projects from cumbersome infrastructure planning and budget processes, while lying outside the civil service can allow PIFs to capture and maintain sufficient capacity to enable the successful delivery of these projects.

LESSONS LEARNED: KEY DESIGN FEATURES AND SUCCESS FACTORS FOR PIFS

Public infrastructure funds (PIFs) in developing economies were highly criticized by the Washington Consensus during the 1990s.⁶ Part of the criticism was related to the selection criteria used by PIFs to allocate the funds, which resulted in the financing of undesirable projects ("white elephants"). This situation in turn created a huge fiscal drain on public finances. With some exceptions, governance levels in these institutions left a lot to be desired, and their institutional capacities were relatively weak. Notwithstanding these criticisms, the market failures that prompted their creation in the first place were genuine and tangible. Three decades after the criticism of PIFs by the Washington Consensus, this Global Review is intended to identify key design features and success factors for PIFs in order to improve the performance and implementation of these institutions.

Governments considering the use of a PIF to promote infrastructure development need to ensure that scarce public resources allocated to a PIF will create an appropriate level of impact and can be sustainable over time. In judging the eight case-study PIFs against the objectives outlined above, a number of core design features were identified that critically influence the success of a PIF. These are summarized below: **Transparent, Autonomous Governance**. A PIF is a public sector institution, but its performance is closely linked to its financial and decision-making autonomy, and its independence from

⁶The Washington Consensus is a set of 10 economic policy prescriptions considered to constitute the 'standard' reform package promoted for crisis-ravaged developing countries by Washington, D.C.-based institutions such as the International Monetary Fund (IMF), World Bank and United States Department of the Treasury" (Wikipedia, accessed August 20, 2018). These policy prescriptions clashed with the role of PIFs, and the Washington Consensus recommended reducing the role of the public sector via lower public expenditure, privatization, and deregulation. PIFs, on the other hand, remained reliant on the public sector, through funding and other instruments, to leverage private sector investment in priority infrastructure projects.

political interference. PIFs have a symbiotic relationship with governments, because they are established as vehicles to deliver public infrastructure projects that fit within a national development strategy. Therefore, PIFs need to be well connected with government authorities to ensure alignment on project priorities. This can appear to be counterintuitive when considering financial and decision-making autonomy, and a balance needs to be struck that focuses on the design of appropriate governance arrangements. Each PIF should design governance arrangements suitable for the country context, but some common themes apply. It is helpful to establish PIFs under corporate law, with shared ownership by the government, but with the option of including other shareholding partners. Participation by development finance institutions (DFIs) in the equity structure of PIFs greatly enhances their governance and credibility, and can enable the development of flexible and agile procurement procedures necessary to attract and pay for better talent, and/or to provide a rapid response to private sector demands.

- **Capitalization and Funding Strategy.** The initial capitalization of a PIF is a key determinant in its future financial autonomy and success. A fund without clear capitalization and a clear funding strategy is a “fund with no funds.” A large initial capitalization will provide the institution with a sound base to develop a funding strategy that guarantees its financial autonomy, limits its dependence on the public sector budget, and enables it to pursue its leverage objectives. Initial capitalization can come from an allocation from the public budget, but some countries have capitalized PIFs via extraordinary revenues due to a windfall in commodities exports or proceeds from a large asset divestiture. For example, both FDN in Colombia (capitalized initially with US\$2.0 billion from the sale of electric power assets) and FFFIR in Argentina (capitalized initially with US\$1.0 billion from the sale of the national mortgage bank) have developed a sound funding strategy to ensure autonomy and sustainability. Unfortunately, not all countries have the luxury of windfall export gains or divestiture proceeds to capitalize their PIFs initially. In these cases, one option beyond a public budget allocation is to capitalize the PIF via the transfer of unexploited assets, such as real estate, with the potential for future monetization.
- **Suitability of Products Offered:** The ability of a PIF to leverage scarce public resources to mobilize additional private capital into infrastructure development is critical to a PIF’s success as a public policy tool. However, PIFs have different objectives and different design elements, depending on country context, and this will affect the type of financial products and leverage offered by the PIF. For example, a direct loan to a project covering 100 percent of the financing needs will have a limited leverage impact (restricted only to the private sector equity contribution). By comparison, the use of structured financial products such as risk mitigation and credit enhancement instruments or equity participation will have a larger leverage. In this regard, two issues are worth considering when designing a PIF to meet specific objectives. First, structured financial products and equity participation have a high leverage potential but demand greater scrutiny (risk management systems) and more qualified expertise. Second, PIFs, through their product offerings, should play an important enabling role in promoting the development of local capital markets as a tool for mitigating certain market failures that hinder local currency long-term financing.
- **Project Preparation and Expertise:** Infrastructure PPPs create significant challenges for governments looking to prepare projects, usually related to two factors: lack of in-house institutional capacity, and a lack of funding at the pre-investment stage of project development. Proceeding from the concept stage to a project with full-fledged pre-investment requirements (including a feasibility study, technical design and engineering studies, economic regulation, concession contracts, and bidding documents) is a cumbersome process that can take several years. To be successful, PIFs need to be able to attract high-level in-house staff to oversee project preparation activities (particularly those activities related to financial analysis), and PIFs also need to be able to call on a sustainable source of financing for project preparation. This financing can be derived initially from the public budget and/or donors and DFIs, and strong-performing PIFs can also develop revolving mechanisms over time to ensure that successfully closed projects help to fund future project preparation activities.

ORGANIZING THE GLOBAL REVIEW

This Global Review is organized as follows:

Volume I: Global Review of Public Infrastructure Funds: Challenges and Key Factors for Success. Chapter 1 provides an introduction to the role of PIFs, including definition and typology, and identifies common objectives within the eight case studies. Chapter 2 is split into four sections that summarize the major objectives that motivate governments to establish PIFs, and the key issues that these objectives are intended to solve. Specifically: Chapter 2a summarizes the range of government resources and instruments that can be offered by PIFs; Chapter 2b describes fiscal risk and the role of PIFs in managing associated fiscal challenges; Chapter 2c introduces the main financial market failures that PIFs can help to overcome; and Chapter 2d discusses the main government failures that PIFs can help to overcome. Based on the objectives described in Chapter 2, Chapter 3 is split into four sections and defines the key design features and success factors driving PIFs' performance and their abilities to meet their objectives, and offers examples and guidance for the successful implementation of PIFs in developing countries. Chapter 3a considers the importance of transparent, autonomous governance structures; Chapter 3b analyzes the role of initial capitalization and subsequent funding strategies in the success of PIFs; Chapter 3c compares the suitability of products offered by PIFs and the relationship between those products and country contexts; and Chapter 3d discusses the role of project preparation and expertise within PIFs. This volume includes two annexes: Annex A provides a global inventory and typology of PIFs, and Annex B presents the executive summaries of the eight case studies.

Volume II: Global Review of Public Infrastructure Funds: Case Studies. This provides a separate in-depth evaluation of the eight case studies analyzed in this paper:

- Fondo Fiduciario Federal para Infraestructura Regional (FFFIR), in Argentina
- Infrastructure Development Company Limited (IDCOL), in Bangladesh
- Canada Infrastructure Bank (CIB)
- Financiera de Desarrollo Nacional (FDN), in Colombia
- Ghana Infrastructure Investment Fund (GIIF)
- India Infrastructure Investment Finance Company Limited (IIFCL)
- Indonesia Infrastructure Guarantee Fund (IIGF)
- Infrastructure Investment Program for South Africa (IIPSA).

Chapter 1. Introduction to Public Infrastructure Funds

An inability to provide sufficient financing to close the infrastructure gap through public resources, and constraints to private finance to help meet that gap, have led many governments to establish PIFs to support infrastructure development. These vehicles have taken many forms and provide different types of public financial support, ranging from the upstream provision of pre-investment financing for project preparation to the downstream provision of credit enhancements (partial credit and partial risk guarantees), senior debt, availability payments, liquidity lines, and so on. This chapter will introduce and define the role of PIFs, and explore the rationale for their creation compared to other instruments.

DEFINITION AND TYPOLOGY OF PUBLIC INFRASTRUCTURE FUNDS

A PIF is a non-bank financial institution, under government ownership, that provides financing support to infrastructure projects in a country, sector, or region. The PIFs analyzed in this Global Review have been used to support specific policy objectives related to the country context in their respective host countries. For example, the Infrastructure Development Company Limited (IDCOL) in Bangladesh aims to improve access to electricity in poorer segments of society, while the Fondo Fiduciario Federal de Infraestructura Regional (FFFIR) in Argentina has a mandate to support subnational infrastructure. Recognizing that there are several ways to categorize PIFs, this Global Review categorizes these eight institutions using two dimensions: (a) by policy objectives, whereby these public institutions could be categorized as infrastructure funds, sovereign wealth funds, or strategic investment funds, and (b) by scope or reach, whereby these public institutions could be categorized as national development banks, sector development funds, sub-national development funds, special purpose trusts within a development institution, procurement development funds, or guarantee funds. This Global Review does not include private infrastructure funds, such as Macquarie Infrastructure and Real Assets in Australia or Brookfield Asset Management in Canada. The focus of this Global Review is on the relationship between policy objectives and PIF design, and the impact of PIF design on the success of a PIF in meeting its policy objectives.

The eight PIFs selected for case studies are categorized below, according to their typology. Please refer to Annex A, “Global Inventory of PIFs” for more information on this categorization. Each case analysis is also presented in full in Volume II of the Global Review (Annex B to this document includes the executive summary of each case).

Table 1.1. Categorization of the PIFs Included in the Case Studies

Country	Case Study (Fund)		Type of Fund	Scope or Reach
Argentina	FFFIR	Fondo Fiduciario Federal de Infraestructura Regional	Strategic investment fund	Subnational development
Colombia	FDN	Fondo de Desarrollo Nacional	Strategic investment fund	National development bank

Ghana	GIIF	Ghana Infrastructure Investment Fund	General infrastructure fund	National development bank
South Africa	DBSA/ IIPSA	Development Bank of South Africa/Infrastructure Investment Programme	EU infrastructure fund	Trust managed by PIFs
India	IIFCL	India Infrastructure Finance Company Limited	General infrastructure fund	National development bank
Bangladesh	IDCOL	Infrastructure Development Company Limited	General infrastructure fund	Sector development (energy)
Indonesia	IIGF	Indonesia Infrastructure Guarantee Fund	Strategic investment fund	Guarantee fund
Canada	CIB	Canada Infrastructure Bank	Third generation PPPs/infrastructure fund	National development bank

Source: Author's analysis and classification of the case studies.

PIFs have adopted different institutional and governance structures, ranging from the most common form (a development bank) to strategic or infrastructure investment funds. These vehicles are typically established as non-bank financial institutions (NBFI), with the government assuming majority ownership.⁷ NBFIs do not accept deposits from the public, but are still subject to the banking regulations of the domestic market due to their financial intermediary role among participants in the domestic financial markets. In some cases, PIFs are decentralized corporate institutions with financial and fiscal autonomy (the case studies from Colombia, Argentina, and Bangladesh illustrate this business model). In other cases, they are financial institutions under the Ministry of Finance that have limited autonomy and are integrated into the fiscal management framework of the government (the case studies from Ghana, South Africa, India, Indonesia, and Canada illustrate this approach).

PIFs can provide financing support to infrastructure for a pure government-owned project, a pure private project, or PPPs as defined by their bylaws. To capture the range of PIFs, this Global Review uses the following definition:

A public infrastructure fund (PIF) is a government-owned non-bank financial institution that provides financing support to infrastructure projects in a particular country, sector, or region. It is a public policy instrument to support infrastructure development strategies in a particular country, sector or region.

THE GOVERNMENT'S RATIONALE AND OBJECTIVES FOR USING A PIF INSTRUMENT

Governments establish PIFs to support infrastructure development, but the specific objectives for each PIF will be influenced by country context. A government's decision to establish a PIF to support implementation of its infrastructure development strategy is influenced by many factors or challenges subject to both internal conditions (such as institutional and regulatory capacities, and depth of local financial markets), and external conditions (such as country credit rating, and access to global financial markets). An analysis of the eight case studies in this Global Review suggest that the rationale for establishing a PIF can be organized around four common objectives. Each objective is sufficiently broad that it can encompass and be shaped to suit different country contexts and challenges. The four common objectives are laid out below, and each objective includes a table that describes its applicability to each case study.

⁷A non-bank financial institution (NBFI) is an institution that does not have a full banking license. In the context of this document, it is an institution that provides different financing support to infrastructure projects but does not accept deposits from the public.

Vehicle for optimizing the use of public support. Infrastructure PPPs often require a range of government support to ensure viability. This can include direct financial support such as subsidies/grants; equity investment and/or debt; and contingent support such as guarantees, indemnities, and other credit enhancements. In order to fully utilize the range of government support available, and optimize the use of public resources for infrastructure development, it may be easier for governments to centralize these public resources within a PIF. The optimal use of scarce public resources, via a PIF, can be used to leverage additional financing for public infrastructure from other sources, including DFIs, sovereign wealth funds, global investors, pension funds, and local financial markets. The underlying assumption—which is not necessarily always true—is that a PIF will be able to attract additional capital in a more flexible and expedient manner than a contracting agency (state-owned enterprise, sector ministry, public agency, and so on), given its specialization in structured finance and knowledge of financial markets. It is the PIF’s capacity to optimize this leveraging of resources from other parties (beyond the public sector) that is a core objective of most governments looking to establish a PIF.

Table 1.2. PIF as a Vehicle for Optimizing the Use of Public Support: Case Study Analysis

Country	Case Study	Applicability to Objective
Argentina	Fondo Fiduciario Federal de Infraestructura Regional (FFFIR)	<p>FFFIR was established to provide financing to Argentine provinces for economic and social infrastructure. It finances relatively small projects with high impact on local communities (such as street paving, and construction or upgrading of schools, water treatment plants, and public health units).</p> <p>FFFIR was capitalized from the proceeds of the privatization of Banco Hipotecario Nacional (BHN) and uses revenues from tax co-participation funds (funds collected from federal taxes that are directly distributed to provinces) as collateral. It does not receive supplementary budget support. It is designed to make optimal use of the proceeds of the privatization of BHN to support provincial and municipal infrastructure development, without requiring further ongoing budget support.</p>
Colombia	Fondo de Desarrollo Nacional (FDN)	<p>Recognizing that Colombia’s infrastructure gap was impairing the country’s connectivity, growth, and competitiveness, FDN was established to provide a broad range of government support for the development of the 4G national road program and other infrastructure sectors. FDN was also structured to enable participation from IFIs, thereby further leveraging government support.</p> <p>To date, FDN has primarily provided debt (from its own balance sheet and via syndications) to finance the 4G national road program. It also has an equity strategy to leverage institutional and strategic investors.</p>

Ghana	Ghana Infrastructure Investment Fund (GIIF)	GIIF was established with a mandate to mobilize, manage, coordinate, and provide financial resources for investments in a diversified portfolio of infrastructure projects for national development. It provides the full range of financial products and instruments, and is wholly owned by the government.
South Africa	Development Bank of South Africa/Infrastructure Investment Programme (DBSA/IIPSA)	DBSA/IIPSA are both exclusively funded by international donors, and lend to public sector and infrastructure PPP projects, including at the municipal level. Given that neither fund receives support from government, this objective is not applicable.
India	India Infrastructure Finance Company Limited (IIFCL)	IIFCL provides the full range of financial products and instruments, and was established to enable government support to leverage private capital for infrastructure projects, largely through credit enhancement. IIFCL was formed as part of broad government reforms to create an attractive policy and regulatory framework for private capital, via a PPP program. In this regard, IIFCL is a vehicle intended to help raise affordable long-tenor funds.
Bangladesh	Infrastructure Development Company Limited (IDCOL)	IDCOL's mission is to promote economic development in Bangladesh by encouraging private sector investment in the energy sector through the provision of both debt- and equity-related products as well as derivatives. It was originally established as part of a World Bank project. As the institution developed and the government opted to transfer other loans and credit lines to IDCOL to support infrastructure PPPs, the character of the institution evolved to become more open ended. That said, the government has to date only provided limited resources to IDCOL, so it is questionable whether this objective is applicable.
Indonesia	Indonesia Infrastructure Guarantee Fund (IIGF)	IIGF was established as part of a multi-institutional strategy to support private capital mobilization. In addition to IIGF, the government also created a Project Development Fund, a Viability Gap Fund, and Indonesia Infrastructure Finance. IIGF is therefore specialized in a single financial product line (guarantees to provide credit enhancement), so can be considered part of a broader effort to optimize the use of government support to mobilize private capital.

Canada	Canada Infrastructure Bank (CIB)	CIB provides the full range of financial products and instruments to infrastructure projects. The idea is to utilize limited government resources to leverage much more resources from the private sector, especially through infrastructure PPPs, for infrastructure projects that are revenue generating. By helping public funds to go further (through leveraging private capital), and provide social and economic returns, the government hopes that CIB will enable it to divert more public funding to other non-commercial projects.
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Vehicle for effectively managing and ring-fencing government risk and associated FCCL. Infrastructure PPPs can support the efficient delivery of infrastructure services. However, if not properly monitored and managed, FCCL arising from PPPs can jeopardize the government’s ability to meet its obligations if the liabilities become too large and unmanageable. Centralizing the implementation of PPPs within a PIF can help governments to monitor and manage FCCL, and ensure that fiscal risk is ring-fenced within the PIF, particularly when the institution is used to sustain and secure proceeds of extra-budgetary resources for development purposes as opposed to being swallowed by the central budget. However, PIFs can also be used to bypass traditional fiscal oversight. In all eight case studies within this paper, the sovereign government is the “lender of last resort.” Three of the PIFs were created by a special law whereby their governance structure exempts them from consolidation with the government fiscal accounts, while in the other five cases, the PIFs are consolidated with the government fiscal accounts. Most of the cases in which the PIFs did not consolidate were linked to their initial capitalizations, which was done via extra-budgetary resources (privatization proceeds), and in relatively large amounts (US\$1 billion and more).

Table 1.3. PIF as a Vehicle for Managing and Ring-Fencing Government Risk and Associated FCCL: Case Study Analysis

Country	Case Study	Applicability to Objective
Argentina	Fondo Fiduciario Federal de Infraestructura Regional (FFFIR)	FFFIR is an autarchic institution, financially independent from the public budget process. Its contingent liability on the Government of Argentina is capped at the extent of the value of the remaining BHN shares and the FFFIR’s current equity position. FFFIR does not consolidate, nor is it included under fiscal management rules, budget, and debt targets. As a result, FFFIR’s structure is specifically designed to manage and limit the government’s FCCL risk. Each loan operation also needs the approval of the Treasury and follows the fiscal management rules and debt targets of the Government of Argentina.

Colombia	Fondo de Desarrollo Nacional (FDN)	FDN is a fully decentralized entity with financial autonomy and thus is not included under the fiscal rules and budget allocation process. However, as a full-fledged financial entity majority owned by the state, FDN has obligations to report to the General Accounting Office, and its asset and liabilities figures are consolidated as part of the central government accounting process. Under the current public policy environment, the government is the lender of last resort to FDN, so FDN does not remove the government's fiscal risk, but is a vehicle to help manage it.
Ghana	Ghana Infrastructure Investment Fund (GIIF)	GIIF is fully owned by the MoF and is consolidated with the government's fiscal rules. However, GIIF's loans and investments are not explicitly guaranteed by the MoF, meaning that any bad debts or impairments (as well as any eventual borrowings by GIIF) will not necessarily be supported by the MoF. Implicitly, however, in the event of systemic risk, the MoF does act as the "lender of last resort" to the Fund. In the absence of a contingent liability strategy, GIIF provides some measure of control for fiscal risk in the development of the PPP program.
South Africa	Development Bank of South Africa/Infrastructure Investment Programme (DBSA/IIPSA)	As grant finance facilities financed by donors, neither DBSA nor IIPSA generate any type of FCCL. DBSA, as a non-bank financial institution fully owned by the Government of South Africa (GoSA), consolidates with the government and is subject to the fiscal management policies of the Treasury Department.
India	India Infrastructure Finance Company Limited (IIFCL)	IIFCL was, arguably, the first-of-its-kind government-owned institution that borrowed from the market and international financial institutions, managing the risks in such a way as to limit the impact on the government's fiscal management. It has been lauded as a success as it played and continues to play a catalytic role in mobilizing a flow of private capital toward infrastructure projects. IIFCL acts as a self-funded non-bank financial institution and is not dependent on the public sector budget process, except in cases of guarantee support for multilateral loans, and in the new capital injections. However, the government does still act as a lender of last resort.
Bangladesh	Infrastructure Development Company Limited (IDCOL)	Due to limited government support, IDCOL is effectively a pass-through agency through which the MoF can channel loans and non-reimbursable technical assistance to promote infrastructure PPPs. IDCOL is not included under the government's fiscal rules or budget and/or debt targets. However, because IDCOL is fully owned by the GOB through the MOF, the public sector of Bangladesh acts as the lender of last resort to IDCOL.

Indonesia	Indonesia Infrastructure Guarantee Fund (IIGF)	IIGF is fully owned by the MOF and as such consolidates its accounts with the Government of Indonesia. Because the Fund's capital is still limited, the guarantees are backed by co-guarantors, including the World Bank, as well as by the MoF when necessary. IIGF's mandate specifically includes an objective to ring-fence government FCCL and thus mitigate their impact on the public sector budget. Nevertheless, if contracting agencies fail to repay IIGF under the terms of any guarantee, these payments would likely be settled by the MoF, and the government may therefore be considered the de facto lender of last resort.
Canada	Canada Infrastructure Bank (CIB)	CIB is an arm's-length corporate entity, but presents its annual business plan every year to Finance Canada (the Ministry of Finance) and Parliament and must get permission from the Minister of Finance before issuing any guarantees. From an accounting perspective, any CIB support will be registered as government investments/assets, so CIB helps to manage rather than ring-fence FCCL.

Overcoming financial market failures. Governments may develop projects that should be able to attract private finance. However, these projects are unable to attract private finance due to a range of financial or market failures. These failures include: lack of long-term local currency financing due to underdeveloped capital markets; liquidity constraints; relatively high interest rates; and poor access to global financial markets. PIFs can therefore be established to develop and support projects to overcome these failures and access long-term financing at reasonable conditions. PIFs can therefore be designed to improve the creditworthiness of a given financing structure, develop local capital markets to act as catalysts for pension fund investments in infrastructure,⁸ and/or improve access by international investors to local debt instruments supporting infrastructure. For example, FDN in Colombia has been able to raise the creditworthiness of local toll-road revenue bonds by utilizing several credit-enhanced mechanisms that have allowed the revenue bonds to be placed among local institutional investors.

Table 1.4. PIF as a Vehicle for Overcoming Financial Market Failures: Case Study Analysis

Country	Case Study	Applicability to Objective
Argentina	Fondo Fiduciario Federal de Infraestructura Regional (FFFIR)	The FFFIR was in the context of years of volatility in the Argentine economy, which meant that accessing private capital to support infrastructure development was impossible. After successfully returning to the international financial markets in 2016, and once the FFFIR is recapitalized, it could develop a broader range of instruments to further leverage its resources and begin to address specific financial market failures.

⁸This can be accomplished by creating a tiered structure where the senior instrument is held by the pension funds while the subordinated instrument is held by the public infrastructure fund. In the event of default, the first loss is taken by the public infrastructure fund and pension assets are protected from such risk.

Colombia	Fondo de Desarrollo Nacional (FDN)	FDN helps to catalyze infrastructure development through credit enhancements that help to deepen local financial markets and broaden the investor base outside Colombia. This is especially relevant because the increase in sector-concentration risk in the banking system and emerging regulatory constraints from Basel III restrict banks' abilities to fully finance the 4G national roads program (as they previously may have done). Therefore, helping to mobilize institutional investors, especially local pension funds, is a core objective of FDN.
Ghana	Ghana Infrastructure Investment Fund (GIIF)	Ghana's financing market is constrained, with limited availability of long-term finance, both local and international, to support the country's infrastructure pipeline. GIIF is intended to play an important role in promoting the development of local financial markets, which are much needed in Ghana. GIIF's financial products and risk mitigation mechanisms are designed specifically to: increase the size of the investor market willing to finance infrastructure development; improve local currency lending conditions and mitigate use of U.S. dollar-financing in sectors that do not generate U.S. dollars; and increase the leverage impact of restricted funding resources for Ghana. Other challenges GIIF is intended to overcome include the lack of capacity and experience of local commercial banks to appraise and finance infrastructure PPPs on a limited recourse basis, as well as short tenors, which run between five and seven years.
South Africa	Development Bank of South Africa/Infrastructure Investment Programme (DBSA/IIPSA)	South Africa, unlike most other developing countries, has well-developed financial markets (both bank and bond markets), and institutional investors play a critical role in financing infrastructure in the country. However, IIPSA and DBSA have limited engagement with the private sector, particularly the financial sector, and neither was established with a specific goal to address financial market failures and mobilize private capital. As such, this objective is not directly applicable to DBSA or IIPSA.
India	India Infrastructure Finance Company Limited (IIFCL)	India's banking sector has suffered from a continuous deterioration in asset quality and low profitability and liquidity. Access to financing has been described as the second biggest constraint to doing business in India. IIFCL was created to provide long-term finance to viable infrastructure projects to make infrastructure investments viable.

Bangladesh	Infrastructure Development Company Limited (IDCOL)	Bangladesh previously had a poor record in attracting private investment. Bond and equity markets are underdeveloped, and a broad base of institutional investors is lacking. The public pension fund system is unfunded, and private pension schemes are at a very early stage. IDCOL was created to help address some of these financing constraints and render the sector and transactions more attractive and efficient, thereby helping to broaden the investor base and deepen the local capital markets.
Indonesia	Indonesia Infrastructure Guarantee Fund (IIGF)	Indonesian local debt and capital markets are relatively young, and there is still limited availability for long-term rupiah financing. Indonesia's financial markets are small compared to regional peers. The state-owned banks, such as BNI, BRI, and Mandiri, have prioritized lending to state-owned enterprises (SOEs) and strong corporates. Larger private banks and foreign banks are highly selective of the projects and corporate names they lend to. This situation is squeezing available long-term funding for private (and PPP) infrastructure projects in Indonesia. IIGF focuses exclusively on the provision of guarantees to improve the financial risk profile of PPPs, allowing them to access long-term funding. IIGF is also a public policy response to the challenges faced by private investors when attempting to raise long-term local currency financing for infrastructure projects.
Canada	Canada Infrastructure Bank (CIB)	Capital market development is at a mature stage in Canada, but there is still a need for public sector intervention to support better and more infrastructure development. Canada is focusing on the third wave of PPP transactions, with an important shift toward social infrastructure and complex economic infrastructure undertakings, where the financial markets have less experience and appetite. CIB's business plan is focused on quasi-equity or subordinated debt to increase the market for private parties (because the equity injection requirement is lower), and to increase appetite for debt financing, given that CIB would provide a cushion in case of default.

Overcoming government failures. Infrastructure projects are often complex, and preparation can be time-consuming and resource-intensive. Structuring these projects as PPPs often adds further complexity. Government officials are often inexperienced in the identification, development, and implementation of PPPs, due to a lack of experience and capacity within line ministries and the Ministry of Finance. Centralizing these processes within a PIF can help governments to ensure the delivery of a coherent infrastructure development strategy and capture and maintain sufficient capacity to enable the successful delivery of these projects. Executing an infrastructure development strategy usually relies on several contracting agencies with sectoral responsibilities. Their sector needs far exceed the public resources available to finance the infrastructure development strategy. Having a single entity responsible for analyzing and prioritizing projects based on development impact and financial feasibility can motivate

governments to adopt a PIF model. A PIF can cut across different sectors and is not bound or limited by line ministry budgets or institutional capacities. This model also helps to centralize institutional capacity to improve decision-making. In some of the country cases such as Colombia, Ghana, India, Bangladesh, and Indonesia, these PIFs also cultivate relationships with international investors interested in public infrastructure as an entry point into the country's financing options.

Table 1.5. PIF as a Vehicle for Overcoming Government Failures: Case Study Analysis

Country	Case Study	Applicability to Objective
Argentina	Fondo Fiduciario Federal de Infraestructura Regional (FFFIR)	The FFFIR is a public policy instrument to develop and strengthen the federal government's relationship with subnational entities, which lack the resources and capacity to develop infrastructure projects independently. FFFIR has positioned itself as a financial agent for small volumes of urban infrastructure in intermediate cities (for example, schools and hospitals, rural roads, small water-treatment plants, and street lighting and paving). Despite their relatively small size, those projects do have an impact at the local level.
Colombia	Fondo de Desarrollo Nacional (FDN)	FDN's autonomous nature was designed to provide protection from political interference and encourage participation by IFIs, in order to overcome government failures in expertise and transparency. The IFIs' contribution, in particular, has been significant in the areas of management information systems, risk management systems, credit analysis, procurement process, and business strategy.
Ghana	Ghana Infrastructure Investment Fund (GIIF)	The Public Investment Division (PID) is the focal point for Ghana's PPP program, but it is not a dedicated, full-time PPP agency, and implementation is hindered by bureaucratic processes and procedures within the MoF. Additionally, the PID struggles with a shortage of staff with the requisite technical skills and experience. Project preparation capacities are also weak in most of the contracting agencies. This represents a serious challenge to the mobilization of private capital for infrastructure development. GIIF intends to become an active player in project preparation and capacity-building to contracting agencies to support the implementation of financeable projects.
South Africa	Development Bank of South Africa/Infrastructure Investment Programme (DBSA/IIPSA)	There is a lack of institutional capacity at the subnational level in South Africa. IIPSA has transitioned from an original financing objective to a project preparation facility due to this lack of capacity and the nature of the grant financing conditions. DBSA considers project preparation (pre-investment funding) to prepare financeable projects, a critical challenge to infrastructure development in South Africa.

India	India Infrastructure Finance Company Limited (IIFCL)	Since 2006, the government has made significant efforts to improve and strengthen the regulatory framework governing infrastructure development and PPP transactions in India. Despite these improvements, India has an abundance of infrastructure needs and ideas, but a scarcity of well-structured and financeable infrastructure projects. Most infrastructure transactions also have long gestation periods. IIFCL is a response to these issues and has developed a full-fledged advisory unit to support project preparation.
Bangladesh	Infrastructure Development Company Limited (IDCOL)	IDCOL originated from a World Bank project (Private Sector Infrastructure Development Project) that aimed to support Bangladesh in proactively developing viable projects for private investment. The project included technical assistance of US\$7 million for investment advisory services, to strengthen IDCOL's capacity in project financing and enable IDCOL to overcome the lack of project preparation expertise within the government.
Indonesia	Indonesia Infrastructure Guarantee Fund (IIGF)	Indonesia has many laws, regulations, and decrees governing private sector participation in infrastructure, but no "umbrella" PPP law that governs all transactions. This situation creates misperceptions and differing interpretations concerning the application of sector laws and PPP regulations. Aware of the need to build institutional capacities among contracting agencies to process and promote infrastructure development via PPPs, IIGF provides knowledge support to contracting agencies on all aspects of PPPs.
Canada	Canada Infrastructure Bank (CIB)	The CIB was created to support a third phase of PPPs on a government-pay model. One of the objectives of CIB is to serve as a center of expertise on infrastructure projects in which private sector or institutional investors are making a significant investment. Given the complexity of the proposed projects, and the lack of experience within the government, CIB is intended to: promote evidence-based decision making; advise all strata of government on the design of revenue-generating projects; and analyze data to help governments make better decisions about infrastructure investments.

A well-managed PIF is not a substitute for smart public policy. Despite the advantages that PIFs can provide, a PIF will require robust, complementary public policy in many areas (i.e., economic regulation, capital market development, risk management, etc.), to be able to achieve its objectives. One of these broader public policy issues relates to the management of FCCL, which PIFs can help to create, which will be explored in the next chapter.



Chapter 2. Objectives: Why Establish a Public Infrastructure Fund?

Governments establish PIFs as specialized mechanisms to support infrastructure development, but the objectives for each PIF will be influenced by the country context and the specific challenges the government needs to address. An analysis of the eight case studies has identified a number of objectives, introduced in Chapter 1, that are relatively common across each PIF. However, each objective is sufficiently broad that it can encompass and be shaped to suit different country contexts and challenges. A government's decision to establish a PIF to support implementation of its infrastructure development strategy is influenced by many factors or challenges, subject to both internal conditions (such as institutional and regulatory capacities, and depth of local financial markets), and external conditions (such as country credit rating, and access to global financial markets). This chapter details the four common objectives for PIFs identified in Chapter 1: effectively managing and ring-fencing government risk and FCCL; optimizing the use of public support; overcoming financial market failures; and overcoming government failures. It links these objectives to each of the eight case studies, where relevant, and provides the theoretical context for the practical application of PIF design features to success factors subsequently laid out in Chapter 3.

CHAPTER 2A. OPTIMIZING THE USE OF PUBLIC SUPPORT

Infrastructure PPP projects often require a range of government support to ensure viability. Establishing a PIF can help governments to optimize the use of scarce public resources in order to attract and leverage private finance. Government support to infrastructure PPPs should focus on how to make the best use of its limited resources. This support can include direct financial support such as subsidies/grants, equity investment and/or debt, and contingent support such as guarantees, indemnities, and other credit enhancements. In order to optimally utilize the full range of government support available, it may be easier for governments to centralize these public resources within a well-capacitated, independent PIF. When centralized within a PIF, options for the use of these government resources can be broadened to enable project viability and leverage additional financing for public infrastructure from other sources, including DFIs, sovereign wealth funds, global investors, pension funds, and local financial markets. *Leverage*, in this context, is defined as the use of the scarce public resources to crowd-in additional financing for infrastructure development. This definition necessarily entails the mobilization of private capital. The underlying assumption to the centralization of government resources—which is not necessarily always true—is that a PIF will be able to attract, through the optimal use of public resources, additional capital in a more flexible and expedient manner than a contracting agency (state-owned enterprise, sector ministry, public agency, and so on). To do so, PIFs must develop a more commercial, corporate mindset through the recruitment of staff with specialization in structured finance and knowledge of financial markets.

PIFs can be designed to support the financing of infrastructure using various instruments and mechanisms to facilitate and catalyze private financing. The case studies in this Global Review provide useful lessons learned for governments considering the establishment of PIFs. For example, the Indonesia Infrastructure Guarantee Fund (IIGF) has provided partial risk guarantees to cover power purchase agreement (PPA) payments from the state-owned power utility (PGN) to a private independent power producer (IPP). In this case, the PIF (IIGF) provides a credit enhancement to improve the financing structure to fund the IPP. The PPA payment is a government transfer (from PGN) to make possible the financing of the IPP. In another example, the Financiera de Desarrollo Nacional (FDN) in Colombia has provided a senior debt facility to a private concessionaire to build, operate, and transfer a 120-kilometer toll road between the cities of Cartagena and Barranquilla. In this case, the PIF is providing a credit line to a private concessionaire to mobilize additional private capital for infrastructure development. Conversely, there are PIFs that have worked on a very limited scope or have not been able to play a leading role in helping projects to financial close. Some of those institutions have high management expenses and have locked in funds that could have been used elsewhere. In addition, without alignment with a country's fiscal management framework, these institutions run the risk of creating unforeseen fiscal burdens for the parent government.

The PIFs profiled in the case studies offer a wide range of financial and technical assistance instruments or products intended to leverage additional financing for infrastructure development. Most of these offerings have been designed to address the specific characteristics of the financial markets in which the PIFs operate. In some cases, such as FDN in Colombia, IIFCL in India, and IIGF in Indonesia, efforts were made to develop a range of products aimed at mobilizing private capital. This chapter describes the broad range of financial instruments and products that can be offered by PIFs, as well as their impact in optimizing the scarce use of public resources to maximize finance for development via the mobilization of private capital. The chapter also discusses the role of PIFs in the preparation of projects and building the project pipeline, the development of local capital markets to create new mechanisms for infrastructure finance, the mitigation of currency risk, and the applicability of climate change financing to PIFs.

DEBT-RELATED INSTRUMENTS

Debt-related instruments are the most common type of financial instruments offered by the PIFs

in the case studies. Their impact on leverage is a function of the structure of the transaction, and their use can range from single earmarked senior loans to a project with relatively low leverage, to some form of “local market” syndication where more financial institutions (private and public) participate in the lending structure, yielding a higher leverage of the PIF’s public resources. The FFFIR in Argentina and IDCOL in Bangladesh typically provide single senior loans, while the GIFF in Ghana, the IIFCL in India, and the FDN in Colombia utilize their senior loans to mobilize additional participation by other financial institutions. Pricing for senior loans in most of the analyzed cases was market based, with the PIF’s use of public debt financing enabling an extension of the loan tenor beyond the market average. Institutions such as IIFCL in India, IDCOL in Bangladesh, and FDN in Colombia offer sophisticated debt-related instruments, including subordinated debt (usually treated as quasi-equity by rating agencies), and take-out finance and refinancing schemes to stimulate participation of local financial institutions. These types of debt instruments tend to have a better leverage impact on the overall funding raised for a particular project.

Loan syndication is one of the simplest forms of leveraging PIF resources.⁹ The PIF will act as the bank lead arranger for the entire amount of the project loan to finance a particular infrastructure project. The PIF will invite private banks (investors) to be part of the syndicate underwriting a given amount of total project loan. If the loan syndication is successful, the PIF would have leveraged its resources in an amount equal to the sum of each private bank’s (investor’s) participation in the total project loan. If the total project loan was for the equivalent of US\$100 million, and the PIF acting as the lead arranger took a US\$20 million position, mobilizing an additional US\$80 million from private banks (investors) would have a four-to-one leverage impact on the transaction. Loan syndication and participation business practices will require the PIF to have a dedicated team with the proper skillset and knowledge of the local financial markets, documentation, and legal requirements.

CREDIT ENHANCEMENT INSTRUMENTS AND THEIR ROLE IN THE DEVELOPMENT OF LOCAL CAPITAL MARKETS

PIFs can use credit enhancement financial instruments or products to improve the credit risk profile of a structured financial transaction. The underlying assumption of these instruments is that the cost of the credit enhancement will be compensated by the “savings” in final pricing (interest rate and fees) of the better credit quality and/or the attraction of a new group of investors (financiers) to participate in the project. These types of instruments are more commonly used in capital markets transactions (such as project bond placements, and asset- and mortgage-backed securities) where institutional investors (such as pension funds, insurance companies, and mutual funds) need to satisfy a particular risk profile prior to investing.

Local capital markets can play an important role in the long-term funding for infrastructure development. When capital markets are adequately developed, they can provide longer tenor funding than commercial banks, which is critical for the financing of infrastructure transactions. The long-term nature of these transactions allows institutional investors to match their liabilities (pensions, insurance annuities, and so on) with longer tenor assets. Local capital markets can also partially correct the foreign exchange risk inherent in commercial banks providing hard currency financing to projects that generate local currency. Local institutional investors are able to match their liabilities with local currency assets, and well-developed local capital markets such as those in Chile, Mexico, India, and South Africa can also attract a pool of international institutional investors interested in asset diversification and interna-

⁹Loan syndication is the process of involving a group of lenders to fund various portions of a loan for a single borrower. Loan syndication most often occurs when a borrower requires an amount too large for a single lender to provide or when the loan is outside the scope of a lender’s risk exposure levels. Thus, multiple lenders form a syndicate to provide the borrower with the requested capital. Loan syndication allows any one lender to provide a large loan while maintaining a more prudent and manageable credit exposure because the associated risks are shared with other lenders. Each lender’s liability is limited to its respective share of the loan interest. Usually, there is only one loan agreement for the entire syndicate

(<https://www.investopedia.com/terms/l/loansyndication.asp#ixzz5P6W7NVWJ>).

tional exposure.¹⁰ In Colombia, FDN has been very active in promoting local infrastructure assets for international investors, and three international investment funds (Black Rock, USA; Sura-CreditCorp; and CAF-Ashmore) already have local offices and operations in Colombia. FDN estimates their potential participation in the local market at the peso equivalent of US\$1.2 billion.

Developing transactions with a risk profile that are able to attract institutional investors, via the use of credit enhancement instruments, can open up additional financing sources that can improve the leverage impact of the PIF's public resources. Credit-enhanced financial instruments or products will have a higher leverage than standard senior loan debt instruments. Leverage will be even higher if utilized for capital markets transactions where the funding for the underlying infrastructure project comes from both private and public institutional investors.

COMMON CREDIT ENHANCEMENT INSTRUMENTS USED BY PIFS

Partial Credit Guarantee (PCG). A PCG covers lenders and/or bondholders against the risk of debt service payment default by the borrower and/or project company. PCGs are also referred to as loan guarantees benefiting lenders. These guarantees are partial in nature given that they cover only a portion (percentage) of the debt service. The way in which the partial credit guarantee is structured determines how well it will improve the transaction's credit quality. These instruments can be structured as a "first loss" cushion, where first debt repayment defaults will be covered by the guarantor up to a specific threshold. PCGs can also be structured as "rolling" guarantees, where in the case of a long tenor bond issuance with a large number of coupon payments, the instrument can be structured so as to cover the debt service payment of the initial [four] coupons (one to four payments). In the event the first guarantee coupon is paid without use of the guarantee, the instrument gets automatically rolled in to the next four coupon payments (two to five payments), and so on. Among the case studies, IIFCL in India used this type of credit enhancement instrument.

Partial Risk Guarantee (PRG). A PRG covers lenders and/or bondholders against the risk of debt service payment default by the borrower and/or project company that arise because the government (or government-owned entity) fails to meet its contractual obligations to the borrower and/or project. PRGs are also referred to as payment guarantees benefiting the project company. Typical contractual obligations covered by a PRG include: (a) an availability payment in an infrastructure PPP project (such as a toll road concession); (b) an off-take payment for an independent power producer (IPP) (such as a power purchase agreement); and (c) concession contract clauses such as early termination and economic regulation clauses. PRGs are challenging to structure from a legal viewpoint, because the definition of different triggering events and remedies must be precisely drafted. Among the case studies, the only institution providing these types of instruments was the IIGF in Indonesia, which was created for the sole purpose of providing risk mitigation to the contractual obligations of Indonesian state-owned enterprises and public sector agencies in PPP transactions. FDN in Colombia utilizes a credit enhancement instrument—a liquidity line, explained next—which replicates some of the features of a PRG.

Liquidity Line. A liquidity line consists of an approved credit line whose use is contingent on specific events taking place in a concession contract. These guarantees require precise definitions of specific non-performance issues by contracting agencies and inside knowledge of government policies. They are also challenging to size and monitor from a risk management perspective. Liquidity lines act as an additional cash reserve to improve the credit strength of the transaction. A liquidity line is de facto a partial risk guarantee covering certain events of payment or delays in payment by the relevant government agency, including: (a) delays in the execution of rights of way; (b) cost overruns above and beyond contract estimates, that are not the concessionaire's responsibility; (c) delays in the processing of avail-

¹⁰After five years of reporting unsatisfactory returns, the IPSA Index for Chile showed significant recovery in 2016, reaching a total return of 19.3 percent. This impressive result was largely driven by foreign investment in the nation, with international investors showing renewed confidence in the Chilean market. With its strong institutional set-up, small public deficit, and low levels of public debt, Chile continues to be the most competitive economy in Latin America, drawing investors from around the world (Pamela Auszenker, World Finance, BCI Corredor de Bolsa, Chile, May 2017).

ability payments; and (d) revenue differentials (for projects that partially transfer demand/revenue risk, such as toll roads). The market has found these products extremely useful, increasing the credit rating of the transaction. Liquidity lines are subordinated in nature and can be used under a “rolling” feature.

Standard “Internal” Credit Enhancement. Besides liquidity lines, most of the PIFs in the case studies use the standard “internal” credit enhancements when structuring a financing package, such as tranche subordination, over-collateralization, and reserve accounts.

Credit enhancement instruments such as PCGs, PRGs, and liquidity lines can provide a higher leverage impact than traditional debt instruments. However, these types of instruments also require more sophisticated risk management practices (accounting and monitoring contingent liabilities), better institutional capacities in structured finance, and a business model more in line with the insurance business than commercial banking. Nevertheless, PIFs should seek to develop and implement appropriate credit enhancement instruments to attract private capital and maximize their impact and leverage.

EQUITY-RELATED INSTRUMENTS

Equity-related instruments can play a catalytic role in infrastructure financing, but they have a higher risk profile than debt-related instruments. Large infrastructure projects where regulatory-related risks (such as economic regulation schemes, end-user tariffs and charges), or environment-related risks (such as resettlement) are relatively high have a better chance of raising the required finance when a PIF is also involved as an equity holder. This arrangement provides the private group of investors with additional comfort and confidence. Because of their nature and higher risk profile, equity-related instruments have a higher leverage impact than debt-related instruments in the mobilization of private financial resources.

Some infrastructure projects have complexities that increase private investors’ perceptions of risk, and in these situations, equity participation by a PIF is sometimes justified. In cases where infrastructure projects carry a relatively high environmental risk, or require the resettlement of a relatively large population, or have a high regulatory risk (such as adjustments in tariffs), limited equity participation by a PIF in complex infrastructure projects can catalyze private equity funding that otherwise would not take place. It is more difficult to estimate and/or value the leverage impact of equity-related products than it is for loan syndications or credit enhancements. Equity participation has an additional advantage for the PIF, more closely linked with the funding strategy. Equity participation in sound and successful projects with a clear exit strategy can provide the PIF, via the sale of its participation, with additional funding for its operations. If in addition, the sale of the equity participation is done via capital markets, the leverage impact is higher, due to the presence of one new equity instrument available to private investors.

Due to their risk profiles, equity-related instruments require more sophisticated risk management than debt-related instruments. Their use by PIFs, when funded via scarce public resources, can also create legitimate concerns regarding fiscal management and the institutional governance between the PIF and the underlying project(s). In order for a PIF to avoid ending up as a holding company of several state-owned enterprises, each equity investment needs to have a well-designed exit strategy (sale of the equity holding). Due to these issues, the use of equity-related instruments has not yet been fully developed in the case studies analyzed in this paper, and there is limited experience of using these instruments. Nevertheless, with the exception of Argentina’s FFFIR, South Africa’s IPSA, and Indonesia’s IIGF, all of the remaining case study PIFs have the capacity to use equity-related instruments, and it is possible that equity-related instruments will be developed for use in due course.

PIFs provide an institutional structure that potentially enables governments to efficiently deploy a range of instruments that make best use of public resources to leverage private

finance. Governments lack sufficient resources to fully finance their infrastructure investment priorities. However, there are a range of instruments, as described above, that can be used by governments to leverage private finance. These instruments can address different financing challenges, depending on the specific country context, but are often complex. Public sector officials within line ministries typically lack experience and exposure to these products and the transaction structures in which these products are used, which lie outside of the skillset of most civil servants. Centralizing the design and use of these instruments within a well-capacitated PIF could enable the government to optimize the use of its scarce resources, maximize the leverage these resources can provide, and manage the FCCL associated with these various instruments. To meet this objective, PIFs require staff with a different profile, including structured finance expertise and knowledge of financial markets, and they also need the ability to pay these staff in line with private sector salaries.

Preparing a pipeline of bankable infrastructure projects is critical to the success of PIFs, and without exception, all the PIFs in the case studies categorize project preparation as one of the key challenges for their institutions. A common issue in the failure of, or poor value for money of, infrastructure PPP projects in emerging economies is inadequate project preparation. Without adequate project preparation, PIFs will be unable to develop a credible pipeline of financeable projects and may be unable to efficiently deploy the range of financial instruments to leverage private finance. At worst, PIFs could end up supporting the implementation of “bad” projects and compromising the sustainability of the institution. All the PIFs profiled in the case studies are fully aware of the importance of solid project preparation and are dedicating consistent efforts and resources to improve contracting agencies’ capacities to improve project preparation. Most of the case study PIFs have a specialized unit dealing with project preparation issues and provide technical assistance to first-tier clients—contracting agencies, state-owned enterprises (SOEs), line ministries, and private project sponsors. Project preparation as a government failure is explored in more detail in Chapter 2d.

PROJECT PREPARATION AND TECHNICAL ASSISTANCE PRODUCTS

Preparing a pipeline of bankable infrastructure projects is critical to the success of PIFs, and without exception, all the PIFs in the case studies categorize project preparation as one of the key challenges for their institutions. A common issue in the failure of, or poor value for money of, infrastructure PPP projects in emerging economies is inadequate project preparation. Without adequate project preparation, PIFs will be unable to develop a credible pipeline of financeable projects and may be unable to efficiently deploy the range of financial instruments to leverage private finance. At worst, PIFs could end up supporting the implementation of “bad” projects and compromising the sustainability of the institution. All the PIFs profiled in the case studies are fully aware of the importance of solid project preparation and are dedicating consistent efforts and resources to improve contracting agencies’ capacities to improve project preparation. Most of the case study PIFs have a specialized unit dealing with project preparation issues and provide technical assistance to first-tier clients—contracting agencies, state-owned enterprises (SOEs), line ministries, and private project sponsors. Project preparation as a government failure is explored in more detail in Chapter 2d.

THE ROLE OF CLIMATE CHANGE FINANCING

Climate change financing is a relatively unexplored segment of the overall financing market across the eight case studies. Only two of the PIFs have experience in the financing of climate change and resilience related investments: Bangladesh’s IDCOL, which, from its creation, had a prime role in the development of one of the world’s largest solar home systems (SHS), covering more than 4 million households; and to a lesser extent India’s IIFCL, which provided credit enhancement for the issuance of a renewable energy bond in 2015.

Despite all of the case study countries being signatories of the Paris Climate Change Agreement,

none of the PIFs contain a special incentives program (flexible and/or soft financing conditions) to support climate change-related investments. This situation is explained in part by the fact that all these countries face significant infrastructure gaps, and therefore focusing specifically on measures to mitigate or strengthen resilience to climate change is not prioritized. Nevertheless, all the PIFs in the case studies do consider sectors such as clean energy and energy efficiency to be high-growth sectors in their economies. With so many new soft financing windows being sponsored by MDBs and DFIs to support climate change and resilience-related infrastructure investments, it would seem only natural for PIFs in developing countries to partner with such institutions to develop specialized “green” financing windows in the future.¹¹

¹¹Soft financing windows such as the Green Climate Fund (GCF), the Global Environment Facility (GEF), the Clean Technology Fund (CTF), and the Strategic Climate Fund (SCF) are available to developing countries for climate change-related investments.

CHAPTER 2B. MANAGING GOVERNMENT RISK AND FCCL WITHIN A PIF

Fiscal commitments and contingent liabilities arising from infrastructure PPPs have to be carefully managed as part of any sustainable strategy to leverage private finance for infrastructure development. Failure to disclose and prudently manage FCCL can lead to large increases in public debt and trigger a fiscal crisis.¹² The triggering of FCCL along with exchange rate depreciations have been behind massive and unexpected increases in the debt-to-GDP ratio in many countries over the last 15 years, which can lead to serious challenges for the fiscal sustainability of the public sector.¹³ If not properly monitored and managed, unsustainable fiscal liabilities have the potential to jeopardize a government's ability to meet its financial obligations. Unsustainable fiscal practices can put pressure on the overall budgetary cycle, thereby reducing budgetary allocation for social services and development activities. Moreover, given that infrastructure PPP projects and liabilities last for a long time, lack of fiscal prudence and planning may hamper government finances for decades. It is critical that governments do not use PPPs to bypass fiscal constraints, but instead use them as part of a considered approach to infrastructure development and resource optimization. Poorly planned PPP projects or programs can therefore expose governments to long-term unplanned liabilities. The box below summarizes the importance of fiscal sustainability for PPPs and PIFs that support them.

Box 2.1. Bringing PPPs into the Sunlight

Some excerpts follow from the 2018 report by the Inter-American Development Bank, *Bringing PPPs into the Sunlight: Synergies Now and Pitfalls Later?*

"Bypassing fiscal constraints is not a valid reason to choose a public-private partnership (PPP) over traditional public investment. PPPs do not materially reduce fiscal constraints for governments. If they appear to do so in the short term, it is likely due to the nature of the cash flow disbursements of the PPP project and the differing accounting standards or novel finance structures hiding the explicit or implicit burden created by a PPP. As a result, PPPs may create outside fiscal burdens over the long run."

"This misperception has exacerbated the potential fiscal risks caused by PPPs by allowing their pursuit outside the bounds of core budget evaluation and public planning. Special purpose vehicles (SPVs), temporary designations of private ownership, and public trust funds may allow PPPs to be classified as off-budget operations or expenditures. Likewise, certain accounting methods may allow upfront private financing to obscure the reality of long-term public funding."

"PPPs should be treated as fiscally equivalent to a traditional public investment (TPI) when planning budgets and prioritizing multi-year spending. Indeed, the best way to reconcile short-term budgeting practices with the long-term nature of PPP commitments would be to treat PPPs as public debt. Many countries have adopted medium-term fiscal frameworks (MTFFs) and other fiscal tools aimed at aligning budget planning across years. However, the novelty of PPPs and special circumstances surrounding private-sector financing means that they may be absent from these processes."

While PIFs and the underlying infrastructure PPPs that they support can be an efficient way of planning and delivering infrastructure, they can also have considerable impact on the fiscal sustainability of the sponsor government. PPPs may not be included in the traditional financial and budget reports of governments, and this is a major reason why PPPs are sometimes viewed as instruments to undertake capital investments without immediate impact on the fiscal budget. Centralizing the implementation of PPPs within a PIF can help governments to better monitor and manage FCCL on a portfolio basis, and ensure that fiscal risk is ring-fenced within the PIF, particularly when the institution is used to sustain and secure proceeds of extra-budgetary resources for development purposes as opposed to being swallowed by the central budget. It can also provide additional comfort to the private sector if it is considered that a PIF is better able to monitor and manage FCCL than the MoF and line ministries. However, ring-fencing FCCL within a PIF does not absolve the government of fiscal

¹²Cebotari 2008.

¹³Jaramillo and Mulas-Granados 2016.

risk; it is merely a tool to try to manage it more effectively (and it doesn't always work). The International Monetary Fund (IMF) published a working paper in 2016 that documents a dataset of contingent liabilities that have led to major fiscal costs and burdens to public treasuries all over the world.¹⁴ It is clear from the dataset that PIFs can be used to bypass traditional fiscal oversight and lead to major fiscal risks through FCCL. The dataset mentions the case of the Railway Infrastructure Fund (Fonds pour l'infrastructure ferroviaire) in Belgium in 2005, whose debts (€2.01 billion)¹⁵ were consolidated with the government's budget and single-handedly accounted for 2.4 percent of GDP. PIFs should be aware of FCCL risks when supporting PPP transactions and should develop adequate risk management systems to monitor such commitments. A summary of direct and contingent liabilities is included below.

DIRECT LIABILITIES

Direct fiscal commitments from infrastructure PPPs can be regular payments (government transfers) constituting all or part of the remuneration of the private party; resources geared toward risk sharing; or a combination of the two. Direct liabilities constitute payment commitments (government transfers) that are known and are not dependent on the occurrence of an uncertain future event, and are typically easier to manage and monitor than contingent liabilities. These direct liabilities are generally funded from current public budget resources. They are explicit in nature and created via some type of legal arrangement (such as a law, contract, or concession). Examples of direct and explicit liabilities arising from PPP and infrastructure contracts include:

- **Viability Gap Payments:** A capital subsidy, which may be phased across the length of the construction period, based on the achievement of milestones, or against equity investments.
- **Availability Payments:** A regular payment (government transfer or subsidy) over the lifetime of the project, usually conditional on the availability of the service or asset at a contractually specified quality. The payment may be adjusted with bonuses or penalties related to the performance.
- **Shadow Tolls or Output-Based Payments:** A payment or subsidy per unit or user of a service, for example, per kilometer driven on a toll road (this is also contingent on the private party's performance). These are also used when the provision of the infrastructure service is not possible at full cost-recovery rates, and an additional payment (government transfer or subsidy) is needed for the private party to provide the service (output-based aid).

CONTINGENT LIABILITIES

Contingent liabilities are payment commitments whose occurrence, timing, and scale depend on uncertain future events outside the government's control. They constitute obligations only if an event takes place.¹⁶ Examples of contingent liabilities in infrastructure contracts include:

- **Guarantees:** A guarantee is an undertaking by one party to guarantee the performance of another party. For example, this could include guarantees on demand remaining above a specified level or on exchange rates remaining within a certain range or interest rates remaining below a specified level. If any of the triggers are activated, then the government is bound by the agreement to make payments based on the concession agreement

¹⁴Bova et al 2016.

¹⁵Federal Government Debt Annual Report, Kingdom of Belgium, 2005.

¹⁶The standard complex definition of a contingent liability is as follows: (a) possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or (b) a present obligation that arises from past events but is not recognized because: (i) it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or (ii) the amount of the obligation cannot be measured with sufficient reliability (International Accounting Standards Board 2004, 1531–32, cited in Irwin 2007).

to the private party. Guarantees in infrastructure attracting private capital usually relate to the performance risk of public entities that interface with a private project company. Some PIFs are working with partial risk guarantees (for example, IIGF in Indonesia covers state-owned enterprises' payment risk with power purchase agreements) and with partial credit guarantees (IDCOL in Bangladesh and IIFCL in India have had some experiences with first loss guarantees).

- **Compensation Clauses:** A commitment to compensate the private party for damage or loss due to certain events or conditions. An illustration of this kind of scenario is when a government must pay for temporary closure or takeover of asset due to a national security issue.¹⁷ Most infrastructure concession agreements include this type of clause.
- **Termination Payment Commitments:** A commitment to pay an agreed amount should the public party or the private party terminate the contract. The amount may depend on the circumstances of default and/or decision-making process. Most infrastructure concession agreements include this type of clause.
- **Loan Guarantees:** A commitment to repay part or all the debt used to finance a project. The guarantee could cover a specific risk or event. Guarantees are used to provide more security to a lender that their loan will be repaid. For example, the government usually retains an option to take over assets (such as a power plant) in case of default by repaying "debt due" to the financiers.
- **Economic Equilibrium Clauses:** Most of the documented concession contracts between a government and a private party include a clause whereby any relevant change of market conditions, attributable to government action, that affects the economic equilibrium (rate of return) should be compensated. For example, most airport concessions carry this clause, in the event that the contracting authority (usually the civil aviation authority or the ministry of transport) decides to build or to grant a license for a new airport within the concession catchment area. Such an action will affect the economic equilibrium of the original airport.

¹⁷The standard complex definition of a contingent liability is as follows: (a) possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity; or (b) a present obligation that arises from past events but is not recognized because: (i) it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or (ii) the amount of the obligation cannot be measured with sufficient reliability (International Accounting Standards Board 2004, 1531–32, cited in Irwin 2007).

Box 2.2 describes how Chile has dealt with direct and indirect liabilities.

Box 2.2. Fiscal Management in PPPs: The Case of Chile

Chile has been granting road concessions since the 1990s and has dealt extensively with FCCL. Most of the road and airport PPPs contain minimum revenue guarantees that typically ensure that the concessionaire receives revenue with present value equal to about 70 percent of the expected present cost of the project. Some concessions have also included foreign exchange rate guarantees linked to the concessionaire's foreign currency debt. However, these exchange rate guarantees are no longer in force. Typically, minimum revenue and foreign exchange rate guarantees are combined with rules that require the concessionaire to share revenue and exchange-rate gains.

These guarantee mechanisms are not legally tied to the concessionaire's ability to raise financing, but they do play an important role in facilitating financial close. The concession for the El Melón Tunnel in Chile also included a government guarantee related to the construction cost. The construction cost guarantee and the revenue guarantee were called in that project, but the amount of the payments were small compared to the size of the project. The biggest unplanned costs associated with the concessions have come from renegotiations of PPP contracts. A renegotiation may occur because the government wants to increase the scope of work from the original contract or because the project runs into unforeseen problems like sudden cost changes or force majeure events. Compensation can be in the form of financial support or in the form of an extension in the term of the concession. The government also bears risks related to land acquisition. In Chile, the costs of moving unmapped gas pipes, telephone cables, and other utilities under urban roads are shared between the government and the concessionaire. If the government terminates the concession before the agreed date, it must compensate the concessionaire. If the concession ends because of the concessionaire's default, the lenders are reimbursed only from the proceeds of rebidding the concession and not directly by the government.

As the fiscal gatekeeper, Chile's Ministry of Finance uses a spreadsheet model to quantify the fiscal ramifications of the minimum revenue guarantees in an extensive and dynamic manner. The spreadsheet model has three main sections. The first is a model of the provisions of the PPP contracts related to the guarantee. The second section is a stochastic model of traffic revenue. Jointly, the first two sections generate estimates of the probability distributions of the government's future payments and receipts. The third section values the guarantees and revenue sharing mechanism.

Governments should look to develop detailed and dynamic models to evaluate and monitor FCCL, because these are complex and long term in nature, and if left unaddressed may lead to fiscal catastrophe.

Source: Author's experience working in PPP transactions in Chile in the late 1990s and early 2000s for Banco Santander and the Inter-American Development Bank; Irwin and Mokdad 2010, pp. 18–19, 45.

PIFs could be designed as centralized mechanisms to more effectively monitor and manage FCCL risk, and this risk can be ring-fenced away from government fiscal accounts. PIFs can have their own balance sheet and independence governance arrangements, and lie outside the annual budget cycle. To ensure fiscal sustainability, particularly for PIFs that lie outside the annual budget cycle, appropriate fiscal oversight and management structures and procedures need to be developed, in order to avoid the risk of PIFs being used to bypass traditional fiscal oversight. With regards to the eight case studies within this Global Review, three of the PIFs were created by a special law in which their governance structures exempt them from consolidation with the government fiscal accounts, while in the other five cases, the PIFs are consolidated with the government fiscal accounts. Most of the cases in which the PIFs did not consolidate were linked to their initial capitalization, which was done via extra-budgetary resources (privatization proceeds), and in relatively large amounts (US\$1 billion or more). A well-resourced PIF could be designed to manage direct liabilities and be rapidly mobilized in the event that a contingent liability is realized. To manage FCCL, a PIF can be established with design features that:

- Ring-fence budget allocations intended for government support of PPP projects and reduce the likelihood that such funds are diverted elsewhere;
- Reduce FCCL risk by capping liabilities for government support to PPP projects to the value of the capitalization of the PIF;
- Improve capacity to assess FCCL risk in the identification and preparation phases of project development, and monitor and manage FCCL risk during project implementation;
- Facilitate risk management of contingent liabilities by shifting contingent liabilities to a separate entity with its own capital and limited liability to ensure there are no hidden FCCL risks in the

- government accounts, and that the government’s exposure is limited by its equity in the fund;
- Increase the efficiency and targeting of government FCCL to priority projects; and
- Reassure the private sector and the public that government FCCL arising from PPP projects are less likely to have catastrophic consequences, thereby improving the credit enhancement function of government support.

Governments need to consider the cost of setting up a PIF to understand its efficiency as a vehicle to manage FCCL. Assets and/or cash set aside in PIFs, particularly within specific guarantee funds, are not available for other purposes and must be managed in a very conservative manner in order to retain the value of the fund. The government incurs this cost even if the assets or funds are not in fact needed to compensate fund liabilities. The size of assets required to be set aside in such a fund may also be prohibitive in countries with large PPP programs. Instead, governments may consider obtaining contingent, stand-by facilities with trusted lenders to offset some of the need to set aside assets within the PIF. These contingent facilities should still provide confidence that sufficient money will be available without delay to address any liabilities the fund may incur, in particular for calls on guarantees, off-setting some of the capital requirements of the PIF.

To properly manage FCCL, PIFs must be established with appropriate governance and oversight structures. PIFs must be sufficiently independent to enable proper management of the government FCCL, and closely regulated to ensure that the PIF’s project selection processes and criteria are aligned with government priorities and sector strategies. A well-managed PIF should include within its risk management processes a system for evaluating and monitoring the contingent liabilities resulting from their operations. The PIF will need to be staffed by professionals with the skills and expertise needed to assess projects, balance risk allocation and government support, and manage implementation of FCCL, on a project and portfolio basis. This requires access to all project information and resources needed to perform appropriate due diligence. Taking FCCL into consideration, a PIF must be designed with adequate decision-making processes, governance, management, and credit enhancement instruments.

Despite PIFs having the potential to more efficiently manage FCCL, it is relatively common for countries with PIFs and infrastructure PPP programs to have inadequate systems for managing and monitoring FCCL. This weakens the argument that PIFs can be established with the specific objective of more effectively managing FCCL. In all eight case studies within this paper, the sovereign government is the “lender of last resort,” and as a result, none of the PIFs truly ring-fence FCCL risk. In terms of supporting effective management of FCCL, only the PIFs in Canada, Colombia, and Indonesia included well-developed contingent liabilities management systems. The other five PIFs use accounting standards to acknowledge the existence of contingent liabilities; however, these funds do not have a risk valuation methodology that can systematically provide a valuation of their contingent obligations.¹⁸ Most PIFs in developing and less developed countries face important challenges in recruiting the right talent pool to carry out their day-to-day functions of structured and project finance, private capital mobilization, and leveraging of resources. Adding the required talent pool to manage a contingent liabilities system is an extra challenge. It is worth noting that, except for FDN in Colombia and IIGF in Indonesia, the rest of the PIFs in the sample do not have a large offering and exposure to financial products that create contingencies (partial risk and credit guarantees, liquidity lines, and the like). These are products with higher leverage impact than standard products such as senior debt, but that require more robust financial and quantitative skills to prepare and implement. In sum, while PIFs can be designed to manage FCCL risk, in most cases, ultimate responsibility for FCCL cannot easily be divorced from the government and the annual budget cycle. Therefore significant emphasis should be placed on the design of adequate fiscal oversight mechanisms to ensure that PIFs do not encourage or enable the bypassing of traditional fiscal oversight. Without these oversight mechanisms, it can be argued that PIFs do not play a significant additional role in managing FCCL risk.

¹⁸A contingent liability is recorded in the accounting records if the contingency is probable and the amount of the liability can be reasonably estimated. If both of these conditions are not met, the liability may be disclosed in a footnote to the financial statements or not reported at all (from International Accounting Standards Board definition, 2017).

CHAPTER 2C. OVERCOMING FINANCIAL MARKET FAILURES

Financial market failures inhibit the ability of governments to carry out their infrastructure development strategies. Financial market failures that are common in developing countries include a lack of long-term local currency financing due to underdeveloped capital markets; liquidity constraints; relatively high interest rates; poor access to global financial markets; and exchange rate risk due to currency mismatch. Meanwhile, the infrastructure gap keeps widening, as available financing struggles to keep up with infrastructure investment needs. Overcoming these failures to unlock additional financing requires coordinated action by both the public and private sectors. On the public side, governments have established PIFs to mitigate or correct these market failures, and enable the mobilization of private capital to finance infrastructure development.

CAPITAL MARKET DEVELOPMENT TO ALLEVIATE LIQUIDITY CONSTRAINTS

Underdeveloped local capital markets are one of the most common financial market failures hindering long-term finance for infrastructure development. The local banking sector in emerging economies can be unable or unwilling to provide sufficient local financing, on competitive terms, to support infrastructure development. Project finance expertise is often weak, long-term liquidity is low, and the appetite for long-term infrastructure investment at competitive interest rates is lacking. Combined, these market failures contribute to a scarcity of financing for infrastructure investment. The development of local capital markets offers the potential to increase available local liquidity for infrastructure investment, but it requires a number of prerequisites that are often lacking in emerging economies. A sound macroeconomic framework and stable macroeconomic policy is needed to attract private capital, including a clear framework for issuance and debt management. This provides comfort that monetary policy actions can be taken without causing excessive interest rate, inflation, or capital flow volatility. A strong legal and institutional framework, via securities laws and corporate governance reforms, is also required to protect investor rights and ensure that creditors are repaid. Sound macroeconomic policies and a strong legal and institutional framework need to be complemented by well-developed financial infrastructure, including a trading platform and trading system (supported by a regulatory apparatus), to facilitate trading and the exchange of information. This financial infrastructure provides efficiency and security for the listing and trading of securities and ensures high quality flow of information to value the securities. Finally, local capital markets require a critical mass of investors, via pension funds and other institutional investors, to provide market depth and liquidity.

Well-developed capital markets offer multiple benefits to borrowers and investors through better risk sharing and a more efficient allocation of capital. Some of these benefits are directly relevant to the government, including the financing of fiscal deficits through local bond markets and the operation of monetary policy. Additional benefits are directly relevant to infrastructure development and the mobilization of private capital. Local capital markets can improve the availability of long-term financing, allowing for a better match between long-term infrastructure assets and their liabilities. They also allow for financial deepening alongside the development of banking markets, providing healthy competition to bank loans, and improving the efficiency of capital allocation in the economy. Despite these benefits, policy reforms to develop capital markets over the past decades have met with mixed success. Some countries have been able to develop sizeable and liquid local capital markets, while others have seen markets stagnate, despite repeated policy interventions.

PIFs have emerged as potential policy interventions to support the development of local capital markets, primarily through the provision of risk mitigation mechanisms. PIFs can play a role in fostering local capital market development, and increase the availability of local currency financing, through the provision of risk mitigation mechanisms that improve financing terms such as liquidity and tenors. This can help to attract a new segment of investors, generate secondary markets and liquidity, expand the maturities of debt-related instruments, and enable PIFs to increase their leveraging impact. Linking infrastructure assets with institutional investors' demand for long term assets, such as pension funds and insurance companies, to match their liabilities, can ensure adequate financing for infrastructure development in emerging markets. There are several examples of PIFs supporting local capital

market development through the provision of various credit enhancement instruments. For instance, the Tamil Nadu Urban Development Fund (TNUDF) in India played a critical role facilitating the access of smaller municipalities to long-term financing via local capital markets by supporting pool bond issuance. Among the case studies, FDN is creating new instruments to appeal to new investors in local capital markets, and is also playing a role providing credit enhancements to private placements issuance in the Rule 144A investment category in the United States, to attract global investors to Colombia's infrastructure development.¹⁹ Local capital market development is a complex strategic public policy, and one that requires the presence of several factors not necessarily easy to coordinate and execute by governments. As a policy instrument, PIFs are not sufficient alone to generate the conditions for strong local capital markets, but they can play a role by helping to leverage additional resources in support of infrastructure development. Among the PIFs profiled in the case studies, those institutions that have defined local capital market development as one of their objectives and are making significant contributions in this regard include:

- **FDN in Colombia.** FDN provides credit enhancements (liquidity lines) for infrastructure project bond placements; offers equity guarantees; and facilitates international investment funds' access to local infrastructure assets.
- **IIFCL in India.** IIFCL provides partial credit guarantees to enhance the credit rating of infrastructure bonds placement, and has created infrastructure mutual funds, managed by IIFCL Asset Management Company, promoting the development of secondary trading and liquidity of the infrastructure asset class.
- **IIGF in Indonesia.** IIGF provides partial risk guarantees covering the political and regulatory risk of contracting agencies (state-owned enterprises and public sector agencies) in infrastructure PPP transactions. IIGF has also recently begun to explore the use of its partial risk guarantees to support project bond issuances in the local capital markets.

Finally, the development of deep, efficient local capital markets helps to create access to long-term, local currency finance, protects economies from capital flow volatility, and reduces dependency on foreign debt. This leads to another common financial and market failure—exchange rate risk—which will be explored in the next section.

EXCHANGE RATE RISK

The lack of depth (long tenor instruments at adequate interest rates) in local currency debt financing is a critical issue in many emerging economies because its absence often creates exchange rate risk. There are two types of exchange rate risk in infrastructure PPPs—those that are project related and those that are financing related. Project related exchange rate risk occurs when the value of a project's inputs depends on a tradable commodity, such as fuel for a thermal electricity generator. Financing-related exchange rate risk occurs when loans require repayment in foreign currency but the project generates local currency revenue. Most economic infrastructure (power, water and sanitation, road transport, urban transport, solid waste management, irrigation, and so on) requires a long-term contract to generate financial returns that can repay the debt service, and later dividends to equity holders. A lack of access to local currency long tenor financing can force developers to turn instead to international hard currency financing, creating the financing-related exchange rate risk. In 1999 economists Barry Eichengreen and Ricardo Hausmann dubbed developing countries' inability to borrow abroad in their local currency the "original sin" of emerging markets. This original sin creates a common financing challenge given that the majority of economic and social infrastructure generates local currency, except for export-oriented sub-sectors such as ports and airports, and infrastructure related to mining and natural resources.

¹⁹Rule 144 is a regulation enforced by the U.S. Securities and Exchange Commission (SEC) that sets the conditions under which restricted, unregistered, and control securities can be sold or resold. The Rule 144A amendment provides a safe harbor from the registration requirements of the Securities Act of 1933 for certain private resales of restricted securities to qualified institutional buyers.

Allocating exchange rate risk in infrastructure PPPs is typically not straightforward in emerging economies. In PPPs, an optimal risk allocation typically means allocating each risk to the party best positioned to manage or control that risk at the lowest cost. Exchange rate risk is particularly challenging because neither the government nor the private sector has complete control over the exchange rate. Although a central bank may have some control over the exchange through monetary policies, the government's effective control is limited. Private sector developers and investors also have no control over exchange rate risk and will therefore price the risk into their rates/tariffs if they are forced to accept it, or try to manage the risk through hedging and swaps (if available). Lenders will typically not accept any significant exchange rate risk. The implications for projects that generate local currency but have debt service payments expressed in hard currency, are that projects may be able to raise less financing, with shorter terms and higher initial rates (which may be unaffordable), or that traditional project finance deals with U.S. dollar-denominated debt may be less feasible, leading to demand for local currency debt and local and foreign equity (if available) and therefore higher initial rates of return and higher project pricing. To mitigate exchange rate risk and its implications, and unlock additional financing for infrastructure development, PIFs could be used as policy instruments by governments.

PIFs can play various roles in mitigating exchange rate risk, including the provision of local and international financing. The easiest form of support PIFs can provide to transactions to mitigate exchange rate risk is the provision of debt financing. For smaller projects, it may be possible for a PIF to provide local currency debt to be repaid by the project's local currency revenues. For larger projects, international hard currency financing will likely be required. This is particularly prevalent with energy generation transactions, where financing is provided to independent power producers (IPPs) and consumers pay electricity tariffs in local currency. Among this paper's case studies, Bangladesh's IDCOL and Ghana's GIIF currently provide U.S. dollar-denominated financing to IPPs. This is a rather risk-prone action that would require having a contingent liability strategy in place, given that repayment of the debt relies on state-owned energy companies backstopped by the government. In Bangladesh, for example, the state-owned power utility (BPDB) is currently loss-making, and in the event of systemic risk in Bangladesh, there is a contingent risk that debt could not be serviced in hard currency. There are several examples, including East Asia in 1997, Brazil in 1999, and Argentina in 2002, where the exchange rate risk situation was unsustainable, leading to currency crises that led to inflation and slower economic growth.

To increase leverage, it may be preferable for PIFs to use credit enhancements and other instruments to unlock local currency financing. Another option for PIFs to help unlock available local currency financing is to mitigate the exchange rate risk through the use of credit enhancements and other instruments. This is relevant to the discussion of the development of local capital markets above. Credit enhancements such as well-structured partial credit or risk guarantees play an important role in mobilizing additional private capital. These enhancements improve the credit profile of a structured finance transaction through association with an investment grade entity (a PIF) that usually maintains a sovereign credit rating due to its close relationship with the government (through ownership and as lender of last resort). This allows PIFs to match the risk profile of institutional investors that would not otherwise consider investing in an individual infrastructure project, and this local capital helps to alleviate the currency mismatch that creates exchange rate risk. For example, partial credit guarantees could be used to enhance the creditworthiness of later debt service payments in a commercial bank loan transaction. The PIF could provide lenders with a debt service payment guarantee for the later years in a long-term financing. Therefore, if commercial banks in a given market are comfortable with taking a seven-year risk in an infrastructure project, but the project needs a maturity of 12 years, the PIF could design a rolling guarantee to cover debt service payments from year eight to year 12. Local currency financing would then be available for 12 years, avoiding the risk of accessing hard currency financing.

Finally, it should be noted that PIFs are commercial institutions operating in financial markets where stakeholders (lenders, investors, project sponsors, contracting agencies, and rating agencies) are accustomed to market dynamics. PIFs should therefore help to overcome market failures but should not subsidize infrastructure investments and deliberately take on or support non-commercial

projects. For these types of projects, governments can provide support via earmarked subsidies, for example, to enable project sustainability, and develop other policies to address long-term market failures to enable implementation of the country's infrastructure development strategy.

CHAPTER 2D. OVERCOMING GOVERNMENT FAILURES

Successful infrastructure development requires the identification, preparation and implementation of infrastructure projects that enable the government to meet national development objectives. Infrastructure planning requires a coordinated, whole-of-government approach to prioritize and budget for the right projects to meet infrastructure needs in a fiscally sustainable manner. Executing an infrastructure development strategy is usually dependent on inputs from multiple line ministries with sectoral responsibilities. Their sector needs far exceed the public resources available to finance the infrastructure development strategy. The process of prioritizing projects is therefore beset by competition between line ministries and subject to political interference. Moving responsibility to a single entity, such as a PIF, to analyze and prioritize projects based on development impact and financial feasibility can help governments to ensure the delivery of a coherent infrastructure development strategy. A PIF can cut across different sectors and is not bound or limited by line ministry budgets or institutional capacities. In addition, infrastructure projects are often complex, and preparation can be time-consuming and resource-intensive. Structuring these infrastructure projects as PPPs often adds further complexity. Line ministries are often inexperienced in the identification, development, and implementation of infrastructure and PPP projects. Centralizing capacity within a PIF can help to capture and maintain sufficient capacity to enable the successful delivery of these projects. In some of the country cases, such as Colombia, Ghana, India, Bangladesh, and Indonesia, these PIFs also cultivate relationships with international investors interested in public infrastructure as an entry point into the country's financing options.

INFRASTRUCTURE PLANNING PROCESSES

Infrastructure projects are complex and challenging to prepare, but well-prepared projects are critical to a successful infrastructure development strategy. The strategic use of scarce public resources is critical to improve the efficiency of public infrastructure spending and support, and to ensure PPPs and private investments are implemented based on global best practices and provide value for money. Better project preparation before financing will have a positive impact on projects' overall financing costs and the time needed to execute an infrastructure project, but it is time-consuming and resource-intensive. In a recent article in *Project Syndicate* magazine entitled "The PPP Concerto," Ricardo Hausmann (2018) illustrates the challenges of procuring infrastructure services via public or private procurement options. For example, project preparation to develop a 50-kilometer toll road could easily take five to seven years before the toll road services are offered to end-users. Preparation of the feasibility studies, technical engineering, documentation of the rights of way, environmental assessments, financial completion, and other regulatory permits and licenses could take that long to execute. This is an estimate, provided no additional delays arise due, for example, to resettlement concerns and/or geological challenges in the construction of tunnels and bridges.²⁰ There is no single method for infrastructure planning, but Box 2.3 below summarizes the key steps that should be followed.

²⁰The Rosario-Victoria Bridge in Argentina is a 59.4-kilometer road link between the two cities. It is comprised of several bridges, viaducts, and earth-filled sections between several islands in the Parana River. Construction works were partially at a standstill for two years due to the need to find a new habitat for a local bird that lived in some of the islands. Project preparation and development was initiated in 1993; construction was initiated in 1997; and the toll bridge was open to public in May 2003. (IDB, Private Sector Department, 2003).

Box 2.3. Project Preparation from the Perspective of a Public Infrastructure Fund

Project preparation for infrastructure projects, also known as pre-investment activities, includes a very broad definition of studies, technical analysis, and activities. Depending on the sector, type of project, environmental challenges, and other preconditions, project preparation can take several years and consume a great amount of cash resources. Good project preparation is an essential activity to develop a healthy project pipeline for a PIF. It is also a requirement to be able to reduce overall financing costs and the time needed for project execution. In the context of developing countries, this Global Review uses the following definitions to describe the project preparation activities (categories) that should be completed (by project sponsors, third parties, contracting agencies, or the PIF) before financial closing:

1. Project analysis and feasibility studies (from ideas to financeable projects). Developing countries have significant infrastructure needs. There are plenty of good project “ideas” that need execution. Unfortunately, the number of ideas that could become financeable projects is a much smaller subset. Most of the time, important variables such as end-user charges, availability payments, technology costs, or environmental liabilities are not well known, making the debt service payment capacity of the particular project very uncertain. The more resources a PIF can allocate in trying to analyze these variables and their range of fluctuations, the sooner it will be able to determine whether the “idea” or “project” is financeable. Some early questions that should be asked of each project to support the prioritization process are: strategic importance, preliminary feasibility (economic and financial), estimated fiscal impact, and project complexity and preparedness.

2. Technical studies (how much investment does the project need?). These are all the engineering and similar technical analyses that will help determine the project’s investment needs, operating costs, and maintenance requirements. Technical audits such as energy potential in the case of renewable sources like wind or solar are part of these studies. Depending on the type of infrastructure sector or project, the technical studies could take longer and demand large amounts of pre-investment funding. The technical studies for the development of a 250-MW hydro plant will require much more funding and longer development periods than the technical studies for the development of a 1,000-ton landfill for solid waste management, or a 10,000-passengers-a-day bus terminal.

3. Economic regulation and access rights (what is the legal framework supporting the investments?). Understanding the economic regulation parameters (license fees, end-user charges, availability payments, off-contract fees, and so on) that will define the project’s future cash flows and its ability to service debt payments is essential to determine project debt capacities. Along the same lines, certain infrastructure projects in sectors such as road transport or seaports and airports require securing access to the rights of way and/or land to develop the infrastructure. Understanding how the rights of way or long-term land access will be achieved, how much it will cost, and the risks surrounding such actions (including expropriation) will improve the predictability of cash flows and execution time for these requirements. This category includes any other legal requirements and constraints that could affect the generation of future cash flows.

4. Environmental assessment (sizing the amount of environmental liabilities and/or concerns). Environmental considerations are key variables in the determination of infrastructure projects’ viability and financial returns. This is particularly relevant in sectors with higher environmental sensitivities such as hydro energy (resettlement issues), renewable energy (landscaping), airports (noise levels), and solid waste management systems (CO₂ emissions). Understanding the potential environmental liabilities of a given project and the cost of mitigating them before project execution will also improve cash flow predictability and project execution time.

5. Financial structuring of the transaction (how much debt, equity, and credit enhancement will make sense for the project?). This aspect of project preparation should fall under the responsibility of the PIF. Organizing the data and information of the previous four categories in a comprehensive business plan for the infrastructure project will improve understanding of the likely behavior of cash flows and debt repayment capacities. A comprehensive business plan will help define equity contributions that will make the project financially robust, as well as the size and structure of the required credit enhancements (if any). Financial structuring of the project will provide the best estimation of the cost of the debt and will determine the potential participation of lenders and investors (banks and/or capital markets). This category also includes the need to seek credit ratings for the transaction, particularly if capital markets are a funding option under consideration.

In the case of infrastructure PPPs, in addition to these project preparation activities, further preparation related to the public bidding of the project must be included. These activities are sensitive and time-consuming. Intense preparation is needed to develop bidding conditions, documents, and requirements related to the award of the project (concession or similar). These types of activities are usually the responsibility of the contracting agency.

Source: Author’s analysis based on PPPs’ experience and the case studies.

LEGAL FRAMEWORK FOR INFRASTRUCTURE PLANNING AND PREPARATION

The legal framework guiding public investment management processes varies from country to country, but is typically coordinated through a centralized ministry as part of the annual budget process. Sustainably expanding and improving a country's infrastructure stock requires efficient use of public financing, as well as the leveraging of private sector financing. A systematized infrastructure planning process is required to prioritize these infrastructure investments (both capital and recurrent expenditures), select appropriate structures and financing sources to enhance the efficiency of infrastructure development, and manage fiscal commitments. Public financing is typically regulated by a country's public financial management and budget laws, which define the budgetary system. Under this system, the Ministry of Finance (or similar ministry, such as a Ministry of Planning) plays a centralized role in determining budgetary support to infrastructure investments on an annual basis, with line ministries competing for budget allocations for their sector priorities. Sometimes this process includes multi-year forecasting and ring-fencing, which is important for recurrent contractual payment obligations arising from long-term infrastructure PPPs.

To strengthen infrastructure planning, and to support the efficient prioritization of infrastructure investment needs, many countries have developed a public investment management (PIM) process. While the budget process is able to prioritize projects based on an assessment of a country's budget space, it is not necessarily the most effective process to prioritize projects based on a more strategic assessment of a country's development priorities and infrastructure investment needs. To provide processes and controls (linked at appropriate stages to broader budget processes) designed to yield maximum efficiency in public investment decisions across infrastructure sectors, some countries have developed a PIM framework, with supporting legislation. The PIM framework typically incorporates several strategic planning and pre-investment phases to determine the most effective use of scarce public resources, and in the context of a PPP program, identify suitable projects that may be able to attract private finance. The PIM framework should be aligned with any applicable PPP framework to ensure that processes and institutional roles and responsibilities are clear.

Establishing a PIF can move priority infrastructure projects outside of this legal framework. Centralizing the implementation of priority infrastructure PPP projects is often an objective of governments looking to move these projects outside of the legal framework and associated budget processes. While this can improve the efficiency of infrastructure prioritization, it is important that a PIF's project prioritization and implementation processes are aligned with government development objectives and are not an attempt to circumvent fiscal constraints. As noted in Chapter 2, PIFs can be designed to ring-fence and manage fiscal risk, not hide it.

RESPONSIBILITY FOR PROJECT PREPARATION

The preparation of infrastructure projects, particularly PPP projects, is complex and resource-intensive. Individual line ministries typically struggle to develop sufficient in-house capacity to prepare and implement these projects. As the owner of infrastructure projects, line ministries typically take primary responsibility for the identification, preparation, and implementation of projects, and most line ministries have sufficient experience and capacity to manage these processes for public-procured infrastructure projects. However, the preparation of PPP projects is significantly different, and requires specific PPP expertise that is typically not available in line ministries. Building capacity within line ministries takes time, and requires practical, hands-on experience. This creates a chicken and egg challenge, where there is insufficient capacity to identify potential PPP projects, which means projects do not proceed through the PPP process, and practical capacity cannot be organically built. The complexity of preparing PPP projects was described by the Governor of the Central Bank of Nigeria in the context of a PPP Stakeholder Forum in July 2012: "In general, building infrastructure is a capital-intensive process involving large initial costs, low operating costs and long-term finance given the gestation period of projects. Furthermore, PPP projects are often characterized by non-recourse or limited recourse

financing i.e. lenders can only be repaid from the revenues generated by the projects. This results in greater market and commercial risks for the lender, who must be prepared for a longer horizon of debt repayment. The non-recourse nature, unique risks, and complexity of arrangements also call for special appraisal skills.”²¹

To respond to these project preparation challenges, a PIF can be given centralized responsibility to prioritize and prepare projects, as well as fund the projects’ preparation costs. Across the eight case studies, governments included the need to develop strong centralized capacity to provide technical assistance to contracting agencies responsible for infrastructure development as a core objective of establishing a PIF. This responsibility, which includes the provision of capacity building to line ministries, has been an important element of the PIFs in Colombia, India, and Indonesia. Centralizing the preparation of infrastructure projects within a PIF can provide two specific advantages. PIFs are usually situated outside of the civil service, which gives PIFs more flexibility in building and maintaining in-house teams with the skills and expertise to deliver projects. This can enable PIFs to develop much stronger capacity than is possible within line ministries. In addition, PIFs can also be given responsibility for funding the project preparation costs associated with infrastructure projects. With few exceptions, infrastructure projects will require lots of third-party technical assistance preparation. A constant weakness in many countries is the lack of availability of funding for project preparation, which can lead to poorly selected and poorly prepared projects. This issue is even more acute for PPPs, given their complexities. Hiring these third-party contractors usually involves significant sums of money that, although a small percentage of the total investment, are not easily payable by governments. PIFs can therefore be designed and appropriately staffed to support fund-raising for project preparation. The case of IIPSA in South Africa is notable in this regard. Given the huge needs for project preparation in its market (subnational entities in Southern Africa), the fund ended up mutating from an infrastructure investment fund into a project preparation fund.

Finally, it should be noted that PIFs are not a silver bullet for project preparation. PIFs operate in the public domain, and are state-owned institutions subject to the challenges and risks of their governments. Despite the best legal and institutional framework utilized to create these types of institutions, PIFs can be captured by prevailing political powers. Political interference can limit PIFs’ capacities to fulfill their objectives and compromise their independence and ability to prioritize and implement good infrastructure projects. Latin America’s PIFs faced these types of challenges in the 1980s and 1990s. The development of strong, robust, and independent governance and risk management practices is important for the success of a PIF and its financial performance. These policies, procedures, and systems should, to the extent possible, resemble “best practice” global standards in order to ensure strong corporate governance.

²¹Sanusi Lamedo Sanusi, Central Bank of Nigeria, ICRC, PPP Stakeholder Forum, July 18, 2012.

Chapter 3. Key Design Features and Success Factors Driving PIF Performance

Taking into account the major objectives for the establishment of PIFs laid out in the chapters above, the following chapter seeks to identify key design features and success factors within the case studies that have enabled the PIFs to meet these objectives and support infrastructure development in their host countries. Despite the mostly successful experiences of the PIFs analyzed in this paper, performance challenges remain that inhibit the ability of PIFs to mobilize larger amounts of financing for infrastructure development. Governments have a direct role in the development of public sector policies that can address some of the challenges that negatively impact PIF performance. This chapter identifies key design features and success factors that drive the performance of PIFs, with the intention of helping governments to think through how to develop and implement successful PIFs. The discussion is organized around four success factors: transparent and autonomous governance; capitalization and funding strategy; suitability of products offered; and project preparation and expertise.

CHAPTER 3A. TRANSPARENT, AUTONOMOUS GOVERNANCE

A PIF's institutional design, financial autonomy, and decision-making authority will define the institution's performance and its impact on infrastructure development. A review of the eight case studies within this Global Review has identified three critical elements regarding transparent, autonomous governance that should be considered when creating a PIF.

1) INSTITUTIONAL INDEPENDENCE.

A PIF is a government-owned institution. Striking the right balance between how much government representation the institution needs, and how to preserve its independence in its laws and bylaws, is, in practical terms, not easy. The PIF should be closely linked with government decision-making and should have excellent relationships with the Ministry of Finance, given the importance of project prioritization, capitalization and funding issues. The PIF should also have strong relationships with contracting agencies (line ministries, public sector agencies, subnational governments) as its first-tier clients. However, the PIF should not be under the control of government agencies. A PIF should preserve its independence when selecting projects and allocating resources. The risk of political interference in resource allocation, including mobilization of private capital, should be mitigated by a legal and institutional structure that preserves the PIF's independence.

Striking the balance between government ownership and independence is delicate. However, a few arrangements can be implemented that can ease potential conflicts:

- **Create the PIF via a Special Public Law.** It is always easier to “build” within a new law than to adapt an existing public sector institution with its own set of laws. The institutional definition of the PIF should be in line with a non-bank financial institution.
- **The institutional Design Should Resemble a Private Corporation Under State Ownership.** Depending on the country, it is often possible to create a corporation under a new special law that will be regulated and governed by both the special law and the prevailing body of private corporate law. The presence of both legal instruments will allow for more options and flexibility to design the institution. In this case, a decentralized business model supported by a corporate institution tends to be able to better balance between government ownership and linkage to the decision-making and independence.
- **The PIF Should Have the Ability to Incorporate Other Types of Shareholders After Creation.** Opening the ownership structure of a PIF to other shareholders, including development finance institutions and private sector institutions, has positive consequences for the governance of the institution.
- **The PIF's Bylaws Should Provide Sufficient Mitigation Against the Risk of Political Interference.** The bylaws should allow for the transparent appointment of the chief executive officer (CEO); the appointment of the members of the Board of Directors; and the establishment of an advisory board different that the Board of Directors and others could help strengthen the PIF's independence. The more the bylaws can include market-based criteria for the appointment of the PIF governing bodies, the stronger the independence of the PIF and the lesser the risk of political appointees with their own agendas. The PIF will be a state-owned institution and will probably have robust government representation. Most likely, as in many of the case studies, the chairmanship will fall to the Minister of Finance.²² However, the special law can incorporate independent board members (from the private sector, academia, and other constituencies) in a number similar to or greater than members from the public sector.

²²The authors are merely stating the fact that in the eight case studies, the chairmanship fell under the Minister of Finance. The chairmanship of a PIF could fall under the best possible candidate that shareholders wish to appoint.

2) FINANCIAL AUTONOMY.

It is very difficult to conceive “real” independence without financial autonomy. The two are closely linked. If a PIF depends on public sector budget support for its funding strategy, its “financial autonomy” will be dependent on the annual budget exercise under the control of the Ministry of Finance. Financial autonomy is one of the key determinants of the governance of the PIF. It is closely related to the aspects of capitalization and funding strategies to be described in the next section.

Participation by development finance institutions (DFIs). PIFs where DFIs are part of the ownership structure and/or debt structure, or have been very involved in the creation of the institution, typically have better governance structures (management information systems and risk management procedures; credit risk analysis and policies; and senior management). Colombia’s FDN has two DFIs (CAF and IFC)²³ and one private international bank (Mitsui Bank) in its ownership structure and has the best governance structure of any of the PIFs sampled. The World Bank has supported Indonesia’s IIGF via long-term debt and technical assistance since its creation. IIGF has developed robust risk management systems, credit and project analysis, management information systems and a good management team. There are other PIFs, not included in the case studies, where DFIs and private international banks have participation in the ownership, such as Indonesia Infrastructure Finance (IIF) (IFC, Asian Development Bank, KfW, and Mitsui Bank) and the Philippines Investment Alliance for Infrastructure (PINAI) (Macquarie Infrastructure Management).

Support from DFIs helps to improve governance and mitigate the risk of political interference. DFIs, by definition, are in the same business as PIFs: infrastructure development and improving private capital mobilization. DFIs understand market failures and the need for developing economies to overcome them, and are outstanding partners to help develop local capital markets, reducing the potential for foreign exchange risk. Participation of DFIs in a PIF (via equity, debt and/or technical assistance) can help improve various governance issues:

- **Credibility and International Recognition.** For a DFI to participate in the equity ownership of a PIF and/or provide a long-term loan, it generally conducts a full due diligence of the institution. The DFI can be involved with the PIF for one to two years before it reaches a decision to participate. The PIF will benefit from this due diligence, improving its own procedures and standards. These actions, and the eventual positive participation of the DFIs in the equity and/or debt structure, will improve the PIF’s credibility and international recognition. This credibility could be a very important asset among foreign investors with an interest in the host developing economy.
- **Independent Criteria.** Institutional independence is strengthened by the presence of DFIs in the PIF’s equity structure. A DFI with a presence in the equity structure will most likely have a board representative (subject to representation and liability concerns). The shareholders’ agreement, as a complement to the special law creating the PIF and the bylaws, is another document that can substantially mitigate the risk of political interference. Issues such as representation, composition of the governing bodies, or exit strategies for the DFIs are governed by the shareholders’ agreement. In the case of FDN in Colombia, the shareholders’ agreement between the Ministry of Finance and IFC, CAF, and Mitsui Bank helps establish a healthy decision-making environment for relevant issues in the future performance of the institution.
- **Access to Technical Assistance and Best Practice.** To improve performance and governance, PIFs need substantial investments in the development of management

²³CAF is the Development Bank of Latin America. IFC is International Finance Corporation, the World Bank’s private sector arm.

information systems, risk management practices, Treasury operations, fiscal management, and the like. Partnering with DFIs improves the chances of accessing best management practices for infrastructure funds as well as the eventual provision of grant financing via technical assistance to improve performance issues.

- **Procurement Procedures.** Some developing economies have procurement procedures that are heavy and cumbersome, impeding PIFs' swift response capacities. DFI involvement can enable PIFs to use the DFIs' procurement procedures. In the case of the Albanian Development Fund (ADF), created in 1993 through a special law as a social investment fund to support poverty alleviation and sponsored by the World Bank, the institution receives several loans from DFIs for rural and urban infrastructure development, and utilizes the DFIs' procurement procedures. The ADF has disbursed close to US\$1 billion since inception, something that no other Albanian public institution has achieved in such a period. ADF has performed well as a procurement fund to channel DFI and donor funding.

3) PROCUREMENT PROCESS.

The establishment of adequate procurement procedures is critical to the governance of a PIF (irrespective of whether the PIF enjoys support from DFIs or not). Procurement processes need to balance the need for transparency and supervision with the response capacities of an institution. Some developing economies do not have a well-developed public procurement process, and the risk of non-performance due to procurement constraints is relatively high. Successful PIFs need to be able to balance their state-owned nature with commercial responsiveness. Experience shows that there are some arrangements that can be implemented to help strike this balance:

- **Special Law.** Depending on the jurisdiction/country, it might be possible to embed within the special law for creating the PIF an independent procurement process. Such an independent procurement process could mirror international best practices.
- **Non-State Ownership.** Some countries have legislation stating that once a given percentage of non-state ownership is reached, the PIF does not have to adhere to public sector procurement procedures. In the case of FDN, Colombia's level is currently 10 percent.
- **Flexibility.** To enable timely deployment of instruments, governance arrangements need to enable PIFs to operate in an agile manner to meet infrastructure finance challenges. Ideally, PIFs should operate under a flexible procurement system (contracting services, syndicating a bank loan operation, undertaking short-term investments, and so on) and should not be bound by standard public sector procurement arrangements that may hamper the ability of the institution to react swiftly to market demands. This flexibility needs to be balanced with transparency and integrity in the institutional design of the PIF.

Table 3.1 below compares the PIFs in the case studies per five key elements of their governance structure: ownership, initial capitalization, financial autonomy, procurement process, and board and management structure. In all the eight cases, the government—explicitly or implicitly—acts as the “lender of last resort.” In all the eight cases, the institutions are considered, for regulatory purposes, as non-bank financial institutions.

Table 3.1. Governance at a Glance, PIFs (Case Studies), Comparative Analysis**Ownership**

FFIR (Argentina)	100% owned by the Ministry of Interior.
FDN (Colombia)	73% owned by the Ministry of Finance, and 27% owned by IFC, CAF and Sumitomo Bank. It is a decentralized institution.
GIIF (Ghana)	100% owned by the Ministry of Finance.
IIPSA/DBSA (SA)	IIPSA is an EU-funded trust managed by DBSA to support infrastructure development. DBSA is 100% owned by the Treasury Department of the South African government.
IIFCL (India)	100% owned by the Ministry of Finance.
IDCOL (Bangladesh)	100% owned by the Ministry of Finance.
IIGF (Indonesia)	100% owned by the Ministry of Finance.
CIB (Canada)	100% owned by the Government of Canada through the Ministry of Infrastructure and Communities. CID has been established as a Crown Corporation with its own corporate governance. It is a decentralized institution.

Financial Autonomy

FFIR (Argentina)	Relatively high degree of financial autonomy. Non-dependent on public budget support.
FDN (Colombia)	High degree of financial autonomy. Non-dependent of public budget support.
GIIF (Ghana)	Very limited financial autonomy. Initial dependence on public budget support, but new government in 2017 changed GIIF status to that of a self-funded institution. Working currently on a new funding strategy.
IIPSA/DBSA (SA)	DBSA has a high degree of financial autonomy. Non-dependent on public budget support.
IIFCL (India)	Dependent on public budget support but with a degree of financial autonomy. It is the largest PIF in the sample (balance sheet of US\$6 billion in 2017).
IDCOL (Bangladesh)	Dependent on public budget support as a “pass through” institution of DFI loans.
IIGF (Indonesia)	Dependent on public budget support. Relatively low degree of financial autonomy. Plans to improve financial autonomy via generation of revenues and improved risk management systems.
CIB (Canada)	High degree of financial autonomy.

Procurement Process

FFIR (Argentina)	Partial adherence to public sector procurement. Independent staff not subject to civil-servant career process. Salaries between market and public sector.
FDN (Colombia)	DFI procurement process and own procurement process. Independent staff not subject to civil -servant career process. Market salaries.
GIIF (Ghana)	Public sector procurement rules.
IIPSA/DBSA (SA)	IIPSA follows EU procurement rules. DBSA follows its own corporate procurement rules.
IIFCL (India)	Public procurement process. Staff are considered public sector employees and subject to the rules and procedures of the public sector.
IDCOL (Bangladesh)	Public procurement process. Staff are considered public sector employees and subject to the rules and procedures of the public sector.
IIGF (Indonesia)	Public procurement process. Staff are considered public sector employees and subject to the rules and procedures of the public sector.
CIB (Canada)	Corporate procurement process (crown corporation)

Board and Management Structure

FFIR (Argentina)	Presence of independent board members. Chairman is the Secretary of Provinces (Ministry of Interior). Board appoints CEO.
FDN (Colombia)	Board members appointed by each shareholder. Presence of independent board members. Chairman is the Minister of Finance. Board appoints CEO. Presence of an advisory board. Shareholders agreement governs relationship among partners.
GIIF (Ghana)	Chairman is the Minister of Finance. Board members and CEO appointed by the Ministry of Finance. No presence of independent board members. No presence of an advisory board.
IIPSA/DBSA (SA)	IIPSA's Secretariat and program is managed by DBSA. DBSA has an independent chairman, and independent board members appointed by the Treasury Department.
IIFCL (India)	The Office of the Prime Minister appoints the CEO. The Minister of Finance is the chairman. Board members are appointed by the Ministry of Finance. No presence of independent board members.
IDCOL (Bangladesh)	Minister of Finance is the chairman. Ministry of Finance appoints board members. Board appoints CEO (with clearance from the Minister of Finance). No presence of independent board members.
IIGF (Indonesia)	Minister of Finance is the chairman. Ministry of Finance appoints board members. Board appoints CEO (with clearance from the Minister of Finance). No presence of independent board members.
CIB (Canada)	Government of Canada has appointed an independent chairman (ex-Royal Bank of Canada), and an independent CEO (ex-Canada Pension Plan). The board is composed of independent board members.

CHAPTER 3B. CAPITALIZATION AND FUNDING STRATEGY

A fund without clear capitalization and a clear funding strategy is a “fund with no funds,” and would not be able to meet any of a PIF’s objectives. Although financial autonomy, as laid out in the section above, is critical to mitigate political interference and promote strong corporate governance, PIFs rely on an initial capitalization that is often allocated from the public budget. Ideally, PIFs should be created and structured so that initial public budget support is a one-off event, and not a recurrent budget allocation. This should help to minimize political interference, and avoid a mismatch between the long-term nature of PIFs and the short-term nature of governments and politicians.

Determining the amount of the first capitalization of the PIF is a key decision that significantly impacts PIF performance. The structure and size of the institution will define its initial balance sheet, the range of products it can offer, the size of the investments it can make, and the exposure per project, among other key financial parameters. To the extent possible, the size of the fund should match estimates of the initial pipeline to enable rapid deployment of capital. However, the eventual size can be influenced by the origin of the financial resources for the capitalization. These resources could come directly from the annual budget process or from a one-off extra-budgetary source. When the initial capitalization comes from current budget resources, it tends to be a smaller amount, due to the competition for recurrent, annual budgetary resources.

In the PIFs analyzed in this paper, the case studies where the initial capitalization was larger were institutions funded via extraordinary budget items (funds not included in the public sector budget). These were the cases of FDN in Colombia, FFFIR in Argentina, and to a certain extent, GIIF in Ghana.

- FDN was initially capitalized via the proceeds of the sale (privatization) of electricity generation assets (ISAGEN), in an amount equivalent to US\$2 billion. The Ministry of Finance at the time (2016) decided to inject the proceeds of the privatization into FDN as a vehicle to promote infrastructure development, instead of leaving them in the public budget. By the standards of the Colombian financial markets, this was a large initial capitalization.
- FFFIR was initially capitalized via the proceeds of the sale (privatization) of the mortgage bank (Banco Hipotecario Nacional, BHN) in an amount equivalent to US\$448 million. Like FDN, the Ministry of Finance at the time (1997) thought it was a better idea to direct the privatization resources toward the development of subnational infrastructure.
- GIIF was initially funded in 2016 via the proceeds of a sovereign euro bond issuance of US\$250 million. GIIF was funded by the public sector via additional debt resources. In terms of initial capitalization funding strategies, cases like FDN and FFFIR behave more like a public sector asset manager (or sovereign wealth fund), optimizing the value of their assets.

In the other case studies analyzed, initial capitalization came via budgetary or donor allocation. IIPSA in South Africa was funded via donors (the European Union). CIB in Canada, IIFCL in India, and IIGF in Indonesia were funded via annual contributions from the public sector budgets. In these three cases, Canada (a developed country) and India and Indonesia (high-middle-income countries) had the fiscal space to fund their PIFs. IDCOL in Bangladesh had an initial limited capitalization of US\$4 million from the government. It has been used by the Government of Bangladesh as the conduit for further donor funding aimed at local infrastructure development. A summary of the initial capitalization of all the case study PIFs is included in the table below.

Table 3.2. Initial Capitalization (Case Studies)

FFIR (Argentina)	Large capitalization with privatization proceeds from the sale of the national mortgage bank.
FDN (Colombia)	Large capitalization with privatization proceeds from the sale of generation assets (ISAGEN).
GIIF (Ghana)	Initial capitalization of US\$250 million. Not very large compared with market infrastructure investment demands.
IIPSA/DBSA (SA)	€100 million ear-marked for infrastructure development. DBSA is a decentralized institution.
IIFCL (India)	Large capitalization with a clear funding strategy based on public budget support and DFI financing. Some market financing.
IDCOL (Bangladesh)	The institution has a weak capitalization structure. It was originally conceptualized as a mechanism to “procure” DFI lending into infrastructure development. It is the highest leveraged PIF—equity leverage—in the sample (14:1 assets to equity base).
IIGF (Indonesia)	Large initial and subsequent capitalization by the Ministry of Finance.
CIB (Canada)	Large initial capitalization from public budget (US\$28 billion equivalent).

A PIF’s initial capitalization is key to a PIF’s ability to support infrastructure development. A relatively large initial capitalization is important when creating a PIF and signals the government’s commitment to the institution. The two institutions that stood out from the rest of the case studies in terms of balance sheet strength, capacity to lend (relative to their size), and financial autonomy were FDN in Colombia and FFFIR in Argentina. Both FDN and FFFIR were capitalized with extraordinary revenues originating via the privatization of public sector assets. In the case of FFFIR, an initial capitalization of US\$448 million via the proceeds of the sale of shares from Banco Hipotecario Nacional (BHN) has financed approximately US\$2 billion in subnational infrastructure in the past 20 years. FDN, a younger institution created in 2011, has a balance sheet of US\$2.4 billion in assets as of December 31, 2017, with strong lending capacity. FDN was capitalized with the proceeds of the sale of ISAGEN (public-sector power generation assets). The ability to use extraordinary revenues outside the public sector budget (through the sale or lease of public sector assets, or windfall profits from natural resource exploitation, for example), provides a significant advantage to governments to capitalize a PIF. The use of extraordinary revenues has, in most countries, a certain level of discretion by governments. It also avoids the internal competition within different public sector entities that depend on an allocation through the public-sector budget. Finally, because it takes time (two to five years, on average, in the case studies) to initiate disbursement after initial capitalization (project preparation, credit analysis, financial completion, and works execution), the PIF will also generate additional Treasury income during this period. This additional income will help strengthen the balance sheet. An institution with balance sheet strength and adequate capitalization is likely to attract better investors as potential partners in the equity structure (from DFIs to international financial institutions).

The link between an initial capitalization of a PIF and its subsequent success creates a challenge for low income countries with limited ability to allocate annual budget, extraordinary revenues, or the proceeds of saleable assets to the PIF. This is particularly the case in less developed countries, where creating the fiscal space for a relatively large capitalization is even less achievable. Having a multi-year smaller capitalization commitment for a PIF is possible, but this arrangement limits its financial autonomy and independence and increases the risk of political interference. However, fiscal space is limited and competition for budget resources is intense. Public funding can be supplemented by DFI funding and/or private capital, but this is likely to be limited in scope, particularly as the PIF will not have a strong track record to fall back on.

To overcome this capitalization challenge, an option that is being currently explored by some countries is the capitalization of their PIFs via the transfer of government-owned assets. When an initial large capitalization in cash is a challenge, one option is to explore the transfer of public sector assets to capitalize the PIF. This approach relies on turning around the performance of non-performing assets (such as SOEs) and under-utilized assets (such as real estate assets), and can be combined with a limited budget allocation as part of the initial working capital of the institution. Ownership of the selected SOEs and real estate assets is transferred to the PIF, with a plan that these SOEs and real estate assets can be monetized (converted into cash via divestment, leasing, or collateralization) under adequate management. Albania is currently performing due diligence on its non-performing state-owned assets and real estate to determine the best assets to transfer to capitalize its current PIF initiative, the Albania Investment Corporation (AIC). Based on robust selection criteria and management, it is hoped that these assets could be monetized in a relatively short period of time.

Capitalizing PIFs may lead to an evolution in the functions of a PIF, where PIFs act as asset managers for those assets that are transferred to the PIF for monetization.²⁴ In most developing countries, asset management functions are diluted among each responsible contracting agency (sector ministries, autonomous agencies, SOEs, and others), restricting the consistency and coordination of this important effort and diminishing the effectiveness of asset management.

It would be ambitious to promote a PIF as the sole asset manager of a government. However, for selected strategic infrastructure assets with high-growth impact, it could be possible to consolidate these asset management functions in a single institution with the financing and structuring capacities required to improve the performance of these assets. This type of new function will demand that the PIF have the capacities to divest, invest, liquidate, or act as a partner in selected strategic assets. This requires PIFs to develop or recruit adequate talent and management capacities to add asset management as a core mandate of the institution.

Box 3.1. The Potential for Monetizing Strategic Public Assets

In a March 2018 article published in the International Monetary Fund's publication, *Finance and Development*, entitled "Unlocking Public Wealth," Dag Detter (former president of Statum, the Swedish public asset management company) and Stefan Fölster (president of the Swedish Reform Institute), make the case for how governments can do a better job at managing their assets.^a Two excerpts from the article follow that will assist in understanding the relevance of the asset management role.

"National and local governments own a potential goldmine of assets, mostly in the form of real estate and government-owned companies. With better governance, many of these assets—such as outdated buildings, undeveloped land, brownfield spaces, and air rights—could generate value and a revenue stream to fund government budgets, lower taxes, or pay for vital infrastructure. Unfortunately, most opportunities for better public wealth governance have been lost in the debate over state ownership versus privatization."

"Consider a city like Boston, which by its own accounting does not appear to be particularly wealthy. The city reported total assets worth \$3.8 billion in 2014, of which \$1.4 billion is in real estate. The city's liabilities of \$4.6 billion exceed its assets, but this valuation largely underestimates the true value of the public assets. Using accounting conventions followed by most cities in the United States, Boston reports assets at book value, valued at historical costs. If it used the International Financial Reporting Standards, which require the use of market value, to assess the city's holdings, the assets' worth would be significantly higher than currently reported. In other words, the city is operating without fully leveraging its hidden wealth. A recent independent estimate of the real property portfolio owned by the City of Boston, based on a consolidated list of publicly held real estate, gives an indicative valuation of the real estate alone of about \$55 billion. Boston's real estate portfolio includes holdings ranging from the Boston Housing Authority's \$4.7 billion worth of buildings and land to the Boston Public Market, valued at \$5.6 billion."

a. The article is based on the two earlier publications by the authors (Detter and Fölster): *The Public Wealth of Nations: How Management of Public Assets Can Boost or Bust Economic Growth* (2015), and *The Public Wealth of Cities: How to Unlock Hidden Assets to Boost Growth and Prosperity* (2017).

²⁴Monetization of existing public sector assets can be done via divestiture, leasing, and use as a collateral for purposes of raising debt.

To be able to capitalize the PIF using this approach, the public sector assets to be transferred must have certain characteristics that would make their monetization (conversion into cash-related instruments) possible. In general, an asset can be monetized by selling it, leasing it, or by borrowing against it. For a public sector asset to be considered “monetizable” for the capitalization of the PIF, the following criteria provide relevant guidelines:

- **Asset Size.** There should be a threshold level of the asset size to be transferred. Low value assets, where the government would need to transfer many assets, should be avoided. This will not be cost efficient and might generate a financial burden for the PIF when managing the assets.
- **Lien on the Assets.** Any asset where there are lenders holding a lien or similar claim will not be initial targets to capitalize the PIF. These types of assets will first need to be “cleaned” and the liens removed before a transfer. Based on current practice and international experience, it is time consuming and requires public budget funding to eliminate liens on state-owned assets.
- **Amount of Required Investment for the Asset to be Monetized.** Any asset that requires a substantial amount of pre-investment to get it to be operational and/or to be able to be sold should not be a likely candidate. Given that the capitalization is being done via the transfer of public sector assets, the financial condition of the PIF is not likely to support these types of investments during the initial years.
- **Assets with Some Impeding Legal Restriction.** Assets in sectors considered highly sensitive to political opposition and/or subject to constitutional interpretations (such as assets related to the national defense, or cultural or heritage assets) should not be considered in the first group of public sector assets to capitalize the PIF. These types of assets are likely to require longer periods of “red tape.” Also included in this category are assets that have some type of legal demand or pending court action.
- **Assets in Regulated Sectors Where End-User Tariffs are Subsidized.** A PIF is not in the business of replacing public sector agencies or line ministries in the provision of public services. A PIF would manage public sector assets for purposes of divestiture, partnerships, leasing, or liquidation. Assets where most potential revenues are linked to the provision of public services in which tariffs do not fully reflect cost recovery levels and are dependent on some type of subsidy support should not be included in the initial list of public sector assets to capitalize the PIF. Assets included in this category are usually in sectors such as the urban transport sector, water and sanitation, and solid waste management.
- **Real Estate Assets Owned by the Government.** These types of assets have a different nature (with respect to the transfer criteria) than most of the public sector assets considered in the previous bullet points. If real estate assets can be documented (titled and property rights transferred), then they become a more “liquid” asset after market valuation by experts. A piece of land (even if not yet prepared to sustain investment for further development) has an intrinsic value based on location, terrain, access, and the like. Conceivably, the PIF could use the titled land as collateral for raising debt (at least in the local financial markets). Usually these types of real estate assets make good candidates to capitalize a PIF. If well located, they are relatively easier to monetize.

After the initial capitalization, PIFs must have a strategy in place to plan their portfolio development and funding requirements. The PIF should avoid situations where to maintain its operations the only option left is to seek public sector budget support (“lender of last resort”), losing its financial autonomy. The strategy should be dynamic and should adapt to the economy in which it operates. Once the institution has created credibility and demonstrated a solid financial track record, it will be better able to attract additional funding. A PIF’s exit strategy should also be considered, at which time its mandate would be fulfilled and it could be replaced by a market mechanism. Several of the PIFs in the case studies require additional capitalization to sustain or increase their lending operations. PIFs

such as IIFCL in India, IDCOL in Bangladesh, and IIGF in Indonesia are completely dependent on public sector budget resources. Their de facto funding strategy is embedded in their relationship with the Ministry of Finance and the public sector budget process. Other PIFs, such as GIIF in Ghana and FF-FIR in Argentina, are already working on a new funding strategy, independent from the public sector budget, to increase their lending capacities for 2020. FDN in Colombia has a solid funding strategy in place, independent from the public sector budget, and based on local and global financial markets. A few elements to consider when developing a funding strategy independent from public sector budget for a newly created PIF are as follows:

- **DFIs' Support.** Development financial institutions can make available long-term debt funding for infrastructure development in developing economies. DFIs can use two different windows to support a PIF. They can use their sovereign window, which means that the credit line will have the repayment guarantee of the government (usually represented by the Ministry of Finance); or they can use their non-sovereign window, in which case the credit line will be directly to the PIF, and the DFI will be taking the PIF payment risk without sovereign support. A credit line provided to the PIF via the sovereign window will increase the PIF's independence from public sector support. In the case studies, IIFCL in India, IDCOL in Bangladesh, IIGF in Indonesia, and IIPSA/DBSA in South Africa have received multiple loans from DFIs' sovereign windows. In these cases, the PIFs are very dependent on the Ministries of Finance. In most of these cases, these PIFs were created to be used as vehicles to channel DFI funding into infrastructure development in an organized way. FDN in Colombia seems to be the only PIF in the sample that has received funding via equity contributions from the non-sovereign window of DFIs.
- **Use of Local Financial Markets.** Issuing debt in local financial markets will help the PIF establish its credibility among local institutional investors. If successful in the debt placement, the PIF will establish a recurrent mechanism to raise new funding in local currency. The terms and conditions under which these funds will be raised will be directly linked to the credit rating of the institution. In most markets, if the PIF is majority-owned by the state, the PIF is likely to enjoy the same credit rating as the sovereign (government). In most markets, the local currency credit rating of the government will represent the ceiling (highest) credit rating. However, in some developing economies (with larger market failures), even enjoying the benefits of the sovereign credit rating in local currency might provide some challenging conditions for infrastructure finance, such as short tenors and/or relatively high interest rates.
- **Use of Global Financial Markets.** Issuing debt in global financial markets, without sovereign support, is very difficult for a PIF. In the case of sovereign support, normally a Ministry of Finance will prefer to issue debt directly in global markets rather than through the PIF. In any case, raising hard currency funding for a PIF still leaves open the foreign exchange risk when lending to local infrastructure generating local currency revenues. There might be some cases where hard currency funding for a PIF is justified for large infrastructure projects that either generate foreign currency earnings (such as commodities production infrastructure, ports, and airports) or reduce imports. Of the PIFs profiled in the case studies, the only PIF that is currently exploring access to international financial markets, in coordination with the Ministry of Finance, and via structured mechanisms, is FDN in Colombia.
- **Credit Rating Process.** It is important for a PIF, as part of its funding strategy and its governance, to go through the process of obtaining a local currency credit rating. This will help its funding strategy because institutional investors will have an expert reference from an independent credit rating agency. Ratings agencies will analyze the PIF's dependence on and support from the government, including its capitalization and funding strategy. The closer the relationship between government and a PIF, the more likely it is that the rating agency will assign the sovereign credit rating to the PIF. The use of the

sovereign credit rating is positive when considering the funding strategy, but can simultaneously reduce financial autonomy and independence. All the PIFs in the case studies were rated as the sovereign for local currency debt, with the exception of FFFIR in Argentina and GIIIF in Ghana, which have not yet obtained a local currency credit rating.

CHAPTER 3C. SUITABILITY OF PRODUCTS OFFERED

To support infrastructure development and meet its objectives, a PIF has to develop a product offering that suits its country context. A PIF's ability to leverage private sector capital has to take into account its country context and the various government and market failures it is intended to overcome, and this will guide the range of products that a PIF could and should offer. Maximizing the pursuit of private sector solutions to crowd in private sector finance for infrastructure development should therefore align with a fiscally responsible approach to the use of scarce public sector resources. A PIF's appetite for leverage must be balanced within this fiscally responsible approach. The average leverage for the PIFs in the case studies was four to one, meaning four additional units of private sector funding for each unit of PIF resources.²⁵ As mentioned, the PIFs that tended to have the highest leverage impact were the institutions that offered a wider range of financial products, including credit enhancements and equity-related products.

A PIF that focuses exclusively on financing public sector infrastructure investments will tend to have lower leverage impact than a PIF that focuses exclusively on financing PPPs. Among the case studies, the only PIF that focuses exclusively on public-sector investments is the FFFIR in Argentina, whose origin and mandate was precisely to finance public subnational infrastructure, and to a lesser extent, IIPSA in South Africa, which has a similar subnational mandate. For PIFs that focus exclusively on public sector investments, a leverage impact could still be achieved if the institution is able to mobilize private capital via the bank market through loan syndication or via capital markets for supporting a bond issuance by a public sector project. Such leverage will come via private sector banks participating in the loan syndication led by the PIF, and/or institutional investors acquiring the bond issuance supported by the PIF (through a credit enhancement). However, there was no indication of such leveraging actions with public sector investments among the case studies. Outside of this paper's case studies, large PIFs such as BNDES in Brazil and BANOBRAS in Mexico have had experience financing large public sector infrastructure projects with mobilization of private capital. BNDESPAR, BNDES' subsidiary to invest directly in infrastructure projects, regularly participates in local and international capital markets to fund both private and public investments. BANOBRAS played a lead role in arranging the financing for the largest water treatment plant in Latin America, Atotonilco, a public sector investment under CONAGUA, the Mexican Water Authority.

The remaining PIFs have a broader focus in both public sector investments and PPP investments in infrastructure, and offer a variety of products to support the mobilization of private capital. Debt-related instruments are the most common type of financial instruments offered by the PIFs in the case studies. The FFFIR in Argentina and IDCOL in Bangladesh typically provide single senior loans, while the GIIF in Ghana, the IIFCL in India, and the FDN in Colombia utilize their senior loans to mobilize additional participation by other financial institutions. Pricing for senior loans in most of the analyzed cases was market based, with the PIF enabling an extension of the loan tenor beyond the market average. Institutions such as IIFCL in India, IDCOL in Bangladesh, and FDN in Colombia offer sophisticated debt-related instruments, including subordinated debt (usually treated as quasi-equity by rating agencies), and take-out finance and refinancing schemes to stimulate participation of local financial institutions. These types of debt instruments tend to have a better leverage impact on the overall funding raised for a particular project. Liquidity lines are currently the most popular non-funded product in FDN's portfolio. As of December 2017, FDN had five liquidity lines with a contingent liability equivalent to Col\$784 billion (approximately US\$274 million).²⁶ FDN's liquidity lines support events of default by the contracting authority (Agencia Nacional de Infraestructura, ANI) in fourth-generation (4G) toll road concession contracts. The liquidity line is de facto a partial risk guarantee. The market has

²⁵In terms of private sector funding, the ratio of 4 to 1 could be a bit lower in some of the analyzed PIFs given that the additional financing mobilized for particular projects also included funding from other public sector agencies not disclosed in their financial reports.

²⁶These liquidity lines, given their contingent character, are not reflected in FDN's balance sheet. They appear only in the notes to the financial statements.

found these products extremely useful, increasing the credit rating of the transaction. Liquidity lines are subordinated in nature and can be used under a “rolling” feature.²⁷

Equity related instruments are less common in the PIF case studies, and there is less experience in their implementation. In Ghana, a country with a relatively small community of local private investors, the GIFF is able to take equity positions in the projects it finances in eligible sectors. As an equity holder, the GIFF can take a longer-term view in its investments and play a catalytic role to leverage participation of additional private investors. GIFF is currently considering an equity-holding position in infrastructure projects in the telecommunications sector (Western Corridor Fibre Optics), the electricity sector (Roatan Power Project), the transport sector (Takoradi Port Expansion), and the tourism sector (Maaha Beach Resort). In Colombia, FDN has recently developed an equity strategy with two initiatives: supporting infrastructure projects and sponsors to strengthen the corporate governance of local companies; and creating and managing a long-term co-investment platform in cooperation with an international partner, along with the Colombian pension funds (AFPs). FDN’s equity strategy is complemented with the development of quasi-equity products like subordinated debt. FDN offers more flexibility than other PIFs, where the equity injection usually occurs first before any additional financing. In the 4G Toll Road Concession Program and in other transactions, equity contributions can be *pari passu* with lending, and could even come at the end of the financing in some cases. This is a rather tough risk for some banks and investors to bear and standard equity holders risk facing liquidity issues after committing to an equity injection. To mitigate this, FDN also provides an equity guarantee, which is not offered by the other PIFs in the case studies, which supports (under pre-agreed conditions) the sponsor’s equity component. This product has not been widely used to date. A single transaction with an equity guarantee closed in December 2017. In the cases of Argentina, South Africa, and Indonesia, the nature of the PIFs is such that equity-related products do not constitute part of their mandate. However, in these three countries, there are other PIFs such as DBSA in South Africa and the Indonesia Infrastructure Finance (IIF) in Indonesia with capacities to take equity holdings in infrastructure projects.

Supporting the implementation of infrastructure PPPs requires PIFs to understand and consider FCCL originating from financed transactions. PIFs can provide a range of support to PPPs, depending on available financial instruments, but must take into account how best to manage scarce public resources when evaluating investments. PIFs that provide credit enhancements (partial credit and risk guarantees) will have to face the challenge of implementing adequate risk management systems that allow them to calculate and monitor the contingent liabilities arising from the use of such products. Defining and sizing contingent liabilities embedded in a PPP arrangement (such as a concession contract) is complex and cumbersome and demands professional talent and state-of-the-art management information systems.

Each of the PIF case studies has slightly different processes and systems to manage FCCL, with varying robustness. FDN in Colombia has a risk management system in place for its credit enhancement products that uses a variation of Moody’s pricing methodology for partial credit guarantees. IIGF in Indonesia, the PIF that exclusively provides credit enhancements (partial risk guarantees) is currently using the contingent liability monitoring system of the Ministry of Finance (Directorate General of Financing and Risk Management). IIGF is currently working on streamlining the contingent liability monitoring system to adapt it to its future expansion and lines of business. IIFCL in India, in its role as advisor to the government to assist in the creation of a new Credit Enhancement Fund, is now considering the development of a contingent liability monitoring system. The other PIFs in the case studies have a general risk management function of their balance sheet, although the accounting and monitoring systems for contingent liabilities are still under development. The existence of well-developed and modern risk management systems within a PIF is critical to be able to adequately manage the challenges posed by FCCL, and these systems should be continually updated and refined to enable best-in-class management of FCCL.

²⁷These liquidity lines, given their contingent character, are not reflected in FDN’s balance sheet. They appear only in the notes to the financial statements.

A PIF should demonstrate sound fiscal management principles to avoid unsustainable fiscal risks.

The following actions will facilitate the creation of a sound fiscal management process in a PIF:

- **Develop Clear Relationship and Lines of Authority with the Ministry of Finance (MoF).** Do this especially with the Public Debt Management Department and the Contingent Liabilities Unit at the MoF (if they exist). Strong monitoring and reporting between the MoF and the PIF will mitigate fiscal risks down the line.
- **Establish a Contingent Liabilities Unit (at the PIF).** The early establishment of a contingent liabilities unit adequately staffed and with the right expertise will help institutionalize a fiscal risk management culture in the PIF. Given that in most jurisdictions, from an accounting viewpoint, the contingencies involved in the provision of a guarantee are carried “below the line,” it is very important to develop a system to account for, evaluate, and monitor these contingencies together with the standard financial reporting.
- **Design a Modern Risk Management System.** If a PIF is going to specialize in the provision of credit enhancements such as guarantees, soft investments in modern management information systems such as risk management and transaction monitoring will mitigate the fiscal risks of supporting private infrastructure projects.
- **Obtain and Maintain a Credit Rating.** Subjecting the PIF periodically to the scrutiny of a credit rating agency is a healthy process that will strengthen the transparency and accuracy of the financial information.

CHAPTER 3D. PROJECT PREPARATION AND EXPERTISE

Solid project preparation requires sound in-house infrastructure finance skills, and the ability to recruit external advisors for specific projects and transactions. Structuring a financeable PPP is a complex process that requires talent and skills as well as deep pockets. A well-resourced PIF will have the capability to provide:

- *In-house technical assistance capacities* to support contracting agencies in structured finance and development of PPP structures.
- *Technical assistance funding* to support contracting agencies and in-house staff via the hiring of third-party technical assistance for (a) project analysis and feasibility studies, (b) technical studies, (c) economic regulation, and (d) environmental assessment.

PIFs need to have the flexibility to attract the best available talent in the market to ensure high quality in-house technical assistance capacities. PIFs fundamentally deal with the provision of complex financial products such as guarantee instruments and/or equity-related instruments that require sophisticated structured finance experience. PIFs therefore require well-qualified professionals able to deliver these instruments. This type of experience is typically found in the private sector, where remuneration rates are significantly higher than in the civil service. To attract and retain staff, PIFs need to be able to “compete” with the private sector, which requires a more flexible staff procurement regime than the prevailing civil servant administration. Flexibility in being able to attract and pay for talent is a very important feature of the institutional design of a PIF, and has a significant impact on the governance and performance of the institution. It is therefore important that a PIF initiative is set up as a corporation with its own procurement rules, particularly regarding staffing, to allow the PIF to deliver its objectives. FDN in Colombia operates under a flexible procurement regime, and has attracted staff from institutions including IFC and Deutsche Bank. This talent pool is one of the factors for FDN’s success in Colombia.

The provision of in-house expertise to line ministries is often best delivered via an advisory unit within a PIF. An advisory unit can provide technical assistance in structured finance and PPPs to contracting agencies and other clients for infrastructure projects. The size of the unit should be a function

of the business growth. The unit should evolve to be a self-funded unit, at least from a cost recovery viewpoint. It would obviously need some initial working capital to get established. The PIFs most advanced in the evolution of their provision of technical assistance services or products were:

- **Colombia, FDN.** FDN has developed a special department for the provision of advisory services to contracting agencies, line ministries, SOEs, and private sponsors. FDN offers independent advisory services (not linked to a specific finance operation). Advisory services are mostly related to financial structuring (making infrastructure projects financially viable) and to strategic transaction planning (pre-investment analysis associated with sector and project design and strategic development). The advisory services take advantage of FDN's private procurement regime in outsourcing key components (specialized knowledge, market studies, legal structuring), thus improving delivery and efficiency. Due to FDN's public sector character (that is, its majority ownership by the public sector), contracting agencies can engage FDN's advisory services directly (without restrictive public sector procurement laws). The advisory services department receives non-reimbursable funding from different donors and IFIs to support feasibility studies for infrastructure projects. Donors include the Public-Private Infrastructure Advisory Facility (PPIAF), the Economic Cooperation and Development Division of the Swiss State Secretariat for Economic Affairs (SECO), CAF (the Development Bank of Latin America), the Inter-American Development Bank (IDB), Export Development Canada (EDC), and Exim Bank Korea. FDN's advisory program is a very important source of project pipeline for the institution. This origination activity is an important component of FDN's diversification strategy. The advisory unit charges full cost recovery fees to clients and operates as a self-funded unit.
- **Indonesia, IIGF Institute.** Aware of the need to build the institutional capacities of Indonesia's contracting agencies to process and promote infrastructure development via PPPs, IIGF started to provide knowledge support to contracting agencies in 2010. On January 15, 2015, IIGF created the IIGF Institute as a knowledge institution. The institute provides capacity building and knowledge transfer to contracting agencies in infrastructure project evaluation, project preparation, and project implementation via PPP models. It operates as a self-funded unit and receives grants and soft financing from donors.
- **India, IIFCL Projects Limited.** In February 2012, IIFCL set up IIFCL Projects Limited to provide advisory services to both contracting agencies and private sector companies for the promotion and development of infrastructure in India. The institution provides infrastructure, financial, and transaction advisory services, as well as project structuring, appraisal, and syndications services across infrastructure sectors (including roads; highway projects; ports; airports; inland waterways or inland ports; water supply projects; irrigation projects; water treatment systems; sanitation and sewerage systems or solid waste management systems; telecommunication services; industrial parks or special economic zones; power; construction for preservation and storage of processed agro-products; and construction of educational institutions and hospitals). IIFCL Projects Limited operates on a self-funded basis, charging a fee to clients for the provision of its services.
- **South Africa, the Infrastructure Investment Programme for South Africa (IIPSA).** This program is funded by the EU and administered by the Development Bank of South Africa (DBSA). It is a unique case in the sample of case studies that illustrates the strategic importance of project preparation when promoting infrastructure development. The program, originally established as a "blending facility" to finance infrastructure along the lines of other EU-funded facilities successful in other parts of the African continent, has evolved to become a facility that predominantly supports project preparation. Lack of institutional capacities at the subnational level in South Africa, coupled with the complexities of regional infrastructure projects in the South African Development Community (SADC), have increased the need for IIPSA's Secretariat to allocate program funding to prepare better projects. The transition from the original "blending" objective to a "project preparation" facility is understood in part by market realities and the nature of the grant financing conditions.

PIFs in developing economies have limited capacities to fund the provision of technical assistance that leads to sound project preparation. The myriad of project preparation activities requires significant amounts of funding, and PIFs generally have two options to enable the funding of these activities:

- **Revolving Financing Mechanism.** For a PIF to provide a “sustainable” source of financing for the provision of technical assistance funding to contracting agencies and other clients, there is a need to constantly have access to technical assistance funding, to generate the pipeline of projects that will satisfy the PIF’s original objective. The creation of a revolving financing mechanism where the costs involved in the third-party technical assistance (pre-investment) could be recovered at financial completion (by including such costs in the total investment to be financed) will help strengthen the sustainability of the provision of these services to contracting agencies and other clients. This effort will require the creation of an ear-marked fund administered by the PIF exclusively to fund pre-investment works.
- **Access to DFIs and Donor Funding.** PIFs should consider dedicating staff to attract, manage, and coordinate technical assistance funding by DFIs and donors through the proper public sector institutions, such as the Ministry of Finance or Ministry of Foreign Affairs. DFIs and donors (both public and private) have many windows to support infrastructure development in developing economies. Some specialize in different sectors, geographical locations, or processes and PIFs should have a firm grasp on potential funding opportunities from DFIs and donors. In addition, in the last decade, multiple climate change financing funds for sustainable infrastructure have arisen. To maximize technical assistance funding from different DFIs and donors, a PIF should establish a dedicated team responsible for liaising with DFIs and donors to capture available funding that can be used for technical assistance and project preparation.

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Annex A. Global Inventory of Public Infrastructure Funds

These case studies were developed between September 2017 and May 2018, via conference calls and field visits to the eight institutions. Interviews and discussions were held with senior management and key officials in the Ministries of Finance and related institutions. Any changes that may have taken place in the eight institutions since June 2018 are not reflected in this analysis. Case studies were developed by a team of consultants including: Ashraf Bouajina, Afua Entsuah, Carlos Leon, Federico Scodelaro, and Mujtaba Shahneel. The work on the case studies by the team of consultants was coordinated by Ellis J. Juan.

ANNEX A. GLOBAL INVENTORY OF PUBLIC INFRASTRUCTURE FUND

Governments in both developed and developing countries have developed public infrastructure funds (PIFs) to support and facilitate financing for infrastructure projects. A PIF has been defined as “a government owned/sponsored non-bank financial institution that provides financing support to infrastructure projects in a particular country, sector or region.” This definition would not seem to yield a standard format to classify the myriad of different government-owned and sponsored institutions that provide support to infrastructure locally and regionally, and PIFs have been designed to address specific market failures and other challenges in their host countries. The assessment that follows is an attempt to categorize PIFs in the context of this Global Review and to provide an analytical description to frame each type of public institution that supports infrastructure investment.

This chapter assesses a number of institutions established in different countries to mobilize financing for investment in infrastructure, and attempts to categorize these institutions based on their core characteristics.²⁸ The chapter will not address private infrastructure funds. There are many examples of privately led infrastructure funds associated with specialized infrastructure companies (such as Macquarie Infrastructure and Real Assets in Australia) or dedicated infrastructure funds associated with pension funds or selected institutional investors (such as the Canada Pension Plan and Brookfield Asset Management). Most of these privately led funds have grown considerably in the last decade. Their portfolios, with few exceptions, are largely focused on the developed world.²⁹

1. PUBLIC INVESTMENT FUNDS BY POLICY OBJECTIVE

A *public investment fund* can provide support to investments in infrastructure (and other related sectors) in a geographical context that can span from the subnational level (FFIR in Argentina) to the national level (BNDES in Brazil) to the regional level (DBSA in Southern Africa) to the global level (Qatar Investment Authority).³⁰ The government may or may not back-stop the liabilities and commitments of the fund, depending on the laws and bylaws creating the institution and fiscal management rules of the host government. The Global Review classifies public investment funds into three types of institutions.

PUBLIC INFRASTRUCTURE FUNDS (PIFS)

A *public infrastructure fund* is a government owned/sponsored institution established with the goal of promoting infrastructure development in a country, region, or sector by acting as a catalyst to encourage private sector investment in infrastructure development. Their scope tends to be for national and subnational infrastructure investments. The Indian Infrastructure Financing Company Limited (IIFCL) is an example of a public infrastructure fund that has promoted and facilitated financing of infrastructure in India. This Global Review refers to these institutions as general infrastructure funds from a policy-based perspective.

SOVEREIGN WEALTH FUND (SWFS)

Sovereign wealth funds are government-owned institutions created with the objective of using a country's excess fiscal liquidity to invest in assets that can protect and increase excess cash value for future needs.³¹ The policy objectives of SWFs can be grouped around three key areas: (a) stabilization funds that aim to offset macroeconomic volatility in fiscal balances and the economy, such as the State Oil Fund of Azerbaijan; (b) savings funds that allow future generations to benefit from the current generation's exploitation of particular assets (natural resources), such as Norway's Oil Fund, the world's largest

²⁸The analysis does not include multilateral development banks (MDBs) or bilateral development institutions from developed countries.

²⁹Infrastructure Investors Ranking 2017.

³⁰BNDES stands for Banco Nacional de Desenvolvimento Econômico Social. DBSA stands for the Development Bank of Southern Africa.

³¹This discussion is based on *Santiago Principles: 15 Case Studies*, International Forum of Sovereign Wealth Funds (IFSWF), 2014; *The Public Wealth of Nations: How to Unlock Assets to Boost Growth and Prosperity*, edited by Dag Detter and Stefan Fölster, Palgrave MacMillan, 2015.

SWF; and (c) reserve funds that manage excess foreign exchange reserves to preserve their future value, such as the Government of Singapore Investment Corporation (GIC).

SWFs typically invest abroad rather than in the local economy to diversify investment risk. However, there are cases where SWFs are set up to boost domestic economic growth, and these are known as *national wealth funds* (NWFs). NWFs were popular in the 1970s and 1980s, when export-led diversification and efficient use of windfall proceeds from commodities (such as oil and gas) were key policy actions. The Venezuelan Investment Fund (VIF) in the 1980s and 1990s was an institution that reflected the policy objectives of an SWF (stabilization and preservation of reserves), with the domestic investment drive of an NWF.³²

SWFs are usually incorporated as separate legal entities, governed by specific constitutive law. They are designed to operate at an arms-length from the government and in many cases have a majority of independent board members. Usually, these institutions are set up as state-owned corporations governed by their own bylaws. Box 1.1 presents an SWF being contemplated by Chile.

Box A.1. Chile: Creating a State-Owned Infrastructure Fund via the Monetization of Future Cash Flows of Successful Concessions

Chile has one of the best track records in infrastructure PPPs, particularly in the transport sector. Since 2015, it has been considering creating a national infrastructure fund. The capitalization strategy for such a fund is based on the wealth creation of the successful concession program initiated in the mid-1990s. The funding structure considers the monetization of future revenues once the concessions are terminated and the assets are returned to the government. This fund—still under development—could be classified as a sovereign wealth fund exclusively dedicated to local infrastructure development.

STRATEGIC INVESTMENT FUNDS (SIFS)

Strategic investment funds are special purpose investment funds that are sponsored by governments and fully or partially capitalized by governments or government-related institutions.³³ SIFs have a dual objective of yielding both a financial and economic (development) return. They focus on mobilizing private capital (“crowding-funding”) to co-invest in the fund and/or at a project level. SIFs can provide long-term shareholder funding (equity and quasi-equity), as well as other debt-related products (including derivatives such as guarantees). They are usually established as investment funds or investment corporations, and their institutional structure is usually open to equity participation from third parties, such as development financial institutions (DFIs) and/or from private sector institutions. Usually, SIFs originate with an infrastructure development policy objective at the national level and they can be structured to address specific policy objectives or market challenges, as shown in the examples below:

- **Sector Challenge:** Fondo de Desarrollo Nacional (FDN) in Colombia was originally created with the objective of providing financial support to toll road projects in the 4G (Fourth Generation) Concession Program. In 2016, it initiated a process of sector diversification. The African Agriculture Capital Fund (AACF) provides financial support to agricultural SMEs.
- **Regional Challenge:** The European Fund for Strategic Investments at the European Investment Bank (EIB) has a policy objective of providing financial support to close the infrastructure financing gap in Europe.
- **Public Global Goods Challenge:** Several funds provide financial support to climate change and adaptation investments, including the African Renewable Energy Fund (AREF), the Renewable Energy Asia Fund (REAF), and the Global Energy Efficiency and Renewable Energy Fund (GEEREF).

³²Ellis J. Juan, CEO of the Venezuelan Investment Fund from 1991 to 1993.

³³This discussion is based on “Strategic Investment Funds, Opportunities and Challenges,” World Bank Policy Research Working Paper 7851, 2016.

A country may also create a fund to achieve a strategic plan or objective that is pivotal to its national development. An example is the Silk Road Fund (SRF), a Chinese state-owned investment fund to promote its “One Belt, One Road” initiative around the world, with a focus on the Eurasia region. The government pledged US\$40 billion for the creation of the SRF on December 29, 2014.³⁴

Management of SIFs can be transferred (contracted) to a specialized private sector firm to speed up and improve execution of the fund’s infrastructure investment strategy. This is particularly important in countries that lack the local capacities to successfully implement such a fund. Other arrangements can also include third party management and simultaneous training of local capacity (through on-the-job training for local staff). An example of third-party fund management is the Philippine Investment Alliance for Infrastructure (PINAI), a US\$625 million 10-year closed-end private equity fund that is an initiative of the Government of the Philippines (64 percent), the Algemene Pension Fund (24 percent),³⁵ Macquarie Infrastructure (8 percent), and the Asian Development Bank (4 percent). The fund is managed by Macquarie Infrastructure Management Asia under a management contract. One of its key policy objectives besides supporting infrastructure sectors is to use its balance sheet to promote the development of local capital market instruments and deepen the Philippines’ financial markets.

The design of public investment funds is typically adapted to local conditions, and can evolve to adapt to new challenges created by infrastructure demands, technological innovations, and market realities. Among the eight case studies sampled, FDN in Colombia, originally created using the development bank scheme, has evolved to a role closer to that of a strategic investment fund. The Ghana Infrastructure Investment Fund (GIIF), originally conceived as a full government investment fund supported by the public budget, has evolved to full financial autonomy with a strategic focus, which places it closer to a SIF. An additional example of an SIF, Clifford Capital, is included in the box below.

Box A.2. Clifford Capital, Singapore

Clifford Capital was set up in 2012. It operates on a commercial basis but can provide products and long-term risk participation that are not available in the market. Its main objective is to support Singapore-based companies to finance large infrastructure and off-shore marine projects, including international investments. Clifford Capital was established to overcome constraints faced by banks in long-term financing following changes in the Basel rules. It is a specialized finance company that is not regulated by the Basel rules.

Clifford Capital is a public-private partnership with 40 percent of shares held by a state-owned investment company (Temasek). Other investors include Manulife, Standard Chartered Bank, SMBC, and Prudential. It has an Independent board of directors, and operates with no interference from the government. Management is recruited and compensated on market terms. The institution was funded by debt issuances with Singapore Government guarantees, and provides instruments ranging from senior secured term loans to senior bonds. Total financings to date exceed US\$1.7 billion. Instruments include senior and subordinated debt, convertibles, preference shares, project bonds and high yield bonds.

Clifford Capital takes a lead role in financial structuring for complex transactions and has the ability to deliver financing all over the world. It works with the Government of Singapore and has helped to create Asian infrastructure debt as a new asset class to attract greater institutional capital to infrastructure sectors.

2. SCOPE OF PUBLIC INVESTMENT FUNDS

PIFs can also be categorized based on their functionality and scope. Under this “functionality” concept, the type of institutions can range from the all-encompassing national development bank all the way to specialized infrastructure guarantee funds to support government commitments in PPPs.

³⁴ www.silkroadfund.com.cn (accessed February 5, 2018).

³⁵ Algemene, based in the Netherlands, is the largest European pension fund.

NATIONAL DEVELOPMENT BANKS/INFRASTRUCTURE BANKS

Some governments have established *development banks or infrastructure banks* to invest and act as catalysts in developing the national economy. These institutions can grow into major corporate entities but are intensively intertwined with public policy management to fulfill government objectives. They are 100 percent under government ownership and consolidate with the public sector for fiscal management purposes.

In the years after World War II, the United States pledged a large foreign aid package to Brazil that was intended to alleviate infrastructure bottlenecks. In order to receive these funds, the federal government needed a local institution that could allocate financing using economic criteria. The Government of Brazil created Banco Nacional de Desenvolvimento Econômico e Social (BNDES) as a development bank to channel the foreign aid package to provide long-term credit in the country and support the implementation of the government's vision for industrialization and infrastructure development. The bank provides subsidized financing and accounts for more than 70 percent of long-term bank lending in the country, where credit is otherwise expensive by international standards, and is the largest source of investment in industry and infrastructure. Despite the use of subsidized rates, the bank is profitable, generating US\$4.5 billion in profits in 2011. It is now the largest creditor in South America.³⁶ BNDES has three subsidiaries that focus on distinct activities:

- **BNDES Participações S.A (BNDESPar):** Engages in capital market transactions ranging from venture capital investment to equity purchases in the secondary market.
- **FINAME:** Finances the purchase of equipment and other basic inputs.
- **BNDES Limited:** Finances the international expansion of domestic firms.

The BNDES model may be replicated in other countries. In 2017, Pakistan initiated discussions with multilateral development banks (MDBs) to set up Pakistan Infrastructure Bank with an initial paid-in capital of US\$1 billion.³⁷ The idea behind the fund is to facilitate private financing of infrastructure by using the funds as a catalyst to leverage more financing for infrastructure. Similarly, Canada has recently set up Canada Infrastructure Bank, which is discussed in more detail in the case study.

³⁶BNDES website (accessed September 15, 2017).

³⁷<https://www.thenews.com.pk/print/200867-Govt-to-set-up-Pakistan-Infrastructure-Bank-with-access-to-1-billion> (accessed December 27, 2017).

Box A.3. Khazanah Nasional Berhad (KNB), Malaysia

Khazanah Nasional Berhad operates as the sovereign wealth fund of Malaysia. Through internal initiatives aimed at developing Malaysia's corporate entities and achieving the nation's socioeconomic goals, the KNB hopes to create impactful solutions for the country's citizens and government. In addition, the company also uses international investments to further Malaysia's interests, and its mission statement notes an increased desire for exposure both in Malaysia and abroad.

The KNB was incorporated in 1993 and is wholly owned by the Minister of Finance Incorporated (the corporate entity of the Ministry of Finance). Its four executive strategy pillars are: core investments, growth investments, catalytic investments and human capital development. Its main investments within Malaysia are dedicated to state owned enterprises (SOEs) in sectors such as aviation, financial services, power and telecommunications. Examples of these companies include Malaysia Airports Holdings Berhad and Tenaga Nasional Berhad (the nation's electric supply company).

Differing from a national fund which focuses solely on national infrastructure or general development financing, KNB focuses on the corporate development of Malaysia's valuable businesses, both state owned and private. It has even invested in such varied industries as media/entertainment, tourism, and sustainable development. Its investments within this sector are mainly in Cenviro (a waste management company) and Cenergi (a company focused on renewable and efficient energy).

The KNB has two main initiatives aimed at public development and growth. The GLC Transformation (GLCT) Programme, completed in 2015, was aimed at modernizing government-linked companies into high-performance and regionally competitive entities. By fomenting the development of these companies, KNB is helping to foster an environment for economic growth and employment while also benefitting the Malaysian public dependent upon the efficiency of these entities. The second initiative is broader in nature; it is aimed at participating in the development initiatives already set up by the state. Examples of this include the Government Transformation Programme, the Economic Transformation Programme and the Unit Peneraju Agenda Bumiputera (TERAJU—aimed at developing sustainable initiatives and programmes for Bumiputera economic progress).

The governance of the KNB relies upon a board of directors, with the PM (currently Tun Dr. Mahathir Mohamad) as the chairman. The current board has six individuals. The board in turn oversees a senior management group of investment professionals. As of December 2017, the realizable asset value (RAV) of the company stood at RM157.2 billion, while the net worth adjusted (NWA) stood at RM115.6 billion (approximately equivalent to US\$28 billion). In terms of the RAV makeup of KNB, 55 percent of its value was comprised of Malaysian companies, while 12 percent was comprised of Singaporean companies (as of December 2017). In addition, the company has achieved a CAGR of 10 percent between 2009 and 2017 (a strong outperformance of the main Malaysian stock market, which had a CAGR of 4.4 percent during the same period). KNB has regional offices in Turkey, China, India, the United Kingdom and the United States.

Source: KNB financial statements and other public information, 2017.

SECTOR DEVELOPMENT FUNDS

PIFs can be set up as *sector development funds* to develop a specific infrastructure sector, particularly the energy sector, to create economic value. In Malaysia, the Ministry of Tourism and Culture offers mortgage assistance through its Tourism Infrastructure Fund.³⁸ The fund was available from January 1, 2014 to December 31, 2018. The fund was created to finance the incremental costs of new and existing projects, excluding working capital and the acquisition of land, up to a maximum amount of 40 percent of the cost of the land or project (whichever is lower). The fund has assets of RM2.4 billion and a fixed financing rate of 4.0 to 5.5 percent per year, with a maximum tenure of up to 20 years and a minimum financing limit of RM5 million and a maximum of RM50 million.

The recent wave of climate change investment funds could also be included under the category of sector-specific funds. Most of these climate change-related funds are regional (the African Renewable Energy Fund) or global (the Green Climate Fund). No nationally dedicated climate change funds were identified in the Global Review case studies. Most of these climate change investments funds are backed by DFIs, bilateral institutions, and other donors, due to the global public good character of these investments.

³⁸<http://www.bpmb.com.my/tourism-infrastructure-fund> (accessed November 28, 2017).

PIFS THAT SUPPORT SUBNATIONAL DEVELOPMENT

Governments have set up PIFs that specifically *support subnational entities*, and subnational governments can also create such funds themselves. In 2017, the Government of New Zealand created a Housing Infrastructure Fund capitalized with NZ\$1 billion.³⁹ The fund focuses on high-growth areas in New Zealand where local governments will develop infrastructure that will catalyze housing supply. The Ministry of Business Innovation and Employment (MBIE) and the New Zealand Transport Agency (NZTA) are currently working with selected councils to develop detailed feasibility studies to ascertain infrastructure needs, project costs, and implementation time frames. Once these business cases are complete, they will be assessed by NZTA and the Independent Advisory Panel, which will make recommendations to the Housing Infrastructure Ministers on the funding of the infrastructure. It is anticipated that the signing of the funding agreements will be completed by the end of 2018, which should be followed by construction of infrastructure. In Canada, the government established the PPP Canada Fund to award funding based on milestones achieved by selected projects that were developed under the aegis of subnational governments. In Pakistan, Sindh province is converting its Viability Gap Fund into a PPP Support Facility that will be an arm's-length, not-for-profit company that aims to supplement private financing for infrastructure. The company will have an independent board. It will utilize subordinated debt, quasi-equity, credit enhancements, and grants to support PPP projects in Sindh.⁴⁰ The PPP Support Facility is expected to have an initial paid-in capital of US\$189 million. Box 1.4 describes a separate initiative in the Indian state of Tamil Nadu.

Box A.4. India: Tamil Nadu Urban Development Fund

The Tamil Nadu Urban Development Fund (TNUDF) was established as a trust under the Indian Trust Act, 1882 on November 29, 1996 for the development of urban infrastructure in the southern Indian state of Tamil Nadu (see map). TNUDF was created by the conversion of the Municipal Urban Development Fund (MUDF) with contributions from the Government of Tamil Nadu, together with three private financial institutions (ICICI Bank Limited, the Housing Development Finance Corporation, and Infrastructure Leasing and Financial Services Limited). TNUDF was structured as the first public-private partnership in India providing long-term debt to municipal infrastructure without sovereign guarantee. Currently, the Government of Tamil Nadu has a 48.7 percent ownership, while the three private financial institutions hold the remainder.

TNUDF is a private non-bank financial institution. TNUDF is managed by a corporate trustee (Tamil Nadu Urban Infrastructure Trustee Company Limited, TNUITCL). The board of trustees periodically reviews the lending policies and governance procedures. The fund asset manager is Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL). As a private financial institution, TNUDF was not considered in the sample of case studies for the Global Review of PIFs. However, its origins and some of its features to mobilize private capital and facilitate access to local capital markets makes it an attractive institution to highlight in the Global Review. As in the case of Argentina's Fondo Fiduciario Federal de Infraestructura Regional (FFFIR), TNUDF would be categorized, within this document, as a strategic investment fund in terms of policy objectives, and a subnational development fund in terms of scope.

TNUDF was created under the sponsorship of the World Bank and was initially funded by several long-term loans from the World Bank, as well as the provision of technical assistance. TNUDF has also received long-term loans from other development financial institutions such as the Japan International Cooperation Agency (JICA) and the German development institution, KfW. Through TNUIFSL, the institution manages six earmarked funds for different purposes: TNUDF; the Project Development Grant Fund (PDGF); the Project Sustainability Grant Fund (PSGF); the Chennai Mega City Development Fund (CMCDF); the Tamil Nadu Urban Road Infrastructure Fund (TURIF); and the Water and Sanitation Pooled Fund (WSPF).^b The asset manager (TNUIFSL) defines itself as a one-stop solution for the provision of public urban services from original concept to commissioning (including project preparation, project structuring, procurement management, advisory services, and capital market access).

³⁹ <http://www.mbie.govt.nz/info-services/infrastructure-growth/housing-infrastructure-fund> (accessed January 1, 2018).

⁴⁰ <https://www.adb.org/news/adb-provides-100-million-fill-infrastructure-gap-through-ppp-sindh-province>.

Perhaps its most well-known fund, the WSPF, created in 2002, has been active in local bond issuance. The concept behind it was the creation of a “pooled fund” that will allow smaller municipalities to access local capital markets together with other similar local governments, which they could not do on their own. At the time, TNUDF primarily services large municipalities (urban local bodies, or ULBs) with dependable revenues. Many small and medium municipalities were effectively excluded from accessing financing via TNUDF because of high transaction costs, and the inability to obtain credit ratings.

In December 2002, the WSPF issued a pooled bond to finance water and sanitation services to 13 small and medium municipalities in the State of Tamil Nadu. Debt was to be repaid from project cash flows and from the municipalities’ general revenues. A complex credit enhancement package was designed to provide comfort to investors and extend the tenor. The package included a debt service reserve fund (capitalized by the state), individual municipalities’ escrow accounts, a state revenue interception mechanism (flows to the municipalities), plus a partial credit guarantee provided by the U.S. Agency for International Development (USAID). The proceeds from the pool bond issuance were used to on-lend to the 13 municipalities. The pooled bond was rated AA, with a yield of 9.20 percent (local currency) and a maximum tenor of 15 years. The issuance was for Rs304.1 (equivalent to US\$6.2 million), relatively small for a market the size of India. Subsequent pooled bond issuances by WSPF have been successfully done, with some modifications to the credit enhancement package but always in limited amounts (see table A.4.1 below).

Without a doubt, these types of pooled bond financing structures have helped small and medium municipalities obtain access to needed financing at adequate conditions. TNUDF, through its WSPF vehicle, has played a catalytic role promoting the access of these smaller entities to local capital markets and local investors. It is helping in developing a new asset category in India. However, since 2002, the total amount of funds raised has been only Rs3,022 or Rs322 Crore, equivalent at the average exchange rate to approximately US\$53 million, which is relatively minor when compared with the infrastructure investment demands of a state like Tamil Nadu.

Several factors explain the relatively smaller amounts of bond issuance, including the need for further explanation to investors of how the risk mitigation mechanisms (provided by the credit enhancement package) work. This is part of the effort of creating a new asset class in India. In addition, transaction and monitoring costs tend to be relatively high for these types of transactions, requiring the creation of several risk mitigation mechanisms. Moreover, in recent years, India’s regional infrastructure markets have been increasing their offerings in “soft” and non-reimbursable financial products that compete with TNUDF’s offering. As of March 31, 2017, TNUDF had total assets of Rs2,277.82 Crore (equivalent to US\$355 million), with a net worth of Rs245.08 Crore (equivalent to US\$38 million) and a net income of Rs15.34 Crore (equivalent to US\$2.4 million).^c TNUDF had an average return on equity of 6.3 percent in 2017, which for a fund that seems relatively leveraged would appear to be on the low side. In January 2017, India Ratings and Research reconfirmed the AA ratings of all debt issued by TNUDF.

Sources: Audited Financial Statements 2016/17; Evaluation Review by the World Bank, 2005; “Pooled Municipal Bond Issuance in Tamil Nadu”, World Bank Group, 2016; India Ratings and Research, 2017; 2007 TNUDF white paper by L. Krishnan; 2017 TNUDFSL Asset Management Report.

Notes: a. The World Bank, before the TNUDF was created, originally funded the MUDF in 1988. Its successful track record as a state fund encouraged the Government of Tamil Nadu to broaden the scope of the fund, with a view to attracting private capital into urban infrastructure and to facilitate better-performing urban local bodies to access local capital markets.

b. The PDGF and WSPF are owned by the Government of Tamil Nadu as independent funds, but are managed by TNUDFSL.

c. The exchange rate is as of March 31, 2017.

Table BA.4.1. Pooled Bond Issuances by the Water and Sanitation Pooled Fund (WSPF), 2002–17

	2002	2008	2010	2012	2013	2017
Amount (Rs million)	Rs304.10	Rs67.0	Rs831.19	Rs510.00	Rs510.00	Rs800.00
Yield	9.20%	7.25%	7.50%	10.60%	8.71%	8.25%
Tenor	15 years	10 years	10 years	10 years	10 years	12 years
ULBs (number)	13	5	7	10	10	5
Credit Rating	AA	AA	AA	AA	AA	AA

Source: TNUDF audited financial statements, 2016/17.

TRUSTS MANAGED BY A NATIONAL DEVELOPMENT INSTITUTION

A fund can be created to support a specific infrastructure strategy, but instead of creating a new institution from scratch, a government may cede management of a fund to a government-controlled entity with a credible performance via a *trust (or similar arrangement)*. This model is typically used when governments receive extra-budgetary resources for extraordinary events (unexpected increase in commodity exports, privatization proceeds, and so on).

Mexico has experience of establishing this type of trust. Its first-generation toll road program (1989–94) had to be financially rescued after operational miscalculations, together with the peso crisis (December 1994), severely impaired the project's capacity to repay debt.⁴¹ The rescued assets were transferred to two public trusts: The Trust Fund for the Rescue of Highway Concessions (FARAC) and the Infrastructure Investment Trust Fund (FINFRA). In February 2008, the National Infrastructure Fund (FONADIN)⁴² was created to attract private financing in projects defined in the government's National Infrastructure Plan (2008–13). The fund was capitalized via the transfer of the FARAC and FINFRA trusts. The law that created FONADIN gave it the status of Public Trust Fund (without being considered a public entity). The fund was transferred to Mexico's national development bank, BANOBRAS, for its management. BANOBRAS acts as the fiduciary, and the operation of the Fund (FONADIN) is the responsibility of the Deputy General Directorate of Investment Banking of the development bank.

PROCUREMENT DEVELOPMENT FUNDS

PIFs can also be established as vehicles to absorb and channel financial support from development financial institutions for infrastructure development. These institutions function as a national procurement agency to distribute resources from DFI loans and technical assistance, per the government's infrastructure development strategy. These types of PIFs adhere to the DFIs' procurement rules and procedures, which can provide advantages over the use of national procurement processes in terms of governance and efficiency.

As example of this type of fund is the Albanian Development Fund (ADF), which was created in 1993 through a special law, as a social investment fund to support poverty alleviation in the country.⁴³ ADF was sponsored by the World Bank and has received several loans since inception for rural and urban infrastructure development. Initially, ADF executed projects supported by the World Bank to alleviate poverty in rural areas. As Albania has improved its per capita income, ADF has gradually focused on infrastructure development (roads network, water and sanitation, and tourism infrastructure). ADF also provides technical assistance for the institutional strengthening of its subnational clients. ADF acts as the Government of Albania's sole agent for loans and non-reimbursable technical assistance from DFIs. Besides loans from the World Bank, ADF acts as the executing agency for loans from the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), KfW, the Islamic Development Bank, OPEC (the Organization of the Petroleum Exporting Countries), the Saudi Fund for Development, and the Kuwait Fund for Development. The ADF has implemented 2,050 infrastructure projects since its creation and has disbursed approximately US\$1 billion. As Albania improves its basic infrastructure, ADF is beginning to shift its focus to regional development programs in service sectors such as tourism with an objective to create jobs.

GUARANTEE FUNDS

Guarantee funds can be established solely to provide partial risk and/or partial credit guarantees to catalyze long-term private financing for infrastructure. These guarantee products will enhance the creditworthiness of a given financing structure, improving the risk-return balance for investors and finan-

⁴¹ "A Retrospective of the Mexican Toll Road Program (1989–94)," by Jeff Ruster, World Bank, 1997.

⁴² <http://www.fonadin.gob.mx/> (accessed January 4, 2018).

⁴³ http://www.albaniandf.org/english/rreth_nesh/Pages/default.html (accessed December 27, 2017).

riers. These types of PIFs require additional institutional capacities and “up-to-date” talent and skills in financial structuring and risk management (management of contingent liabilities).

Besides contributing to the mobilization of private capital for infrastructure development—a first pillar in any national infrastructure strategy—these types of PIFs also contribute to the development of local capital markets, and help to solve the mismatch of hard currency lending with local currency revenues. Use of these credit enhancements can provide capital markets with initial “comfort” while investors learn about infrastructure risks and begin to understand the risk-return balance of financial instruments such as utilities bonds, project-specific bonds, or general infrastructure bonds. Guarantee funds usually carry a higher leverage ratio in terms of private capital mobilization than other PIFs such as a development bank or a sector-specific fund. In the sample of eight case studies, institutions that use these types of credit enhancement on average had a leverage of four to one when compared to direct lending. Since these are mostly 100-percent state-owned institutions where the government acts as the lender of last resort, these types of institutions need to have a robust system to manage contingent liabilities to avoid liquidity and solvency risks that could place them under severe financial distress.

The Indonesia Infrastructure Guarantee Fund (IIFG), established in 2009, is one of several financing mechanisms implemented by the Government of Indonesia to support PPPs. The IIGF is a non-bank financial institution fully owned by the Government of Indonesia (GOI) via the Ministry of Finance (MoF).⁴⁴ IIGF focuses exclusively on providing credit derivatives (guarantees) to improve the risk profile of projects and mobilize private capital. IIGF guarantees are partial risk guarantees that exclusively cover the payment and political risks arising from contracting agencies’ commitments in a PPP structure in the local markets. This can include off-take contract payments (such as energy sales) and other important commitments (such as termination payments and rights of way) from contracting agencies.⁴⁵ IIGF is in its seventh year of operations since its creation in 2010. As of December 31, 2017, IIGF had appraised 19 different projects and signed 15 guarantee agreements for a project value of Rp176 trillion and guarantee coverage of Rp36 trillion.⁴⁶ IIGF guarantees are in local currency and help develop local financial markets to provide long-term funding to infrastructure projects.

Box A.5: Typology for Public Infrastructure Entities, World Bank Group, 2018

During 2018, an approach to categorize public infrastructure entities was developed by the World Bank Group. This box illustrates the approach and methodology to enhance the analysis of this section.

1. Financing platforms and non-bank entities

Entities in this category are funded directly and exclusively by the government (rather than the market). Governance is usually quasi-autonomous and entities are delivered as an agency of a line ministry (e.g., Ministry of Finance or Transport). These entities use eligibility criteria and windfall resources from federal government to incentivize leases, PPPs and private financing, but do not provide advisory capacities.

Examples: TIFIA (Transportation Infrastructure Finance and Innovation Act) in the United States; Australia Assets Recycling Initiative.

2. Specialized infrastructure banks and funds

These focus primarily on leveraging private investments into infrastructure. They engage in most, if not all, infrastructure sectors. These entities are separate non-bank financial institutions with a governance structure at arms-length with the government and access market sources as part of their funding strategy. They often include advisory capacities.

Examples: Financiera de Desarrollo Nacional (FDN) in Colombia; Clifford Capital in Singapore; Canada Infrastructure Bank; Fondo Nacional de Infraestructura (Fonadin) in Mexico.

⁴⁴<http://www.worldbank.org/en/country/indonesia/brief/faq-indonesia-infrastructure-guarantee-fund>; <http://www.iigf.co.id/en>.

⁴⁵Contracting agencies are the state-owned enterprises, sector ministries, public sector agencies, and subnational governments in Indonesia.

⁴⁶Equivalent to US\$13.2 billion of project value and US\$2.7 billion of guarantee value (calculated at an average 2017 exchange rate of Rp13,389 per U.S. dollar).

3. Large policy/industrial banks

These are public institutions with a development role, promoting a government's economic and industrial policy across multiple sectors of the economy, not just infrastructure. They are state-owned institutions with varying degrees of autonomy but normally access market sources for their funding strategy. Many of these entities have advisory services capacities.

Examples: China Development Bank; BNDES in Brazil; KfW in Germany.



ANNEX B

CASE STUDIES: EXECUTIVE SUMMARIES

These case studies were developed between September 2017 and May 2018, via conference calls and field visits to the eight institutions. Interviews and discussions were held with senior management and key officials in the Ministries of Finance and related institutions. Any changes that have may taken place in the eight institutions since June 2018 are not reflected in this analysis. Case studies were developed by a team of consultants including: Ashraf Bouajina, Afua Entsuah, Carlos Leon, Federico Scodelaro, and Mujtaba Shahneel. The work on the case studies by the team of consultants was coordinated by Ellis J. Juan.

CASE STUDIES: EXECUTIVE SUMMARIES

Eight PIFs were selected for in-depth analysis as part of the Global Review. Each case analysis is included in Volume II of this document (“Global Review of Public Infrastructure Funds: Case Studies”). This chapter addresses the key features and typologies of each of the PIFs, the local markets in which they operate, their governance structures and fiscal management policies, their product offerings and performance, and provides a description of challenges and lessons learned by each of the institutions.

In South Asia, the case studies include India, Bangladesh and Indonesia. India provides a successful model for the development of an institution that has redefined the country’s infrastructure finance market. In Indonesia the case study focuses on the use of a specialized financial vehicle to guarantee government commitments supporting PPPs, and in Bangladesh, the case study has concentrated on the development of the energy sector.

In Africa, the case studies include South Africa and Ghana. South Africa has a rich history of PIFs and PPPs that can provide an interesting example to the whole region. Comparatively, Ghana has only recently operationalized its PIF, but it has already become quite active, and provides an example for the rising economies of Africa in operationalizing PIFs.

In Latin America, the case studies are drawn from Argentina and Colombia. Argentina’s Fondo Fiduciario Federal de Infraestructura Regional focuses exclusively on sub-national entities and brings a flavor of sub-national perspective into the mix. In Colombia, Financiera de Desarrollo Nacional was created in 2011 as a transformation of the Financiera Energetica Nacional, which is a public financial institution with a dedicated purpose to finance energy development in Colombia, to now finance the full range of infrastructure sectors.

Canada has been selected to provide an example from the developed world. It has a long history of PPPs and is currently transitioning from one form of PIF to another, and this evolution provides an interesting case study.

These detailed case studies provide ample information and data to draw recommendations and lessons for policy makers and infrastructure professionals from around the world that can be used in developing better structures and standards for PIFs in the future. For ease of reference, this chapter includes executive summaries of the eight case studies. Volume II presents the complete case studies for further reading.

Table B.1. Categorization of the Public Infrastructure Funds Included in the Case Studies

Case study (Fund)	By Policy Objective	By Scope or Reach
Argentina (FFFIR)	Strategic investment fund	Subnational development
Bangladesh (IDCOL)	General infrastructure fund	Sector development (energy)
Canada (CIB)	Third-generation PPPs/infrastructure fund	National development bank
Colombia (FDN)	Strategic investment fund	National development bank
Ghana (GIIF)	General infrastructure fund	National development bank
India (IIFCL)	General infrastructure fund	National development bank
Indonesia (IIGF)	Strategic investment fund	Guarantee fund
South Africa (DBSA/IIPSA)	EU infrastructure fund	Trust managed by PIFs

This annex contains summaries of the eight case studies. The structure of each case is:

- Executive Summary
- Country Information
- Fund Description
- Institutional Arrangements and Governance
- Fiscal Management
- Offering of Financial and Technical Assistance Products
- Fund Performance
- Climate Change Considerations
- Risk Management
- Lessons Learned
- Key Challenges Ahead

EXECUTIVE SUMMARIES OF THE CASE STUDIES:

Argentina, Fondo Fiduciario Federal para Infraestructura Regional (FFFIR)

The FFFIR (Fondo Fiduciario Federal de Infraestructura Regional, or Federal Fiduciary Fund for Regional Infrastructure) is an Argentine infrastructure fund that lends to provinces.⁴⁷ The FFFIR was created in August 1997 by Law 24855. The Law also regulated the privatization of the Banco Hipotecario Nacional (BHN), establishing that the proceeds of the sales of shares of the institution would capitalize the newly created FFFIR. The proceeds of the sale were transferred to a Public Trust at Banco Nacion in 1998.⁴⁸ Banco Nacion acts as the Trustee of the FFFIR Trust, and the Government of Argentina (GOA) is the ultimate beneficiary. The initial capitalization strategy was key to the relative success of the institution during years of volatility in the Argentine economy. The Law establishes that 30 years after its creation, unless the law is modified, all assets of the FFFIR will revert to the Government of Argentina. Decree 924/97 (1997) created the FFFIR Assistance Fund (FAFFFIR) with the sole purpose of stipulating the ways in which the sale of the BHN shares (40 percent of the outstanding shares) should initially capitalize the FFFIR, and the ways in which the remaining BHN shares (60 percent of the outstanding shares) should be used to capitalize the FFFIR in ongoing operations (through the sale of shares, use as collateral for borrowing purposes, and so on). This body acts more like FFFIR's oversight committee exclusively for issues related to the capitalization of the institution and the use of remaining BCN shares in FFFIR's trust at Banco Nacion.

The FFFIR is a decentralized, non-bank financial institution capitalized from the proceeds of the privatization in 1997 of Banco Hipotecario Nacional (BHN), one of Argentina's leading mortgage lenders.⁴⁹ FFFIR is a decentralized and independent government entity⁵⁰ and does not have annual public budget support. It falls within the purview of the Ministry of Interior, which is also responsible for urban development, housing, water and sanitation and public works. During its 20-year existence (1998–2017), the FFFIR has received the equivalent of US\$448 million in capitalization proceeds (amounting to nearly 40 percent of the BHN shares), and has on-lent to provinces an amount equivalent to US\$2 billion—a leverage ratio close to five. It has no outstanding debt and has a solid financial standing.

⁴⁷ Provinces in Argentina are political jurisdictions similar to states or regional governments in other countries.

⁴⁸ Banco Nacion is the state-owned largest bank in Argentina, with multiple functions in local economic development and the stabilization of local financial markets. It is the preferred bank for public sector entities for their different commercial banking activities. It is a decentralized entity with financial autonomy and is not subject to the public law procurement process.

⁴⁹ BHN was the largest second-floor lender of mortgages in Argentina. It was very successful in the development of the local market for mortgage-backed securities in the 1990s. The government included BHN as an asset to be transferred to the private sector in the economic reform program of the mid-1990s.

⁵⁰ Decentralized and independent government entities are referred to in the Argentine legal framework as autarchic institutions.

The FFFIR lends directly to provinces (and through them to municipalities), using the revenues from tax co-participation funds (funds collected from federal taxes that are directly distributed to provinces) as collateral, thus resulting in a healthy loan portfolio with no defaults and/or delinquent accounts to date. It has achieved full cost-recovery status by charging its borrowers market-based interest rates and a fee for technical assistance, while maintaining a lean and efficient staffing structure. By December 2016, the FFFIR had a balance of approximately Arg\$9,000 million (equivalent to approximately US\$512 million). The FFFIR is not leveraged. The current total debt (including labor, taxes, and other liabilities), is less than 9 percent of the total equity. Given this situation, the effective financing of the FFFIR is limited to its only source of funding, the amortization of capital and interest of the portfolio that is due each year. Given that the FFFIR portfolio has relatively short maturities, due the nature of the local infrastructure it finances (with tenors of three to four years), the annual credit capacity is approximately Arg\$1,200 million per year (equivalent to US\$80 million). Under current legislation, the extent of the FFFIR's contingent liability on the Government of Argentina is capped at the extent of the value of the remaining BHN shares and the FFFIR's current equity position.

The main challenge facing the FFFIR is its limited credit capacity, far from the large investment needs in Argentina's ambitious infrastructure plan, which amounts to US\$132 Billion (2017 infrastructure plan). The FFFIR has proven to be an efficient vehicle for subnational infrastructure financing, yet it is constrained by its capitalization options. The Ministry of Interior is currently considering different capitalization options to increase the lending limits of the FFFIR. These are described in the final section of the complete case study.

BANGLADESH, INFRASTRUCTURE DEVELOPMENT COMPANY LIMITED (IDCOL)

Bangladesh's Infrastructure Development Company Limited (IDCOL) was established on May 14, 1997 by the Government of Bangladesh (GOB) in fulfillment of the conditionality of a Private Sector Infrastructure Development Project (PSIDP) loan by the World Bank Group. IDCOL's mission is to promote economic development in Bangladesh by encouraging private sector investment in energy and infrastructure projects. Originally, IDCOL was conceptualized as a closed-end fund with a temporary role in infrastructure development in the country, linked to the utilization of the World Bank credit line.⁵¹ As the institution developed and the GOB opted to transfer other loans and credit lines to IDCOL to support infrastructure PPPs, the character of the institution evolved to become more open ended.

Given its mandate, IDCOL initiated its lending activities in the conventional energy sector due to the sector's readiness. As IDCOL has evolved, it has started lending in the renewable energy space (solar house systems, solar irrigation pumps, solar mini-grids, bio-gas, and the like). Today, almost 80 percent of IDCOL's assets are concentrated in the energy sector, with 47 percent in renewable energy and 33 percent in conventional energy. IDCOL has played a key role in supporting the development of the energy sector in Bangladesh and promoting access to clean energy in low-income segments.

Since IDCOL's inception, the GOB has not capitalized it at the levels required by its mandate. The government's initial capital contribution was only the equivalent of approximately US\$4 million. Given these circumstances, up until 2016, IDCOL performed well. Its return on equity (ROE) of more than 30 percent for the FY2012–FY2016 period was the highest of the PIFs sampled in the Global Review. However, a credit risk issue with IDCOL's flagship solar housing program in 2016 has had a severe impact on the level of its non-performing loans in this sector. IDCOL had to increase its level of provisioning, which depressed earnings and ROE. Today, IDCOL is weakly capitalized, with a leverage factor (total assets) of 14 times its equity base. Its equity base, as of 2016, was Tk5,971 million (approximately US\$75 million).

The key challenges facing IDCOL include:

Bangladesh's graduation to developing country status. IDCOL is the only PIF in the sample exposed to the impact of the country "graduating" from least developed country (LDCs) to developing country status. This process could have an important impact on access to "soft-term" financing and will eventually affect the cost of funding and return on equity. This issue makes the case strategically important in the sample.

Capitalization and funding strategy. IDCOL needs to improve its assets-to-equity ratio to lower its risk exposure. The fund's high leverage will no longer be sustainable under a scenario of limited access to soft (very low-cost) donor funding. Diversifying IDCOL's funding base will be challenging, as non-donor funding will be priced higher than that of development partners. Nevertheless, it is in IDCOL's best interest to begin developing new funding sources, potentially including issuance of debt securities in the local financial markets and accessing the private windows of developing partners. IDCOL has already initiated this strategy and has received a US\$526 million loan from the commercial window of the Asian Development Bank (ADB).

IDCOL's role in supporting the development of local capital markets. As with other PIFs, IDCOL needs to play a catalytic role in promoting the development of local capital markets. IDCOL needs to be more proactive in the development of credit derivatives (partial credit and partial risk guarantees) through innovations in product offering, accompanied by a contingent liability strategy. By implementing these types of new instruments effectively, IDCOL will be able to maximize the leverage of the private capital it can mobilize.

Diversifying while maintaining leadership in the renewable energy sector. IDCOL has 80 percent asset

⁵¹This situation likely explains the GOB's relatively low capitalization of IDCOL initially (approximately US\$4 million).

concentration in the energy sector, and needs to improve the risk management of its portfolio and increase diversification to other sectors. At the same time, IDCOL has a consolidated position as the lead lender in the energy sector in Bangladesh and is also the lead financier in climate change-related investments (renewable energy and energy efficiency). In a post-graduation situation, one of the few “soft” funding sources available at a global scale will be the climate change-related initiatives (including the Green Climate Fund, and climate change windows through multilateral agencies (MLAs) and bilateral agencies). It will be desirable for IDCOL to maintain this leadership position as a climate change financier to add a “soft” component to its future funding strategy for its operations in Bangladesh. IDCOL is well positioned to achieve this as the country’s first accredited agency under the Green Climate Fund.

The role of Bangladesh Infrastructure Finance Fund Limited (BIFFL). In contrast to IDCOL, the BIFFL has been strongly capitalized since its creation in 2011. This situation provides BIFFL with a competitive edge to more enthusiastically develop new risk mitigation products and become more innovative to support local capital market development and mobilize more private capital. Despite its original mandate to support public investment, BIFFL is very active in PPPs. Coordination and collaboration between both institutions will be critical for the development of PPPs in Bangladesh, including for example joint development of new financing structures and joint underwriting. This will help both institutions to promote private capital mobilization in Bangladesh infrastructure markets.

CANADA, CANADA INFRASTRUCTURE BANK (CIB)

Canada's infrastructure financing experience highlights that even a country with a developed economy and mature financial markets has to consistently evolve its approach to infrastructure finance and development. Canada has moved from a PPP program designed to create fiscal space to a situation where the national government created a fund to encourage different strata of governments to undertake PPPs (mainly via the government pay model). The government has also recently formed the Canada Infrastructure Bank (CIB), whose main aim is to develop the financial market for revenue generating infrastructure projects. CIB's development will also showcase the challenges that a country faces in moving from a government pay model to a user pay model.⁵²

The CIB is different from the rest of the case studies in this Global Review. It was only recently created in April 2017 and is still under development. CIB is building on the success of previous Canada PIFs such as P3 Canada Fund and Canada Strategic Infrastructure Fund. The board of directors and chairperson have been appointed, but key management positions such as the CEO, CFO and CIO are still in the search process (as of March 31st, 2018)⁵³. CIB is a crown corporation wholly owned by the Government of Canada (GOC). It is a non-bank financial institution, under private sector corporate laws. It will consolidate with Canada's public sector for fiscal management purposes, and the GOC acts as the lender of the last resort.

Perhaps the most interesting feature of this case study is that it demonstrates that even in developed countries with successful track records in infrastructure development and PPP transactions, the PIF model is still relevant to infrastructure development. Canada's capital market development is at a mature stage when compared with developing countries featured in the case studies (i.e., India, Bangladesh, Ghana, Indonesia), but there is still the need for public sector intervention in support of better and more infrastructure development. In addition, Canada is already focusing on the third wave of PPP transactions with an important shift towards social infrastructure and complex economic infrastructure undertakings.

⁵²Government pay model: A PPP project where the government as a sponsor assumes demand risks and pays directly to the concessionaire on the basis of performance (shadow tolls roads, an infrastructure project exclusively based on availability payments, etc.).

⁵³On May 24, 2018, the Government of Canada announced the appointment of Pierre Lavallee as CEO of Canada Infrastructure Bank. He was formerly senior managing director and global head of investment partnerships for the Canada Pension Plan Investment Board (CPPIB), Star Business Journal, Toronto.

COLOMBIA, FINANCIERA DE DESARROLLO NACIONAL (FDN)

Colombia's national development bank, Financiera de Desarrollo Nacional (FDN), was created in 2011 through the conversion of another financial institution, the Financiera Energética Nacional (FEN), that had promoted the development of energy infrastructure since the 1980s.⁵⁴ FDN is a full-fledged financial institution with capacities to lend, invest, and take deposits from the public. It acts as a specialized financial institution with a range of lending, advising, and investing activities that places it somewhere between a strategic investment fund and a development bank (focusing on infrastructure). FDN is incorporated as a full commercial bank, and is supervised by the competent regulatory authorities in Colombia (Superintendencia Financiera de Colombia, or SFC).

FDN operations were first funded using the liquid assets on the FEN balance sheet. Later, the Government of Colombia (GOC) decided to further fund FDN by using the proceeds of the privatization of ISAGEN (the state-owned energy enterprise for power generation). A total of Col\$5.8 billion (equivalent to US\$2 billion today) was invested in FDN through debt and equity (Col\$5.1 billion in senior and subordinated bonds and Col\$0.7 billion in equity).⁵⁵

By 2015, FDN had become a mixed state-owned financial institution with ownership distributed between the Ministry of Finance (MoF), with 66 percent of the shareholdings, and three international financial institutions (IFIs)—International Finance Corporation (IFC), the Development Bank of Latin America (CAF), and Sumitomo Bank—with 34 percent of the shareholdings.⁵⁶ It is a decentralized institution, with financial autonomy, and with a profitability target established by the IFIs' ownership of 10 to 12 percent return on equity (ROE). The shareholders' agreement and bylaws provide the institution with robust corporate governance.

FDN has played a pivotal role in the development of the fourth generation of the national road programs in Colombia (the 4G Program). Operational assets (loans) as of December 31, 2017 amounted to approximately Col\$467 billion, equivalent to approximately US\$162 million.⁵⁷ In addition to the loan-related assets, FDN has approximately Col\$784 billion in credit enhancements (unutilized liquidity lines), and Col\$1,000 billion in undisbursed loans (both equivalent to US\$622 million).⁵⁸ Despite the relatively limited number of approved transactions (18 as of December 31, 2017), FDN is already having an impact on Colombia's infrastructure finance, considering the leverage ratio of its credit enhancements. By the end of 2018, FDN will be committing financing to seven additional toll road projects in the 4G concession program, increasing the average size of each operation from US\$57 million to US\$134 million.

FDN is a highly innovative institution with a very robust senior management team with strong experience in local and global financial markets. The institution plays a leading role in the development of financial markets for funding infrastructure in Colombia. It has also provided credit enhancements to three bond issuances to assist placement of Colombia infrastructure bonds in the international capital markets and is both deepening local financial markets and broadening the investor base outside Colombia. FDN will also be increasing its role as a financial advisor. It is currently supporting nine different infrastructure projects with a total investment amount of US\$8.1 billion, including the subway system for Bogotá.

⁵⁴Colombia had an important energy crisis in the 1980s that prompted the creation of FEN as the government-owned financial institution to support generation and transmission investments.

⁵⁵One billion in Colombia is equivalent (idiomatically) to one trillion in the United States.

⁵⁶The ownership also includes other minority shareholders (less than 1 percent). A new capitalization of the institution was completed on January 2018, changing the shareholding structure. The government increased its participation to 73 percent, reducing IFIs' participation to 26.4 percent.

⁵⁷Audited preliminary figures from the FDN's Vice President of Planning, calculated at the exchange rate of Col\$2,868 per U.S. dollar.

⁵⁸FDN's Vice President of Strategic Development estimates that the leverage ratio of the unutilized liquidity lines is four or more.

GHANA, GHANA INFRASTRUCTURE INVESTMENT FUND (GIIF)

The Ghana Infrastructure Investment Fund (GIIF) is a non-bank financial entity, 100 percent owned by the Government of Ghana (GOG) via the Ministry of Finance (MoF). It was created via an Act of Parliament in late 2014 to: promote the development of local financial markets; provide new financial products and risk mitigation mechanisms to mobilize additional private capital to finance infrastructure development; improve local currency lending conditions and mitigate use of U.S. dollar-financing in sectors that do not generate U.S. dollars; and increase the leverage impact of restricted funding resources for Ghana. The fund was capitalized with US\$250 million from the proceeds of a sovereign bond placed in the eurobond market. Additional sources of funding were allotted to GIIF per the Act, including a percentage of the existing value added tax (VAT) and the Annual Budget Funding Account (ABFA). As of March 30, 2017, in 2015 and 2016, these additional resources had generated amounts lower than determined in the Act.

Following elections in 2016, in May 2017 a new chief executive officer (CEO) was appointed, and a new independent board of directors was elected.⁵⁹ In 2017, the funding strategy for GIIF was also modified by the new Minister of Finance (MoF). The fund was instructed to evolve as soon as possible toward total financial autonomy and independence from public budget sources. GIIF is currently working with U.K. consultants, Lion's Head Consulting,⁶⁰ funded by the Public-Private Infrastructure Advisory Facility (PPIAF) to develop its strategic plan, and within it, the new funding strategy. As part of this process, GIIF should explore options to bring in development finance institutions (DFIs) as equity shareholders. This could support the funding strategy and provide management experience in such areas as information systems, credit and risk management systems, and treasury operations, and strengthen the governance of the institution. Recent changes in MoF directives regarding GIIF's financial autonomy provide the institutional framework for a fast-track incorporation of new strategic investors.

Ghana's local financial markets are underdeveloped and do not offer long-term local currency financing with adequate conditions. However, hard currency lending creates a foreign exchange risk for projects that generate local currency revenues. GIIF needs to develop a more robust system to manage the risk of mismatch between assets and liabilities, particularly if, as the current origination project pipeline forecasts, by 2019 the fund has the potential to have US\$200 million in loan assets and the equivalent of US\$250 to US\$300 million in local currency (cedis) in its capital base. Demonstrating that these foreign exchange risks are well covered will be critical for the fund to attain a solid credit rating.⁶¹ As GIIF becomes mature and starts developing credit derivatives, such as guarantees and similar instruments, the institution will need to strengthen its risk management framework and develop a strong contingent liability management system that can assess credit derivatives risks, and assess them as a financial insurer as opposed to a financial lender.

GIIF is still in the very early stages of development.⁶² It currently has only three officers responsible for the day-to-day operations—the CEO, the Chief Financial Officer (CFO), and a Senior Investment Officer—plus five clerical positions. GIIF needs to navigate through its development process as an institution (that is, as a public infrastructure fund, or PIF) at a very rapid pace, but progress is slow due to a lack of staffing. GIIF has been subcontracting a portion of its work, and has launched a search process for 12 new positions, but this is likely to take some time. As the youngest institution in the sample, GIIF

⁵⁹Solomon Asamoah, a Ghanaian national, formerly worked at the International Finance Corporation (IFC), the Development Bank of

Southern Africa, the Africa Finance Corporation (Nigeria), and the African Development Bank, where he was Vice President for infrastructure, Private Sector and Regional Integration.

⁶⁰<http://www.lions-headconsulting.com/>.

⁶¹During the 2016–17 period, the Ministry of Finance ordered the “nationalization” of GIIF capital funds from U.S. dollars to Ghanaian cedis. This “political” decision is understandable based on the provision of confidence to Ghana's financial markets. However, it is not best strategy in terms of GIIF's risk management objectives. It would increase the future mismatch between assets and liabilities, if U.S. dollar lending continues to be a practice in Ghana.

⁶²As of April 30, 2018, GIIF has reached financial closure for two operations: a US\$30 million participation in a US\$200 million financing for a new airport terminal at Kotoka International Airport; and a US\$8 million investment (debt and equity) in a tourism project in Atuabo.

is a relevant case study for the Global Review, and one that clearly illustrates the rationale to tap multilateral institutions for guidance and recommendations to support establishment and implementation.

Despite its nascent nature, the challenges facing the GIIF are very common to most PIFs in the developing world. The way in which these challenges are addressed will determine the future performance of GIIF as a public infrastructure fund. Most importantly, the institution needs to become financially independent in the near term and develop and implement a new funding strategy as soon as possible. With the existing capital and at the current rate of project origination and disbursement, GIIF will require new funding in the 2019–20 period. In addition, given weak project preparation capacities in contracting agencies, GIIF should evolve to become an active player in the project preparation and capacity-building aspects of infrastructure development in Ghana. This will help to strengthen GIIF's pipeline and strengthen its role as preferred partner for infrastructure development with both private and public sector sponsors.⁶³

⁶³GIIF, together with the Government of Ghana, could build a strong case for donor grant financing to fund a project preparation facility managed by the fund. Solid advice from the technical assistance units of development finance institutions will be needed.

INDIA, INDIA INFRASTRUCTURE FINANCE COMPANY LIMITED (IIFCL)

India has large infrastructure demands to accommodate economic growth, urbanization trends, and more recently, needs for climate change mitigation and adaptation. It is estimated that India will require US\$4.5 trillion in infrastructure investments between now and 2040.⁶⁴ IIFCL was created in January 2006 to provide long-term finance to viable infrastructure projects through the Scheme for Financing Viable Infrastructure Projects using a special purpose vehicle called India Infrastructure Finance Company Ltd. (abbreviated as SIFTI). IIFCL prioritizes public-private partnership investments and mobilization of private capital. IIFCL plays a catalytic role in helping mobilize needed funding resources from both public and private capital sources. IIFCL is a public infrastructure fund wholly owned by the Government of India. It is a non-bank financial institution with state-owned corporation status. It is a decentralized entity with financial autonomy (it is not dependent on the public sector budget). The Government of India, via the Ministry of Finance (MoF), acts as the lender of last resort for the institution in the event of solvency and liquidity risk. Initial capitalization of the IIFCL has been done via allocations from the MoF.

IIFCL has been innovative in providing creative financial solutions to make infrastructure investments viable. It offers a wide range of financial products and subsidiaries to support long-term financing to infrastructure projects. IIFCL is one of the few PIFs included in the Global Review that has different vehicles to assist local infrastructure development: IIFC (UK) Ltd provides foreign currency loans for the foreign component of infrastructure projects; IIFCL Asset Management Company Ltd mobilizes local capital market funding; and IIFCL Projects Ltd provides advisory services to contracting agencies and external clients to develop infrastructure projects. IIFCL offers a range of credit derivative products (subordinated debt, first loss partial credit guarantees) that assist in the mobilization of private capital. With a balance sheet in excess of US\$6 billion equivalent (2017), it is one of the largest PIFs in the developing world and has the largest and most ambitious range of product offerings surveyed in the Global Review.

The main challenge facing the IIFCL is that despite its size, its total contribution to infrastructure finance in India is low when compared with the total infrastructure financing needs of the country. IIFCL's funding disbursements, from inception to date, to infrastructure development in India amount to the equivalent of US\$8.8 billion from its balance sheet, and approximately US\$40 billion when considering the leverage impact attracting other financiers (equivalent to the total project costs). In a November 9, 2017 letter to shareholders, IIFCL's chairman noted the challenges faced by India's infrastructure finance sector:

“Higher level of economic growth necessitates commensurate increase in infrastructure, as infrastructure sector has strong forward and backward linkages with other sectors of the economy. However, India's infrastructure sector has been reeling under various issues. These include lack of adequate low-cost long-term financing, limited equity & over-leveraged balance sheets of developers, delays in approvals and clearances, delays in land acquisition, incorrect projections in some cases due to inadequate due diligence etc. Of the several challenges faced by the sector, funding remains a key challenge for India and needs to be tackled urgently.”

To meet the country's financing needs, IIFCL needs to dramatically increase its financial efficiency in the use of its resources, and further increase its leveraging capacities. This will require a two-pronged approach. The first prong is to expand and develop the credit enhancement business line, partnering on a longer-term basis with IFIs and selected private institutions with an interest in capital markets in India for infrastructure. The second prong is to coordinate efforts with GOI policymakers and regulators to support a healthy and robust development of capital markets in India.

⁶⁴Global Infrastructure Hub, 2017, Global Infrastructure Outlook.

INDONESIA, INDONESIA INFRASTRUCTURE GUARANTEE FUND (IIGF)

The Indonesia Infrastructure Guarantee Fund (IIFG)⁶⁵ was established in 2010 and is one of several financing mechanisms established by the Government of Indonesia (GOI) to support PPP projects. It is a state-owned enterprise 100 percent owned by the MoF. IIGF focuses exclusively on providing credit derivatives (guarantees) in local currency (rupiah, Rp) to improve the risk profile of a project and ease mobilization of private capital to finance projects. IIGF guarantees are partial risk guarantees that cover only the payment and political risks arising from the commitments by contracting agencies (state-owned enterprises, sector ministries, public sector agencies, and subnational governments) in a PPP structure in the local markets.⁶⁶ IIGF also has its own technical assistance arm (the IIGF Institute) to provide training and institutional capacity building to contracting agencies in the areas of PPP arrangements and infrastructure finance. IIGF has benefitted from the assistance of international financial institutions to develop its operating manuals, management information systems, and risk management systems. This has helped to turn IIGF into a specialized institution, with strong corporate governance, that has no direct peer in other developing countries (some PIFs in other countries provide similar products, but none does so with the specialized focus of IIGF).

As of December 31, 2017, IIGF had appraised 19 projects and signed 15 guarantee agreements for a project value of Rp176 trillion and guarantee coverage of Rp36 trillion. IIGF's current (2017) contingent exposure to contracting agencies' risk in PPP transactions is Rp36 trillion (equivalent to US\$2.7 billion). IIGF has an equity value of approximately US\$665 million and enjoys relatively high levels of liquidity. Based on its track record to date, in June 2017 the MOF approved, via a ministerial decree, an increase in IIGF's limit to take risk exposures up to a maximum of 10 times its capital (equivalent to approximately US\$6.7 billion). With each guarantee leveraging three to four times the amount in private capital, on average, IIGF's impact on infrastructure development will increase significantly.

Nonetheless, Indonesia faces an infrastructure financing gap estimated at US\$1.5 trillion. Given the size of these demands, IIGF faces significant challenges to become a key player in Indonesia's infrastructure development. The challenges are twofold. The first is associated with the financial capacity of IIGF and the management of its contingent liabilities, which affects its liquidity. IIGF needs to carefully migrate from a "financier business model" to an "insurance business model." The government may also consider increased capitalization of IIGF by adding private sector investors as shareholders. The second challenge is associated with the "crowding out" role of contracting agencies in Indonesia. The GOI needs to develop better policy incentives to support the adoption of PPP mechanisms by the contracting agencies in Indonesia. This would guarantee the pipeline and the relevance for IIGF's continued business. In addition, IIGF's knowledge arm, the IIGF Institute, needs to continue to build institutional capacity in contracting agencies to build awareness of PPPs and IIGF's role in supporting PPPs.

⁶⁵IIGF is also known as PT Penjaminan Infrastruktur Indonesia (Persero).

⁶⁶A contracting agency (CA) is the government's representative or partner in the public-private partnership (PPP). It can be a ministry, government institution, local government, state-owned enterprise, or local government-owned enterprise that is responsible for providing infrastructure in accordance with the law.

SOUTH AFRICA, INFRASTRUCTURE INVESTMENT PROGRAM FOR SOUTH AFRICA (IIPSA)

The Infrastructure Investment Program for South Africa (IIPSA) was established in 2012–13 in support of the Government of South Africa's (GoSA's) prioritization of infrastructure investment as a means of economic transformation through job creation, poverty elimination, and inequality reduction. IIPSA is a €100 million infrastructure program solely funded by the European Union (EU) to provide grant financing to leverage additional long-term financing from international financial institutions to develop priority infrastructure projects in South Africa and in the Southern African Development Community (SADC) region.⁶⁷ As such, IIPSA is neither a financial institution nor does it qualify as a 100-percent public infrastructure fund. It could be defined as a needed complement to a PIF, but it does not have all the characteristics of a fund. IIPSA is therefore distinct from the rest of the case studies in the Global Review, but its lessons learned and the challenges it faces share many of the same features of other PIFs in the sample.

IIPSA is a bilateral support facility jointly developed between the EU and the GoSA. The Development Bank of Southern Africa (DBSA), a non-bank financial institution fully owned by the GoSA (Treasury Department), is implementing the program. DBSA plays a substantive role in the program's implementation as both IIPSA Secretariat and fund manager, as well as operating as a participating DFI in the program. DBSA's selection as IIPSA Secretariat and fund manager was based on the bank's expertise and experience in financing infrastructure projects, its geographical coverage of both South Africa and Southern Africa, as well as its established partnerships with European financing institutions already active in South Africa. Most importantly, DBSA's selection was a cornerstone of South African ownership of the program. DBSA has a large concentration of its lending operations with subnational entities in South Africa.

IIPSA is still a relatively young program. Although IIPSA has several projects in execution that are in the project projection phase, the program has only two projects in execution in the implementation phase (that is, projects that have reached financial closure and are in the construction stage).⁶⁸ Nevertheless, nearly 34 percent of the EU's original commitment (€100 million) was disbursed by the EU to the DBSA in the 2014–17 period.⁶⁹ IIPSA has already committed up to 72 percent of the available grant funding (€93 million), although effective disbursements seem to be lower, at 30 percent of total commitment.⁷⁰ To date, 80 percent of the IIPSA commitments have been to projects in South Africa.⁷¹ The program has evolved from a "blending facility" to a facility that predominantly supports project preparation. Lack of institutional capacities at the subnational level in South Africa, coupled with the complexities of regional infrastructure projects in the SADC, has increased day-to-day pressures on IIPSA's Secretariat to allocate program funding to prepare better projects. The transition from the original "blending" objective to a "project preparation" facility is understood in part by market realities and the nature of the grant financing conditions. However, it is in the best interest of IIPSA to continue exploring "blending" options that could increase the leverage of funding sources and the impact on South Africa's infrastructure development.

IIPSA and DBSA have limited engagement with the private sector, particularly the financial sector. South Africa, unlike many other developing countries, has well-developed financial markets (both bank and

⁶⁷SADC region is comprised of the following countries: South Africa, Zimbabwe, Botswana, Mozambique, Zambia, Tanzania, Namibia, Angola, Democratic Republic of Congo, Lesotho, Malawi, Eswatini, Mauritius, Madagascar, and the Seychelles.

⁶⁸These projects are: Western and Northern Aqueducts of the Thekwini Municipality, and in the Polokwane municipality.

⁶⁹€9.0 million in 2015, €8.1 million in 2016, and €17.3 million in 2017.

⁷⁰Of the total €100 million, seven percent was allocated to management fees to DBSA. The total amount available for project allocation is equivalent to €93 million.

⁷¹Project Steering Committee, Progress Report No. 13, February 20, 2018 (projects in implementation plus projects committed – approved and signed).

bond markets). IIPSA could play a catalytic role in further developing local capital markets by expanding the local investor base and attracting global capital into the domestic financial markets. However, this role is currently beyond the scope of IIPSA, and may require the establishment of a new grant facility to meet this purpose. In addition, because IIPSA is seeking to influence municipal-level infrastructure, given the great need and high impact, the GoSA could continue to explore the development of a municipal finance market⁷² with a solid credit rating system of different municipalities. This market would need a solid public sector financial institution with the role of promoting municipal finance development through initial phase market mechanisms such as partial risk and partial credit guarantees and other credit derivatives. Again this role may be beyond IIPSA.

Despite the young nature of IIPSA's product life cycle and narrow scope, project origination, after the shift toward a project preparation facility, is strong. If it continues at current rates, original funds would be committed by late 2019. IIPSA, as a closed fund, matures in 2020. Under current circumstances, it would seem likely that the disbursement phase would need an extension from EU until 2021 or 2022.

⁷²Currently, the Government of South Africa, through the Inter-Governmental Relations Division of the National Treasury, is leading initiatives to develop a municipal finance market by hosting investment seminars with the private sector, development institutions, and municipalities.

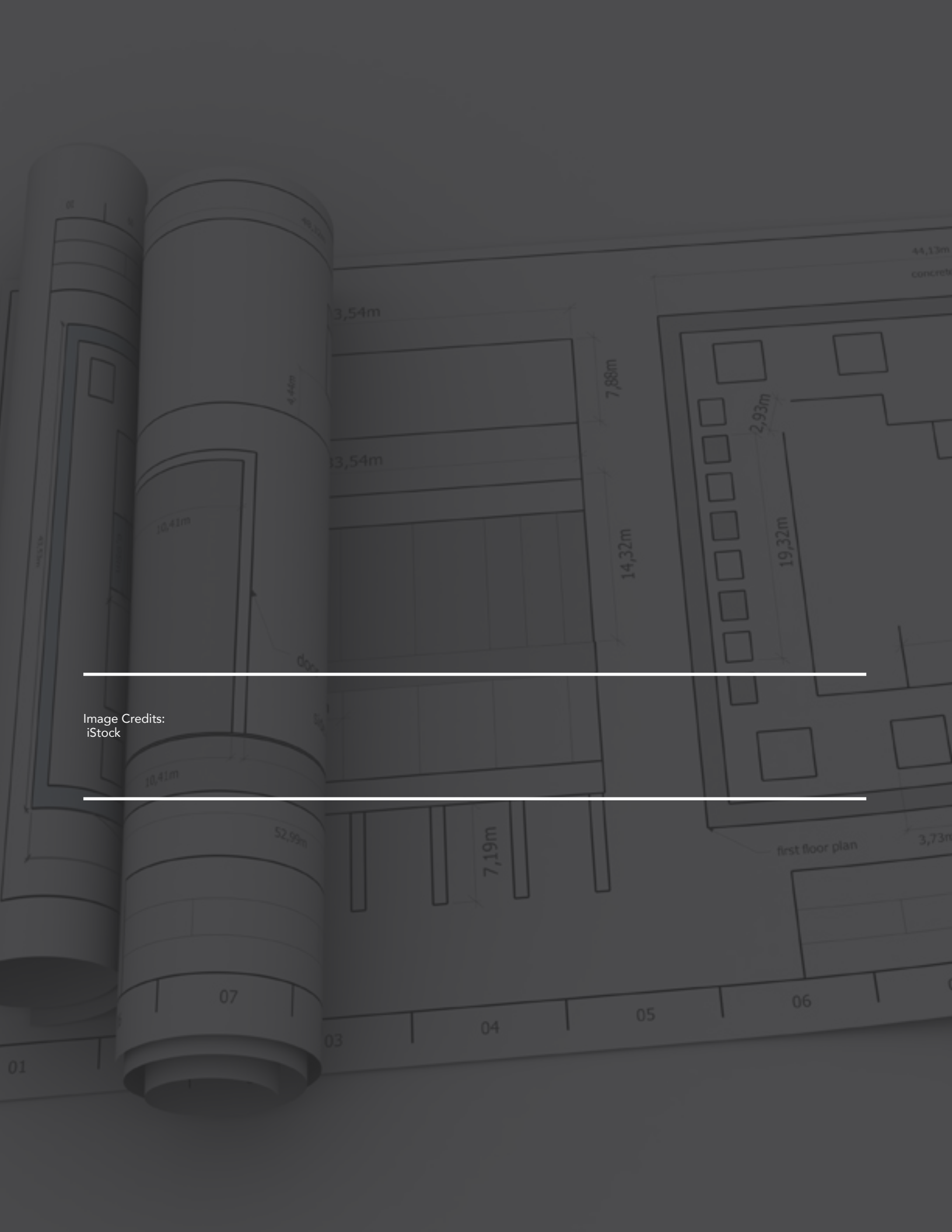
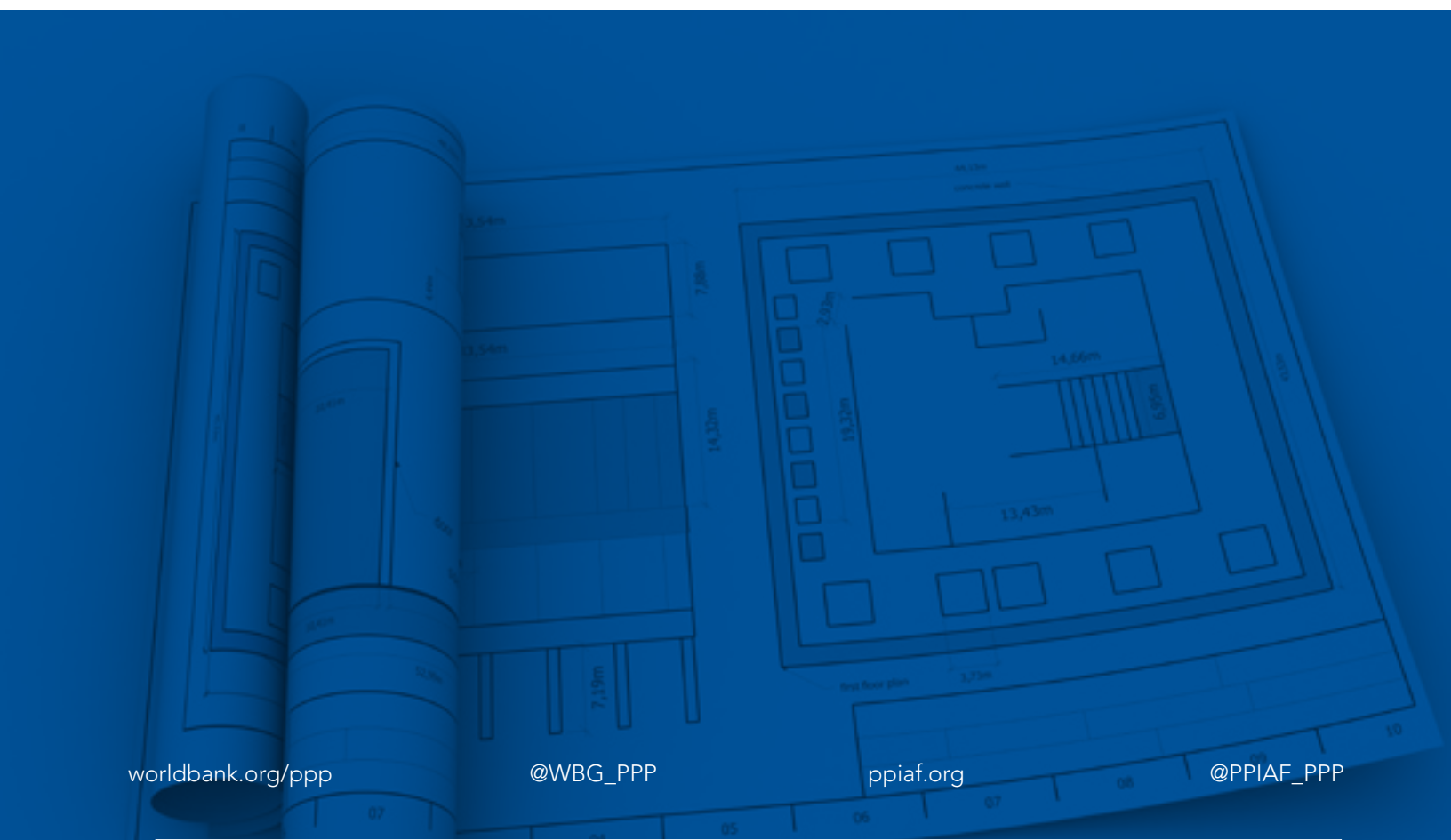


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