

# **Unpacking complexity to provide solutions for funding and financing of infrastructure**

**Global Infrastructure Hub**

**G20 Infrastructure Working Group Reference Note**

# 1. Objective for this Reference Note

The purpose of this reference note is to describe the GI Hub's novel framework for governments in structuring projects to improve risk-return profiles. This further progresses the efforts of the *Roadmap to Infrastructure as an Asset Class* and various other G20 initiatives related to private sector involvement in infrastructure delivery. It also complements other work being developed under the 2020 priorities of the G20's Infrastructure Working Group.

While other literature explores the broader benefits, or value created, of infrastructure, such as the economic, social and environmental benefits, the focus of this paper is on the emerging funding and financing models for infrastructure, specifically to address the challenges of structuring projects that are attractive to private infrastructure investors.

The framework will not only allow government officials to navigate emerging funding models within the complex infrastructure financing and risk-management context, it will also provide them with a tool to pin-point specific areas where domestic infrastructure financing markets require interventions.

## 2. Introduction

Evidence shows that the private sector, be they financial investors or asset developers/operators, are willing to contribute significantly to the building and modernising of public infrastructure. According to a recent GI Hub survey, 80% of respondent investors want to increase their infrastructure investment in the next three to five years<sup>1</sup>.

Over the past five years, the private sector has invested a total of US\$1.84 trillion in 6,684 infrastructure transactions around the world. During the period, deal value grew 6.1% annually, to US\$392 billion in 2019, while the number of deals grew 6.2% annually by around, to 1,368 in 2019. The all-time high was set in 2018, with 1,499 transactions worth US\$435 billion<sup>2</sup>.

Despite the increases in infrastructure deal activity, and private sector participation, the mismatch between government ambitions to build and rejuvenate infrastructure and investors eager to find investable opportunities continues to grow. If governments are to overcome this misalignment and find financing for the many valuable and badly needed projects looking for investment, they must:

- **Ensure the availability of programmatic pipelines.** Governments need to develop a clear vision for their infrastructure development agenda and goals. Without the required clarity, they will not be

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<sup>1</sup> The 2019 survey included more than 315 infrastructure leaders, representing approximately USD10 trillion of global assets under management. The full survey is available at <https://www.gihub.org/resources/publications/global-infrastructure-hub-investor-survey-report-2019/>.

<sup>2</sup> InfraDeals Data Portal - A global transactions database used to identify indicative trends in infrastructure markets. The database is available, with subscription, from the following URL: <https://www.inframationnews.com/deals/>

able to develop a robust and properly prioritised pipeline of projects.

- **Navigate regulatory, political and economic uncertainty.** Infrastructure development is often politically complex, requiring the approval of multiple, diverse, sometimes competing stakeholder groups, and misaligned interests can inhibit projects. Therefore, governments can create the proper regulatory and economically robust environment if they are to nurture trust in their infrastructure programs.
- **Develop projects with attractive risk weighted return profiles.** Governments can keep in mind two key principles in the creation of their programs and projects: value creation (ensuring all projects have strong revenue potential) and value capture (ensuring key risks are mitigated and projects are appropriately financed to secure profitability). Projects that do not include plans for the fair and equitable generation and distribution of revenue will struggle to attract willing investors.

Numerous International Organisations have offered detailed guidance covering the first two challenges identified above. Government officials, however, continue to grapple with the third challenge: developing projects with adequate risk weighted return profiles, and ensuring that their projects will deliver the revenues needed to fund them.

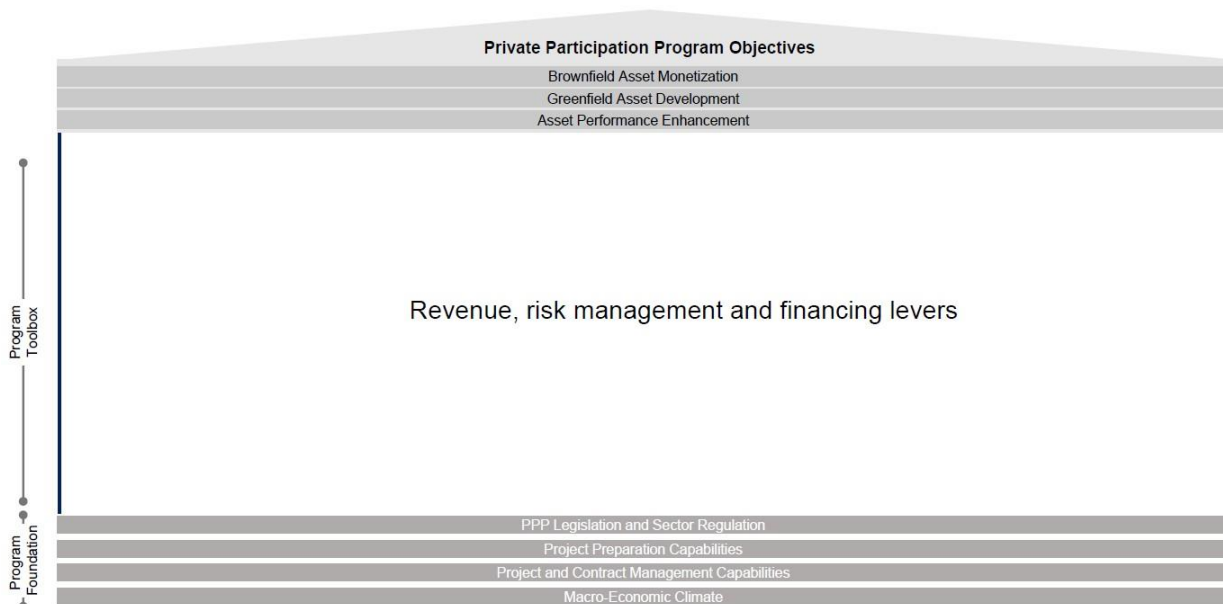
To overcome this hurdle, the GI Hub has developed a unique and comprehensive framework to classify the various private participation models and investor types, and to identify the revenue, risk management and financing “levers”<sup>3</sup> that governments can pull to optimise how their infrastructure projects get funded and built.

### 3. The GI Hub Funding and Financing Framework

As a starting point, it is useful to imagine the framework as a house. The foundation of the house consists of the overall macro-economic climate, the legal and regulatory context, and the specific management capabilities needed; this is where governments can meet the challenge of navigating political, economic and regulatory uncertainty. The roof of the house lays out the overall objectives of government infrastructure programs, such as brownfield asset monetisation (or asset recycling), greenfield asset development, or asset performance enhancement; it provides the context for ensuring the availability of programmatic pipelines. (See Exhibit 1.)

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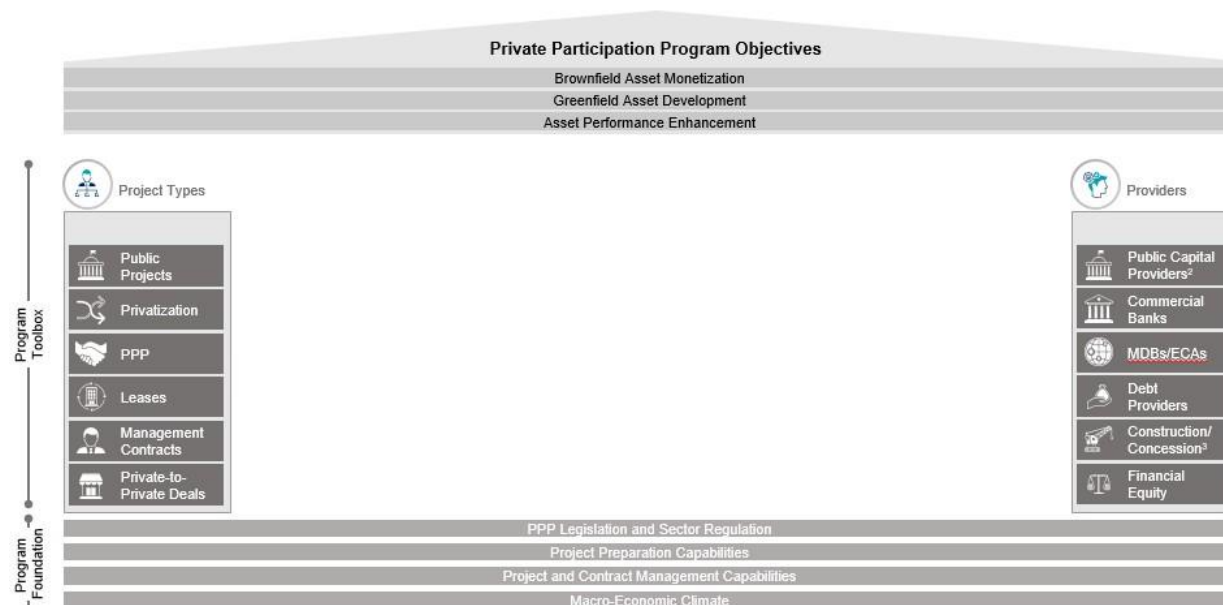
<sup>3</sup> “Levers” include any tool a government might use to overcome a particular financing challenge. These include the value creation and value capture tools as well as policies, contract clauses and payment mechanisms.



**Exhibit 1. The roof and foundation provide the context for successful value creation and capture.**

Supporting the project’s objectives are the walls of the house. Here is where government officials can find detailed guidance in overcoming the third challenge: developing projects with attractive risk weighted return profiles.

The two outer walls include the models through which the private sector participates in deals and the entities that provide the necessary capital. (See Exhibit 2.)



**Exhibit 2. The outer walls include the possible types of projects and private investors.**

Governments have a wide range of models to choose from in carrying out their infrastructure projects, depending on the project's goals, the available financing and the degree of risk. They vary in their ownership structures, in the responsibilities of each party to the projects, and in the nature of the risk-sharing agreements between them. There are six project models available to project planners<sup>4</sup>:

- **Public projects:** Projects financed by a government, which also typically owns and sometimes operate them.
- **Privatisations:** An infrastructure asset sold by a government to a private-sector entity for an indefinite period of time. The entity operates the asset, while the government retains regulatory and legislative power over such issues as environmental or monopoly abuse.
- **PPPs:** A long-term contract between a private party and a government entity to provide a public asset or service in which the private party bears significant risk and management responsibility for the project.
- **Leases:** The lease of a government-owned infrastructure asset to a private-sector entity for a limited time. The private entity has full responsibility for the operation and commercialisation of the asset, while responsibility for further investment in the asset typically remains with the government.
- **Management contracts:** A contractual arrangement in which a private operator is paid a fee to provide a range of services related to the operation of a specific infrastructure asset. These deals often include performance incentives.
- **Private-to-private deals:** The secondary sale of a privately held infrastructure asset from one private entity to another.

Project participants include a range of entities from the private sector, national and international organisations and vary in the financing arrangements and expertise they bring to projects. We divide these players into seven categories:

- **Public capital providers:** Entities that provide equity or debt capital underwritten by governments, including national development banks.
- **Commercial banks:** Banks that provide debt products to infrastructure projects secured against the cash-flows from the project (project finance) or through corporate balance sheets (corporate finance).
- **Multilateral Development Banks (MDBs):** International financial institutions that seek to accelerate development, including infrastructure development in emerging markets through both financial support and technical expertise.
- **Export Credit Agencies (ECAs):** Public agencies that provide “tied support” to private entities engaged in an infrastructure project only if an agreed-on threshold of goods or services is reached. Backed by the government, these deals include loans, guarantees, credit and insurance.
- **Debt providers:** Providers of debt financing, including banks, pension funds and insurance companies.
- **Construction/Concession companies:** Strategic investors capable of contributing equity and

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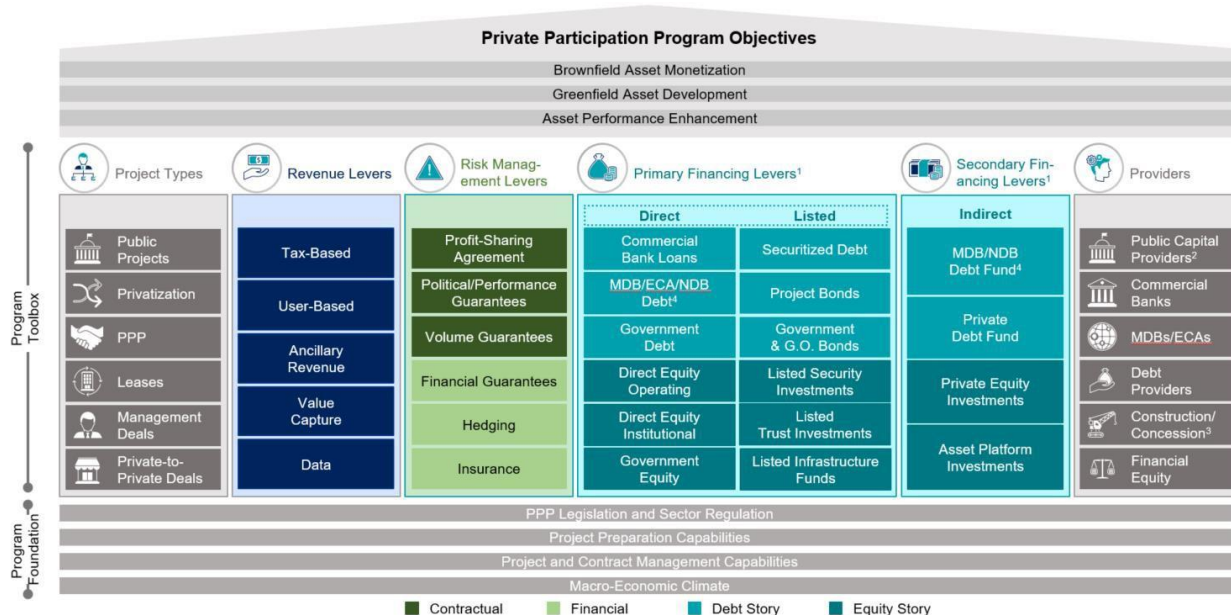
<sup>4</sup> For additional information, see <https://pppknowledgelab.org/guide/sections/1-introduction>

expertise in order to build and operate an infrastructure asset.

- **Financial equity:** A broad category including all non-operating financial investors, such as asset platforms and private equity investors.

The heart of the framework lies in the center of the “house.” Here are the inner walls of the infrastructure financing structure—the revenue, risk management, and financing levers that support government officials in their efforts to determine how best to create and capture the value inherent in the projects in their pipeline. (See Exhibit 3.)

- **Revenue levers** are the fundamental means of generating the cash-flows that fund every project. They are required at the earliest stage of the project journey, as they determine how value will be created by a project, which in turn drives the business case for investors.
- **Risk management levers** include the contract clauses and financial instruments that balance the risk-reward profile of a project for investors. For example, if a given country’s currency fluctuates considerably, hedging tools can mitigate the risk that a devalued currency will adversely impact investors’ returns or require governments and/or users to shoulder additional financial burdens<sup>5</sup>.
- **Financing levers** include the tools used to source capital for a given project. These are further divided into primary levers (including financing received directly from investors and financing raised through equity shares and bonds listed on stock markets) and secondary indirect levers. Sources of capital can include either equity or debt, and sometimes a combination of the two.



1. For simplicity, Funds of Funds were not considered an explicit category 2. Category defines equity and debt instruments provided by entities underwritten by the public fiscus 3. Concessionaires 4. De-risking impacts from financial solutions offered by MDBs (e.g. the “halo effect” from MDB project loans) result in interactions between the “Risk Management Levers” and “Primary Financing Levers”

<sup>5</sup> For further in-depth analysis of the full scope of the available risk-management and financing levers, one can reference the work of other International Organisations such as the OECD and their *Taxonomy of Financial Instruments*.

**Exhibit 3. The inner walls include the three lever categories and define the toolbox for private participation in infrastructure.**

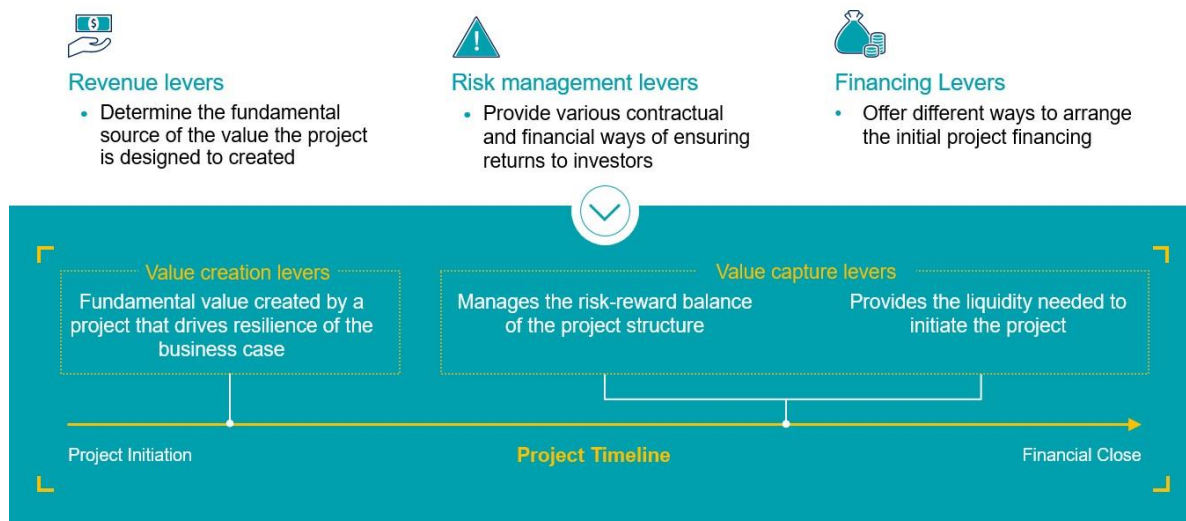
To understand how these levers can be used, and in what sequence, imagine the steps a government official might go through in planning a greenfield project. Their first task will be to figure out how the project they have in mind will generate the money needed to repay their investors. For this they can turn to the column of **revenues levers**, which offers several ways infrastructure projects can create value.

Then they can consider the likelihood that their project will create the revenues they are hoping for, and how to alleviate their investors' concerns about those potential risks. Here they can consider the various **risk management levers** in the next column.

In parallel, they can think about the best way to **raise the capital** needed to get their project off the ground. It should be noted that the available revenues and the certainty of their availability will affect return profiles and so all three sets of levers are closely linked together.

For an infrastructure project, good risk management and certainty around the available revenues will ultimately reduce the financing costs and thus the price of the infrastructure for the government.

Exhibit 4 illustrates this process, from project initiation to financial close, which occurs when the project and financing agreements have been signed off on, all conditions in these agreements have been met, and the work on the project can begin.<sup>6</sup>



**Exhibit 4. The three types of levers come into play at different times in the project lifecycle.**

<sup>6</sup> <https://pppknowledgelab.org/guide/sections/72-achieving-contract-effectiveness-and-financial-close>

## 4. Using the framework as a diagnostic tool

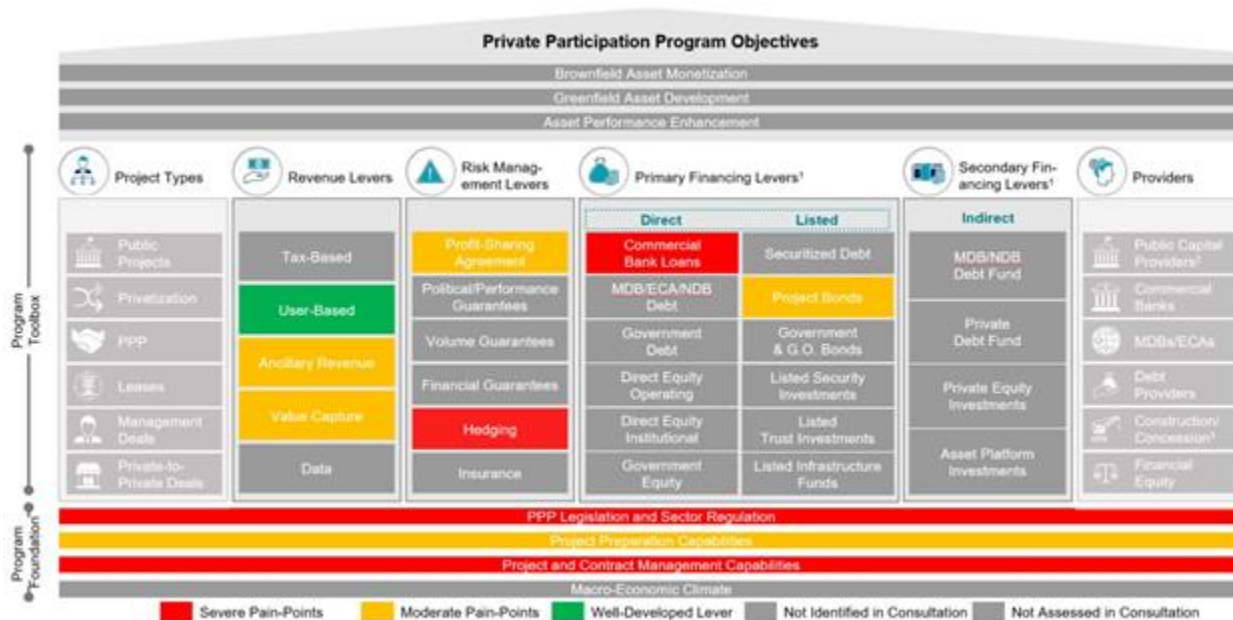
In addition to the framework's value in describing all the levers available when planning infrastructure projects, it can also be used as a dashboard. The dashboard uses a traffic light approach, with different colors illustrating the severity of the pain-points in the project journey.

Red indicates that the government may be severely deficient in using a particular lever to drive value creation or value capture; yellow indicates that it is moderately deficient; and green indicates a lever at which the government is particularly strong.

Exhibit 5 illustrates how the dashboard can be used. Imagine, in this case, a government looking to extend and modernise its network of highways. The government has a track record of employing innovative user-based fees on toll-roads such as dynamic pricing and usage-based discounts; private investors see this as a strength that bodes favorably for their investment. However, the country's recent currency fluctuations have dampened investor interest, and its dashboard analysis shows that arranging corresponding hedging agreements is not one of the government's strengths.

By working closely with prospective investors, benchmarking other nations' programmes and consulting with experts, the government may devise a hedging strategy, such that if their currency fell below a certain level for a prolonged period, the government would provide discounts for annual concession fee payments to the investors proportionate to the depreciation, thus mitigating the currency risk. And because a further pain point may be the limited scope to attract commercial banks to infrastructure projects, it may choose to access public capital markets for the investment needed to get its highway project off the ground.





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**Exhibit 5. Using the "house" as a dashboard highlights the strengths and pain points of a project plan.**

The value of the dashboard lies in its comprehensiveness. By providing a complete view of both a government's overall infrastructure program and the detailed needs of particular projects, it enables officials to come to terms with its challenges, and to see at a glance the options available for overcoming them.

## 5. Proposed next steps in utilising the innovative funding and financing approach

The GI Hub is proposing to organise a deep-dive workshop with IWG members to present the framework and use cases developed in this tool. The objectives would be to:

1. Increase awareness of funding and financing innovations identified globally,
2. Facilitate further exchange and encourage dialogue on potential reforms that could spread those innovations and
3. Enable more and better infrastructure

To further increase the value of the framework, and to ensure broad-based acknowledgement of innovations, we encourage G20 members and guest countries to submit compelling case studies from their national experience. Our objective is to build a comprehensive library of case studies highlighting effective funding and financing practices from around the world.