Partnerships IQ

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Financial Viability Support

Global efforts to help create commercially viable PPPs

Financial viability support mechanisms help governments with limited budgetary resources and insufficient capacity deliver much-needed infrastructure and services. As these mechanisms channel public sector resources, they ensure that PPP programs are attractive to private financing and investments. This exploration of financial viability support mechanisms spans the globe, offering analyses, case studies, and data critical to improving the practice of PPPs.

INTELLIGENCE AND INSIGHTS ON PUBLIC-PRIVATE PARTNERSHIPS

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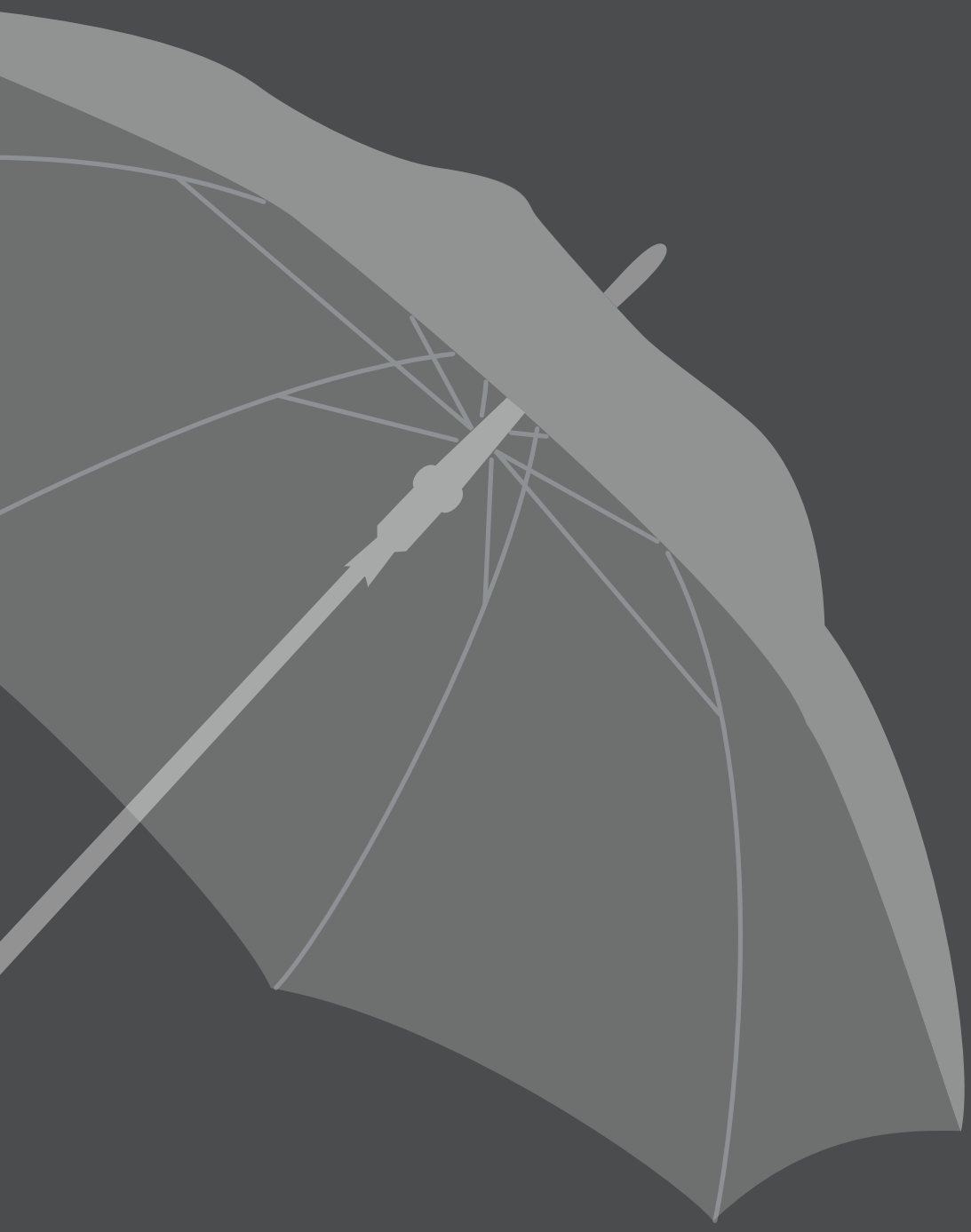

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ACRONYMS & ABBREVIATIONS

AP	Availability Payment
BANOBRAS	The Banco Nacional de Obras y Servicios Públicos, SNC or Banobras, a state-owned development bank in Mexico
BDP	Building Design Partnership
BOT	Build-Operate-Transfer
BTL	Build-Transfer-Lease
BTO	Build-Transfer-Operate
CA	Concession Agreements
COD	Commercial Operations Date
DBFO	Design, Build, Finance, and Operate
DBFOT	Design, Build, Finance, Operate, and Transfer
DBL	Dilip Buildcon Limited
DBL SSTL	DBL Silwani Sultanganj Tollways Limited
DER	Debt-Equity Ratios
DfT	Department for Transport (UK)
DSCR	Debt-Service Coverage Ratio
EIB	European Investment Bank
EPC	Engineering, Procurement, and Construction
FONADIN	Fondo Nacional de Infraestructura (Mexico's National Infrastructure Fund)
FVS	Financial Viability Support
GDP	Gross Domestic Product
GoAP	Government of Andhra Pradesh
GOI	Government of Indonesia
GOV	Government of Vietnam
HBC	Halton Borough Council
HSBC	Hong Kong and Shanghai Banking Corporation
IPP	Infrastructure Partnerships Program
IRR	Internal Rate of Return
IUK	Infrastructure UK
KODIT	Korea Credit Guarantee Fund
L&T	Larsen & Toubro

M&G	Municipal & General (Leading International Asset Manager)
MIGA	Multilateral Investment Guarantee Agency
MKIF	Macquarie Korea Infrastructure Fund
MOF	Ministry of Finance
MOT	Ministry of Transport
MPRDC	Madhya Pradesh Road Development Corporation
MRG	Minimum Revenue Guarantee
MRH	Metro Rail Hyderabad
NGO	Non-Governmental Organization
NHAI	National Highways Authority of India
NHS	National Health Service
NIP	National Infrastructure Plan
NPA	Non-Performing Assets
NPV	Net Present Value
NRDA	Naya Raipur Development Authority
O&M	Operations & Management
OECD	Organization for Economic Cooperation and Development
PFI	Private Finance Initiative
PNB	Punjab National Bank
PPI	Private Participation in Infrastructure
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public-Private Partnership
RATP	Regie Autonome des Transports Parisiens
RFP	Request for Proposals
ROW	Right of Way
SED	Socio-Economic Development
SMBC	Sumitomo Mitsui Banking Corporation
SMG	Seoul Metropolitan Government
SPV	Special Purpose Vehicle
VGF	Viability Gap Financing

All dollar amounts are U.S. dollars unless otherwise indicated.

INTRODUCTION

FINANCIAL VIABILITY SUPPORT MECHANISMS HELP DELIVER PUBLIC INFRASTRUCTURE BY MAKING PRIVATE SECTOR INVESTMENTS FINANCIALLY VIABLE

To keep pace with economic growth, an estimated $57 trillion is required to finance global infrastructure by 2030. To meet this daunting requirement in the face of limited budgetary resources and implementing capacity, governments around the world are exploring alternative ways to deliver infrastructure. In this context, financial viability support (FVS) mechanisms have achieved a high degree of success.

FVS is a broad term used to describe ways that governments can channel public sector resources to ensure that PPP programs are attractive to private financing and investments. FVS usually bridges the shortfall between project revenues and whole-of-life-cycle costs, after providing for reasonable returns to private investors. FVS enhances cash inflows or reduces cash outflows for project investors. Mechanisms are also used to address situations arising from market failures that present risks that the private sector is unwilling to bear (such as lack of a long-term project finance market, or inadequate legal certainty for private contracts) and/or costs of externalities (such as social and environmental factors). In essence, FVS makes infrastructure projects commercially viable to pri-

vate investors while managing user affordability, in order to deliver the needed infrastructure assets.

This edition of *Partnerships IQ* examines the experience of a sample set of countries—the India, Indonesia, Mexico, Republic of Korea, South Africa, and United Kingdom (UK)—in blending public finances with private capital to make infrastructure projects viable. These countries were selected because they provide a level of diversity that enriches the analysis. Authors have studied the evolution of national support mechanisms, the history of PPPs, and private investments in infrastructure, geographical variety, and different income levels.

Governments have deployed different forms of FVS to suit their country contexts. The most prevalent forms are construction grants, operations grants, availability payments, and minimum revenue guarantees. These FVS instruments have been used either on a stand-alone basis or in combination. This is based on their suitability in terms of timing of their support (e.g., during the construction phase or operations phase) and how they operate (e.g., reducing capital investment needs, cost reduction, or revenue enhancement). Table 1 describes the conditions under which each type of instrument is used.

Table 1: Characteristics of various forms of FVS

Instruments	Description	Conditions
Construction grants	• Provided as capital grants, usually spread over construction period and linked to the progress or agreed milestones. • Reduce private capital investments that the project company needs to make to meet its capital.	• Usually effective in capital-intensive projects with high front-end costs. • As grants are paid early in lifecycle, safeguards are required to assure private sector's continued performance. • Should be competitively determined.
Operations grants	• Provided as grants to meet operational expenses project and reduce effective cost of operations borne by the private sector.	• Greater applicability to projects with small or no build component but large O&M spend. Suitable to use in management contracts, operating concessions, and social sector PPPs. • May take pressure off from tariff reforms, so implications on tariffs and sector reforms need to be analyzed. • Government's institutional set up should be willing and capable of efficiently handing uncertain and fluctuating costs of support.
Availability payments	• Private sector constructs an asset and provides service against a fixed amount paid by government over the life of the asset.	• Usually provided for social infrastructure projects where user charges cannot be collected. • APs require governments to make long-term commitments. Should have the fiscal flexibility and multi-year budgeting capabilities.

Table 1, cont.: Characteristics of various forms of FVS

Instruments	Description	Conditions
Minimum Revenue Guarantees	• Through MRG, government shares the demand or revenue risk. With an MRG, the government promises to compensate the private sector if actual revenue is less than projected revenue from user charges. • While typical guarantee instruments provide risk mitigation to lenders, MRGs are directed at SPVs.	• Typically provided in projects with substantial demand risk, like highway projects and public transportation projects. • As MRG amount is not known upfront, MRGs place certain fiscal risks on the governments. Governments need to have strong risk management frameworks and institutional capacity.

Depending upon the underlying risk profile of the project, some FVS instruments are likely to be more effective than others. Therefore the choice of FVS instrument should be assessed in this context. Table 2 provides a discussion of instruments in the context of project risk profiles.

Table 2: FVS instrument depends upon overall risk profile of the project

How are FVS instruments designed, chosen, and linked to the overall project risk profile?	• Construction grants are appropriate for supporting projects that are highly capital intensive in nature and there is a need to share the financing risk with the private sector. • Availability payments are appropriate for supporting social infrastructure projects where it may not be possible to collect user charges. • Operations grants suitable for projects with high and uncertain O&M costs. • MRGs suitable for projects where there is a high demand risk.
How does the risk appetite of lenders and equity investors impact the design and choice of FVS instruments?	• Lenders are more comfortable with projects that generate stable and sufficient surplus cash flows to service debt after meeting the operations and maintenance costs. Therefore, lenders prefer projects where the market/demand risk is borne by the government counterpart through availability payments or MRGs. This is usually reflected in the lower default risk premium added by the lenders in the interest rates to such projects. • The situation has worsened following the global financial crisis, with increasing non-performing assets (NPAs) for lenders globally. Therefore, there is greater inclination toward long-term lending to infrastructure projects supported by APs and MRGs. Such projects are expected to achieve financial close relatively easily as compared to projects supported by construction grants.

Table 2, cont.: FVS instrument depends upon overall risk profile of the project

How does the risk appetite of lenders and equity investors impact the design and choice of FVS instruments?	• Among investors there are differences in risk appetites and return expectations. Construction companies have appetite for design and construction risks, and usually invest in projects to secure construction contracts. In contrast, financial and institutional investors have a limited appetite for construction risks and prefer stable although lower returns. Therefore, often the construction companies sell their equity to financial and institutional investors at a premium, once the project is operational and revenues are stable. The institutional and financial investors prefer lower risks and are willing to pay some premium for it. Projects with FVS mechanisms need to address these nuances to be effective.

GOVERNMENTS PLACE EMPHASIS ON SOUND GOVERNANCE STRUCTURES AND PROCESSES TO ECONOMIZE THE FVS MECHANISMS THEY ARE REQUIRED TO PROVIDE PPPs

There are public policy and fiscal implications of using financial viability support. Accordingly, governments have put in place a variety of measures to economize the use of FVS. Table 3 below summarizes some salient features of such implications on governments.

Table 3: Governance processes to economize use of FVS

Project preparation	There is clear emphasis on adequate project preparation. Typically, project documentation is prepared by the implementing line agency at the national or the sub-national level. The implementing agency needs to clearly identify the specific needs and priorities that the project seeks to address, and therefore the inherent policy rationale to provide FVS. Several countries provide project preparation funding to implementing agencies to help them better prepare their projects and comply with the applicable government processes. Given the resource constraints at the implementing agency level, governments are designing innovative ways to channel funds to implementing agencies.
Reviews and approvals	Most project proposals (including feasibility studies, etc.) are reviewed at a central level, especially if they require FVS. The review is a gatekeeper function to ensure that only merit-worthy and well-prepared proposals move forward for approvals. During the review, there is emphasis on how the FVS can be economized at the project design stage.
Competitive pressures	In all cases, an open and transparent bidding process is used to apply competitive pressures on the level of FVS sought and help the government economize on the quantum of fiscal support. In cases where there are predetermined payments, such as in construction grants and APs, the amount of subvention becomes a key bidding parameter.

Table 3, cont.: Governance processes to economize use of FVS

Contractual provisions	The contractual documentation and the PPP contract encapsulate the maximum amount and disbursement conditions in relation to the FVS. Usually the PPP contract will also contain clearly defined provisions for managing the key drivers of FVS, such as project costs, tariffs, concession period, etc. to avoid any ambiguity. Usually, the contractual provisions do not allow for increasing the FVS, unless there are any pre-specified exigencies.
Budgeting	FVS is usually provided as annual appropriation from the national budget allocated to implementing agencies, based on projected estimates of government commitments. However, there are overall ceilings to the aggregate annual PPP commitments that are prescribed from a fiscal management perspective. Most countries have recognized that overall budgetary ceilings are important to manage fiscal liabilities on the state budgets.
Disbursement	FVS is usually disbursed upon the achievement of agreed-upon performance milestones. In the case of construction grants, the FVS is usually disbursed upon completion of agreed-upon performance or construction milestones and upon a certain minimum equity investment by the private sector. For operations grants, the support is usually disbursed as per an agreed schedule in the PPP contract. The disbursements are linked to fluctuation in actual operations and maintenance costs vis-à-vis projected operations and maintenance costs of the winning bidder. APs are usually disbursed during the operations period as per an agreed-upon disbursement schedule linked to the achievement of the operations and maintenance standards and specifications by the private sector against those agreed in the PPP contract. MRGs are usually disbursed during the operations period upon the actual traffic/demand falling short of the guaranteed traffic/demand.
Performance monitoring	Performance monitoring is usually undertaken while disbursing the FVS and post-facto after the disbursement. The implementing agency is primarily responsible for such performance monitoring, either by itself or by engaging an independent agency, such as an independent engineer. In addition, programmatic level monitoring on the financial viability support is undertaken by the concerned central agency/PPP unit.
Public disclosure	There is emphasis on public disclosure, such as through websites of the central agencies/PPP units.

GOVERNMENTS THAT ARE EMBARKING ON FVS MECHANISMS MUST FACTOR IN STRATEGIC CONSIDERATIONS OF THEIR COUNTRY SETTINGS WHILE DEVISING THEIR PROGRAMS

Each FVS instrument impacts the project's cash flow in its own unique manner and imposes key prerequisites on the government side to ensure workability. Governments have also factored in a variety of strategic considerations, such as socio-political context, macroeconomic settings, fiscal space, and public priorities while designing their FVS programs.

At this stage, it is noteworthy for government policy makers to understand the underlying causes of the need for FVS, such as a project's cash-flow insufficiency and market failures. Therefore, if governments can enhance their enabling environment and address the market failures, then the requirement for FVS and ultimately the fiscal costs of PPP projects can be minimized. Below are strategic

factors and questions to help determine whether FVS will be needed, and the intensity of protection lenders and investors will want.

- Socio-political setting;
- Extent of fiscal space available for government in future years;
- Fiscal risk management systems required to manage FVS liabilities;
- Aligning FVS provision to budgeting and accounting systems;
- Creditworthiness of FVS providers;
- Monitoring of FVS performance milestones;
- Whether or not FVS will distort tariff reforms or private sector performance;
- Choice and design of FVS instrument, which depends upon overall risk profile of the project;
- Operational constraints affecting FVS implementation; and
- Financial considerations.

THE INTERPLAY BETWEEN FVS AND PROJECT FINANCE NEEDS TO BE UNDERSTOOD AND ADDRESSED, IN ORDER TO DEVISE BANKABLE PROJECT FINANCE DEALS AND SUCCESSFUL FVS PROGRAMS

Lenders are frequently seeking greater recourse to corporate balance sheets and promoter guarantees. This is exerting downward pressure on equity returns, which can be compounded by limited equity refinancing and exit options. The interplay between FVS and project finance is represented in the following questions:

- Is there an acceptable level of debt service cover from the project cash flows?
- How reliable is the counterparty?
- What is the FVS payment security mechanism?
- What procedures need to be followed to secure FVS payments in a timely manner?
- What is the recourse for cost over-runs?

[1] Impact of Basel III norms on infrastructure financing: The revised financial regulatory framework (Basel III), proposes a range of new capital and liquidity requirements on banks. For example, the amount of equity a bank should hold as a proportion of its risk weighted assets. The banks may satisfy this requirement by increasing their equity and/or reallocating capital away from riskier or longer term assets in an attempt to build their capital reserves. Especially in the medium term, this will imply that lesser funds would be available from banks to finance infrastructure.

GLOBAL CONSULTATIONS BROUGHT FORTH SOME NEW IDEAS FOR GOVERNMENT SUPPORT

Between November 2013 and May 2014 the project team that wrote the report that this edition of *Partnerships IQ* is based on undertook a series of interviews with PPP practitioners in six countries. The consultations highlighted the need for governments and private investors to engage in constructive dialogue in order to identify how, via targeted interventions and support, governments can help improve the risk-reward calculus for private sector investments in infrastructure projects. Presented below are some suggestions that emerged.

FUTURE FVS STRATEGIES

FVS mechanisms were originally designed to meet specific market needs dur-

ing certain periods and within contexts of specific countries that implemented them. In the time since the creation of various FVS programs, the realities of infrastructure finance markets have changed. Infrastructure developers and construction companies are finding themselves stretched to stay invested long-term in infrastructure; banks are migrating to Basel III[1] norms and will find difficulties in taking high risks and lending longer term; and faced with budgetary pressures, governments are keen to bring down costs of infrastructure delivery.

Box 1

IDEAS FOR IMPROVING THE RISK-REWARD CALCULUS FOR PROJECT FINANCING OF PPPs

New PPP formats: Private investors felt a need to explore new models of PPP and government mechanisms providing financial support. For example, Indian investors suggested possible monetization of existing publicly funded projects by refinancing/restructuring them into financially viable projects and SPVs.

Managing cash exigencies: Several investors pointed out the need for governments to better manage and provide for cash exigencies. They felt that measures that support investor returns and bridge possible cash deficiencies would help reduce the risk perception to investors.

Combining FVS formats: Investors suggested that FVS instruments should not be used in isolation or considered as complete substitutes. For example, construction grants will not work for social projects that have a high operations component and vice versa. It was felt that there is also merit to using combinations and variations of FVS instruments.

Better risk sharing arrangements: Most stakeholders expressed concern over the prevalence of partial-recourse or full-recourse lending structures that drive up cost of funding for projects. Several suggestions were made with respect to managing risks associated with PPP projects as well as operational issues relating to FVS mechanisms. These suggestions point to the need for an evolution in PPP structures and possible "next-generation" FVS mechanisms that can help unlock the availability of non-recourse lending for infrastructure projects.

Bespoke packaged deals: For next-generation FVS mechanisms that help channel non-recourse financing, investors suggested the creation of packaged deals where such FVS mechanisms could be combined with support from IFI—in the form of financing facilities such as standby lending, stapled debt, and other approaches.

CSR funding to PPPs: Stakeholders pointed out the need for a programmatic approach to channel resources allocated for corporate social responsibility. This would meet governments' obligation to provide for sustainability related issues in the structuring of infrastructure projects, especially

Box 1, cont.

for social sectors and climate change projects. Investors felt that resources allocated for corporate social responsibility could possibly be channeled into investment platforms and then combined with FVS support.

Introducing in-built flexibility: As PPPs are long term contracts, it is unrealistic to expect both the government and private sector to lock in to a deal when the external environment is dynamic. PPP arrangements need to have some in-built flexibility. Governments could plan for one or two resets of FVS support into a project. For example, once immediately after commissioning of the project and another after 10 years of operations once the project stabilizes.

Addressing the "proximate" factors: The success of any government funding or financing support instrument is inextricably linked to other "proximate" factors influencing PPP implementation, such as land acquisition; inter-agency coordination, public perception such as based on land or environmental litigation, and skillful management of clear and decisive public communications. As a senior Ministry of Finance official in India remarked, "VGF is a cherry on the cake, it is not the cake itself." Viewed analytically, this is obvious, but in practice it has been a source of much frustration among government officials who grapple with the question, "We've done so much, established institutions and policies so PPPs can move forward, and yet deals don't flow."

The need to involve long-term institutional investors in infrastructure resonates with all governments and practitioners. However, structurally the institutional investors are more risk averse than other traditional investors. Taken together, this is a nuanced group of investors with differing risk appetites for infrastructure investments. For these investors to reach the right balance in their risk-return matrix, governments would need to create next-generation FVS mechanisms as well as more flexible models of investing in PPPs.

The authors hope that this work feeds global efforts in developing the next generation of FVS and future strategies for global infrastructure financing by:

- Encouraging scale-up of successful FVS approaches;
- Collaborating with investors and practitioners to devise next-generation FVS mechanisms and infrastructure financing platforms; and
- Bringing together the knowledge and experience of different stakeholders in a global knowledge repository.

GLOBAL INFRASTRUCTURE AND PROJECT FINANCE: THE SHIFTING LANDSCAPE

The story of infrastructure financing revolves around varying infrastructure needs—from basic infrastructure to complex interconnected infrastructure. The additional infrastructure financing required to keep up with projected global GDP growth[2] is an estimated $57 trillion by 2030. Because public finances are overstretched, governments must consider alternative financing models to leverage private capital into infrastructure, along with strategic use of International Financial Institutions (IFI) financing to crowd in private investments. At the same time, the developments in global financial markets are fundamentally reshaping how capital is transmitted and invested around the world, including in infrastructure.

The infrastructure gap must be bridged to achieve the growth potential of the developing world. When viewed against the shifting landscape of global capital transmission—the vehicle to help finance the required infrastructure—the need for pragmatic solutions to combine public and private monies for global development financing becomes clear. Within this, there is a particular need to channel public finances into a privately financed transaction to make it commercially viable, employing a transparent FVS mechanism.

But public sector financing support needs to integrate with private capital—equity and debt—in a timely, appropriately-sequenced, and reliable manner to make a deal bankable. At a practical level, this means having a clear under-

[2] McKinsey Global Institute, 2013. Infrastructure productivity: how to save $1 trillion a year. http://www.mckinsey.com/insights/engineering_construction/infrastructure_productivity

standing of whether and how much FVS is required while maintaining the balance required to classify a PPP as a privately-financed project. Other considerations include at what point in the project it should be injected, whether the government can credibly commit and honor payments, what the performance milestones might be vis-à-vis private equity and debt to trigger FVS flows, and how such support will be integrated into the bid processes.

Box 2

DEFINITIONS

PPP: A public-private partnership (PPP) is a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance. More details are available online at https://pppknowledgelab.org/ppp-cycle/what-ppp.

Project Finance: Project financing is a special financing arrangement for a specific project. Lenders rely on future cash flows from the specific project as a source of servicing of loans, i.e. principal repayments and interest payments. In essence it is a cash flow-based financing structure and not an asset-based financing structure. The primary security lenders will hold rights and interests under project contracts. As a defensive measure they will also create security interest over assets of the project. Such security is of little value if the project itself fails. However, such security could be useful if the promoter became insolvent due to reasons unconnected with the project. In such cases lenders can run the project themselves or find another operator to run the project.

A bankable deal results in a coherent package that is aligned with the requirements of the project. Such a package would include inter alia an appropriate financial structure given the project's revenue and risk profile, availability, and terms of financing based on appropriate market sounding, government budgetary processes, various approvals and clearances, clear communication with stakeholders clarity on bid processes, site selection, and allocation. This needs to be supported by appropriate policy frameworks and capacity within the public and private sectors. To examine this further, we need to look at three key players in PPP project financing—equity investors, debt financiers, and governments—and how they interact with operational and institutional issues in the public and private sectors.

Equity investors, debt financiers, and governments are continually adjusting to global and domestic financial and economic conditions, with each of them correcting course in reaction to the market. Yet, the critical bottleneck is not the availability of finance. Capital has and will continue to flow into appropriately structured deals. In some markets, it could be slow-moving pipelines or inappropriately structured projects, and not lack of financial market liquidity that has

been the key constraint on private infrastructure financing. The important question is to ask what then needs to be done differently to ensure that more deals come into the market and achieve financial close.

Box 3

FINANCIAL VIABILITY SUPPORT: BACKGROUND AND CONCEPT

The authors' consultations revealed that there isn't any one or universally accepted definition of the methods that government use to provide financial viability support to PPPs. Its interpretation and scope varies across countries, which adapt it to the socio-economic and political environment.

Most definitions of FVS describe the direct cash-based support provided by governments ensuring that their PPP programs are attractive for private sector financing and investments. Usually this support bridges the shortfall between a project's revenues and whole-of-life-cycle costs, after providing for reasonable returns to private investors. Typically, FVS mechanisms enhance cash in-flows and project revenues accruing to private investors, or reduce the cash out-flows and project expenses paid by private investors in the project. In essence, FVS makes infrastructure projects commercially viable to private investors while managing user affordability.

FVS mechanisms are also used to address situations of certain market failures. These are cases where the private sector is wary of bearing certain risks, vis-à-vis market failures (such as unavailability of a long-term project finance market, the lack of adequate legal certainty for private contracts) and/or paying the costs of (social or environmental) externalities. In these cases, the private sector would likely not be ready to bear the risks associated with the market failure nor to pay the cost of the externalities.

To outline the operational constraints on government decision-making and project finance realities that influence private investment decisions, the authors have organized the rest of this report to answer three key questions:

1. **How do you choose an appropriate FVS instrument?** What are the key strategic and financial considerations that can inform selection of appropriate models by governments considering PPPs for infrastructure financing?
2. **How does FVS impact the project finance landscape?** How does provision of FVS influence the behavior of debt and equity providers, and their willingness to invest?
3. **Why do commercially viable deals, even when supported by robust FVS financing solutions, not move ahead?** What are the operational issues constraining FVS implementation?

Box 4

KOREA: RATIONALE FOR PROVIDING FINANCIAL SUPPORT TO PPPs

According to the PPP Act of South Korea, the government may provide financial support to infrastructure projects in the form of capital grants or long-term loans, in the following cases:

- Where it is necessary in order to prevent dissolution of the corporation.
- Where it is needed in order to maintain user fees at an appropriate level.
- Where involvement of private capital is difficult due to low profitability of the project as a result of considerable expenditures to compensate for land use.
- Where the actual revenue during operation (due to user fees and volume) falls considerably short of the estimated operational revenue provided in the concession agreement, and where normal operation of the facility is difficult.
- Where a project contains a facility that has low profitability but, if implemented as part of a larger project, could considerably shorten the construction period or reduce the construction cost of the entire project, and where such a project is difficult to implement if not granted a subsidy or long-term loan in advance.
- Where losses occur due to excessive exchange rate fluctuations with respect to the foreign currency denominated loans used to finance the construction.

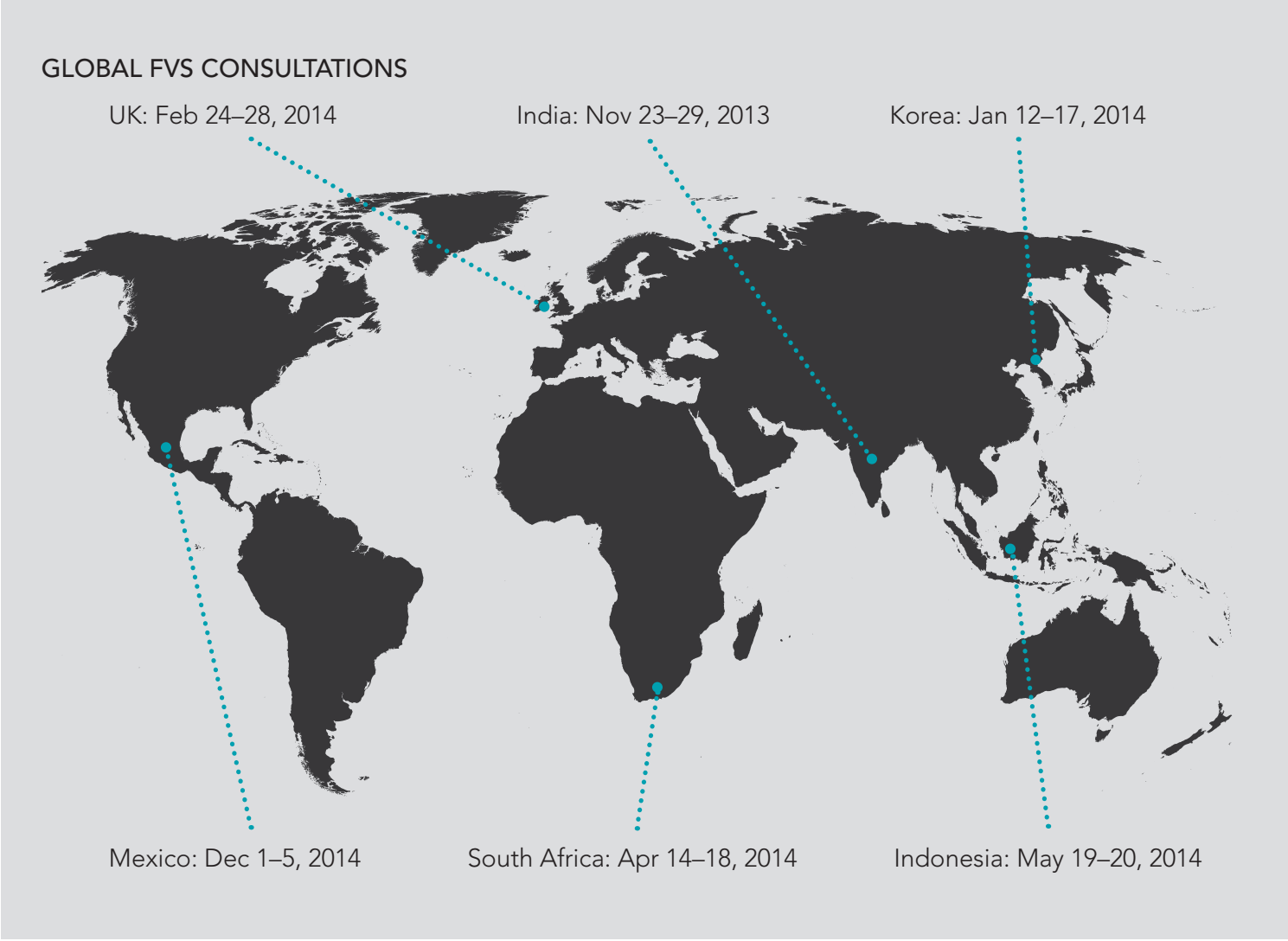
Source: Enforcement Decree of the Act on Public-Private Partnerships in Infrastructure of South Korea, 2013.

For more background, see https://www.handshakejournal.org/interviews/ppp-insider-2/

GOVERNMENT PERSPECTIVES

Attracting private capital has been challenging for governments as infrastructure projects have real or perceived higher risks for potential investors. Recognizing this issue, governments have attempted to improve the risk-reward calculus for infrastructure investments through public action and support. Over the past two decades a number of countries have offered public financial support to their respective programs of privately financed infrastructure, even if such support was not offered under a formally stated policy (see Box 4). For the private sector to finance infrastructure, whether in a developed or developing country, a project will be expected to generate sufficient cash flows in order to provide an investment returns. However, in most infrastructure PPPs either a sustainable

revenue model does not exist or where it exists the revenues are insufficient. This is where the concept of FVS comes into play.



The consultations with governments conducted for this report were aimed at understanding the practical realities and challenges of FVS implementation.

On government policy and decision-making, the consultations focused on issues such as:

- Basis for selection of the appropriate FVS mechanism.
- Assessment by officials of their own PPP and FVS programs.
- Evaluation of implementation challenges faced in the early days of FVS and how these challenges changed as the programs matured.
- Approach to building relevant skills and capacity required.

On the project financing side, the consultations focused on issues such as:

- Lenders' main criteria for providing debt to projects.
- Kinds of collaterals and security packages required and impact of FVS on them.
- Experiences of equity providers—both project developers and private equity (PE).
- Suggestions from equity investors and lenders on how to improve FVS mechanisms.

Besides consulting with equity investors, debt financiers, and governments, discussions were also held with leading financial, technical, and legal advisors across countries on the emerging issues with FVS support to PPPs in their respective countries (summary tables on country snapshots are provided at the end of this chapter). The following section summarizes the key themes that emerged from the consultations with PPP practitioners around the world.

KEY THEMES FROM THE CONSULTATIONS ON FVS

NEXT GENERATION THINKING ON PPPs AND FVS

The consultations on FVS with PPP practitioners around the world revealed that after a relatively successful run of PPPs, deals reaching financial closure seem to have slowed down in several countries. Key factors appear to have been the liquidity crunch in financial markets and government fiscal constraints in the aftermath of the global financial crisis of 2008. PPP programs in the countries surveyed also appear to be engaged in a period of introspection as they consider the best next-generation version of PPPs and FVS mechanisms.

Box 5

AROUND THE WORLD: PRIORITIES AND CONCERNS

United Kingdom: Concerns related to high burden of PFI payments, fiscal imbalance, and perceptions of high private sector gains from PFIs led to a major review of PFIs. This led to the evolution of the PF2 program in 2012. Since then several PF2 deals have been brought to market.

Korea: Burdened with significantly higher levels of financial liabilities emanating from MRGs, the government abolished the MRG program in 2009 and actively pursued financial restructuring and refinancing of existing MRG backed PPPs. This has reshaped its PPP market.

India: In the aftermath of the global financial crisis and rising private financing costs, the government endorsed limiting annuity commitments[3] to mitigate burden on future budgets. In contrast there were several deals in toll roads but they could either not reach financial close from 2012 to 2014, or faced investor exits due to stressed private sector balance sheets and increased commercial risks. Many of these toll road projects were won

[3] The annuities are proposed to be restricted to 20 percent of the projected annual plan outlay of specific grants or schemes and also not exceed 25 percent of the Five-Year Plan (as of January 2013).

Box 5, cont.

on the basis of a negative grant or "premium" that the bidders promised to pay government, rather than receive VGF from it. Overly optimistic traffic expectations and aggressive bidding are often cited as the major contributors. In 2015, the government announced a modified risk sharing PPP arrangement that seeks to address some of these challenges.

South Africa: In South Africa, concerns on the high cost of financing appear to have dampened the government's interest in rolling out more for Availability Payment PPPs. Some practitioners expressed that PPPs may have lost political support in recent times, resulting in delays in PPP decisions and cancellation of PPP tenders. This in turn has heightened the risk perception among the private sector. However, a notable exception to this is the Renewable Energy IPP program in South Africa, which has successfully rolled out 64 projects in three rounds on a programmatic basis[4]. Even though stakeholders expressed these concerns, it was evident from the consultations that there is an appetite from the private financing community to continue investing in appropriately packaged PPPs supported by credible government decision-making.

Mexico: Mexico witnessed a slow but steady pace of PPPs during the global financial crisis. In contrast to the Mexican toll road crisis of the late 1990s, the 2000s saw a steadier toll road sector that performed well even during the global financial crisis backed by strong traffic volumes and better capital structures. A few pilot projects on availability payment-based PPPs (called "Proyectos de Prestación de Servicios," or PPS) have been undertaken the past five years in hospitals, prisons, and the education sector. New concessions/PPS laws have been enacted at the federal level and in a majority of Mexican states. National development finance institutions such as BANOBRAS (The Banco Nacional de Obras y Servicios Públicos, SNC, a state-owned development bank in Mexico) and FONADIN (Fondo Nacional de Infraestructura, Mexico's National Infrastructure Fund) are supporting financial innovation and structuring of PPPs. However, practitioners felt that the pipeline of concessions and PPS projects could be accelerated given the pent up demand for better infrastructure and services. This will require more financial support and innovation on the part of government agencies.

[4] PPIAF Report on South Africa's Renewable Energy IPP Procurement Program: Success Factors and Lessons—Section 3: Tender Outcomes.

Source: The Global Consultations 2013-2014

TOWARD IMPROVING THE RISK-REWARD CALCULUS FOR PROJECT FINANCING OF PPPs

The reduced financial liquidity after the 2008 global financial crisis, along with specific in-country issues, resulted in a paradigm shift in the project financing markets. The consultations revealed that lending packages for infrastructure financing vary among markets based on their financial depth as well as government policies to support infrastructure financing. However, given the

high risk associated with PPP financing, lenders have been seeking additional coverage under security packages. Thus, the prevalent lending packages were aligning more toward partial-to-full recourse financing structures, rather than non-recourse project financing. On the other end, equity investors expressed concerns over downward pressures on equity returns—having to give additional comfort to lenders on one hand and being locked in to investments in the medium- to long-term. Public criticism over returns being made by equity investors by sale of equity shares to secondary investors has prompted governments to introduce measures such as sharing of gains from refinancing, including gains from sale of equity stakes. Stakeholders felt that these provisions made by governments in response to "excess profiteering," coupled with lower risk appetite of long-term investors to invest in infrastructure PPPs, has resulted in lower financial liquidity for equity investors in the past few years.

The consultations highlighted the need for governments and private investors to engage in a constructive dialogue in order to identify how, through targeted interventions and support, governments can help improve the risk-reward calculus for private sector investments in infrastructure projects.

Box 6

AROUND THE WORLD: IMPROVING THE RISK-REWARD CALCULUS FOR PROJECT FINANCING OF PPPs

New PPP formats: Private investors felt that there was a need to explore new models of PPP and mechanisms of governments providing FVS and financial support to them. For example, investors in Korea suggested adoption of reverse BTO models[5]. Indian private investors suggested the possible monetization of existing public-funded projects by refinancing and restructuring them into financially viable investment projects and SPVs.

Managing cash exigencies: Several investors pointed out the requirement for governments to better manage and provide for cash exigencies. They felt that measures that support investor returns and bridge possible cash deficiencies would help reduce the risk perception of investors.

Combining FVS formats: Investors also suggested that FVS instruments should not be used in isolation or considered as complete substitutes. For example, construction grants will not work for social projects that have a high operations component and vice versa. It was felt that there is also merit in using combinations and variations of FVS instruments.

Better risk sharing arrangements: Most stakeholders expressed concern over the prevalence of partial-recourse or full-recourse lending structures that were driving up cost of funding for infrastructure projects. Several suggestions were made with respect to managing risks associated with PPP projects as well as operational issues relating to FVS mechanisms. These suggestions point to the need for an evolution in PPP structures and possible "next-generation" FVS mechanisms that can help unlock the availability of non-recourse lending for infrastructure projects.

[5] Reverse BTO refers to a PPP model in which the public sector line agency designs, finances, and constructs the project assets and transfers them to the private sector operator for operations and maintenance (O&M). The private sector operator receives a management fee from the public sector line agency and/or collects and retains the user charges to recover the O&M costs incurred and earn a reasonable earnings margin.

Box 6, cont.

Bespoke packaged deals: To further the idea for next-generation FVS mechanisms that help channel non-recourse financing, investors suggested the creation of packaged deals where such FVS mechanisms could be combined with support from IFIs. This could be in the form of financing facilities such as standby lending, stapled debt, or other approaches.

CSR funding to PPPs: Stakeholders pointed out the need for a programmatic approach to channel resources allocated for corporate social responsibility. This would meet governments' obligation to provide for sustainability-related issues in the structuring of infrastructure projects, especially for social sectors and climate change projects. Investors felt that resources allocated for corporate social responsibility could possibly be channeled into investment platforms and then combined with FVS support. For example, such a platform could be used to cover the operations cost relating to a project whereas the FVS mechanism could cover construction costs for a project.

Introducing built-in flexibility: As PPPs are long-term contracts, it is unrealistic to expect the government and private sector to lock in to a deal when the external environment is dynamic. PPP arrangements need to have some built-in flexibility. Governments could plan for one or two resets of FVS support into a project: for example, one immediately after commissioning of the project and another after 10 years of operations, when the project stabilizes. Recognizing that this would be difficult to implement bilaterally, there were suggestions to explore the introduction of independent PPP regulators to transparently and effectively manage this resetting.

Addressing the "proximate" factors: The success of any government funding or financing support instrument is inextricably linked to other "proximate" factors influencing PPP implementation. Factors include land acquisition; inter-agency coordination; public perception (based on land or environmental litigation); and skillful management of clear and decisive public communications.

Source: The Global Consultations 2013-2014

IN CONVERSATION WITH: UNITED KINGDOM

SEARCHING FOR A PRACTICAL APPROACH

Among UK practitioners, there was agreement on Private Finance Initiative (PFI) successes and shortfalls. Consensus was that over 20 years from its launch in 1992, the pioneering PFI program successfully delivered much-needed projects and upgrades, particularly in social infrastructure sectors of education, health, and waste management. Almost 650 PFIs have been carried out. At the same time, according to senior practitioners from various groups—government policymakers and officials, lenders, equity investors, and advisors—widespread public perception of gains to the private sector, particularly in the early years, along with change in the country's political leadership, prompted an independent in-depth review of the program. Findings included the following:

- Senior practitioners mostly agreed with the review's conclusions that PFI had delivered projects on time and on budget, and had ensured that assets were well-maintained.
- Senior officials from government and the private sector acknowledged the significant skill and capacity development across government and the private sector vis-à-vis project preparation, risk allocation, and project structuring; financial structuring, modelling, and appraisal; legal and PPP advisory—leading to an increasingly sophisticated community of project sponsors, lenders, and advisors.
- At the same time, these senior practitioners acknowledged the key criticism of PFI—that it had led to suboptimal value for money. Projects were often gold-plated; there were incentives to adopt PFI as an off-balance sheet source of funding; and bundling of soft facilities management, such as cleaning, catering, laundry, security, mail, and waste allowed for padding of costs and reduced value for money.

EVOLUTION FROM PFI TO PF2

Due to Treasury's efforts toward clear and effective communications, outreach, and consultation with the private sector, a majority of senior policymakers agreed that the recent evolution or "rebranding" of PFI to PF2 was anchored in an effort to increase transparency. This effort is intended to align with the interests of government and investors. Aspects include:

- Access to the boardroom and management decision-making of the SPV.
- Greater information on financial profits and operations.
- Better management of public relations in case of project failure.

For now, the fulfillment of demand for social infrastructure under PFI is perceived to have led to saturation of the UK PPP market. However, practitioners believe that more remains to be done on planning for more uniform coverage and to respond to changing needs of localized populations and demographics.

The National Infrastructure Plan (NIP) of 2011 (updated 2013) envisages a sizeable program in economic infrastructure going forward. Over $153.5 billion (£100 billion) would be invested in a five-year period—about 25 percent by the public sector, 64 percent by the private sector in regulated infrastructure, and the remaining 11 percent expected from PFIs. A bulk of the investments falls beyond the realm of PF2, and the resulting criticism has led to a pause on UK PPPs as of publication of this document. Several stakeholders suggested that the UK does not have a clear policy on PFI/PPPs under the NIP.

The PFI/PPP pipeline has yet to pick up, and few projects have been announced. Projects planned include: Building Schools for the Future series 4; estuarial crossings; and sub-sea electricity transmission lines. The transport sector is where many PPPs could potentially take place but the Highway Agency is not currently focusing on PPPs/PFIs. At the local government level, dismantling of the PFI credit scheme has been seen to limit availability of funds, and thus PFIs are not actively pursued.

Overall, while most parties acknowledged that PF2 builds on the successful foundation of PF1, there were mixed reactions on what could realistically be delivered.

IN CONVERSATION WITH: INDIA

BALANCING RISKS AND REWARDS

The success of India's VGF program is seen as inextricably linked to other "proximate" factors influencing VGF implementation. Support from political leadership is viewed as essential at all stages of the VGF program. In India's case, key factors included:

- Infrastructure as a key concern in country's growth;
- Creation of the Committee on Infrastructure under leadership of the Prime Minister;
- Major policy decisions to kick-start infrastructure investments;
- MOF's mandate to implement VGF, formally announced by the Finance Minister in the Union Budget.

Practitioners expressed that VGF design should encourage private investments and responsible market behavior. Specific comments and advice included:

- Avoiding crowding out private investments—hence the 40 percent VGF ceiling and requirement of private majority equity stake.
- Projects should be financially viable after VGF—hence VGF applies to projects with user charges.
- Implementing/line agency is true "parent" of project; MOF is enabler—hence matching grants (half of 40 percent ceiling) contributed by agency.
- Private sector must be invested in a good outcome—hence minimum eq-

uity of 20 percent and VGF disbursements only after 100 percent equity has been invested.

- VGF should be market-determined in a transparent and accountable manner, particularly important in light of heightened public scrutiny arising from the perception of questionable activity around certain PPPs. Hence, projects are eligible for VGF only if procured through a competitive process and follow risk allocation on the GOI's model concession agreements.
- Ensure efficient use of public resources, with VGF disbursements linked to milestones as independently verified.

Land acquisition is considered a key risk for Indian PPPs, with significant potential to delay or derail projects. This has implications for VGF-supported projects, as VGF is in many ways fixed, and thus project viability can be compromised due to land issues. Government officials at various levels and across sectors have been working to address the issue. Examples include:

- At the central level, reforms and laws, including changes to Model Concession Agreement and new Land Acquisition, Rehabilitation, and Resettlement Act of 2013.
- At the provincial level, implementing agencies, such has Madhya Pradesh Road Development Corporation and Hyderabad Metro Rail Limited, are providing active ground-level support on land acquisition.

VGF disbursement from central government via the MOF is seen as relatively smooth, but VGF disbursement from states is often delayed. This is related to the view that subnational governments matter and that perceptions and quality of experiences among states varies. Timeliness and reliability of payments are seen as serious problems.

When VGF is withheld due to impacts from changes in scope/design, the VGF is replaced by debt and equity, thereby increasing interest during construction, project cost, and profitability. As a result, many major developers are finding ways to recover their costs and not developing new assets/investments.

As the VGF program is implemented, practitioners caution awareness of the potential for "negative grant/VGF" or "Premium" arising. Views are that private players were often over-optimistic and aggressive in bids; lenders should have assessed bids better before lending; and government could have offered better oversight.

Arguments exist on both sides regarding renegotiations and dispute resolution, with no equitable resolution yet found in India. On the one hand, the long life of PPPs and resulting financial uncertainty point to the government's role in helping the private party obtain a fair return. On the other hand, legitimacy of the bidding process requires that the private party continues to meet its commitments without seeking renegotiation. The private sector has emphasized the need for robust institutional mechanisms with an empowered arbiter to address this issue.

Practitioners stress that public institutions that facilitate implementation of PPPs require high-level and continued political support to achieve project objectives. This is particularly important as "implementation of projects on PPP basis

is difficult in the Indian context" given the complexities, and "people in power feel loss of control with PPPs," as local practitioners explained during consultations with the authors. Notable successful projects are cited as examples of the results that come from high-level support.

IN CONVERSATION WITH: KOREA

REEVALUATING A POPULAR APPROACH

One interviewee summarized the Korean situation by saying, "Korea needs to find a substitute for minimum revenue guarantees." Various senior practitioners across groups expressed that the PPP market had been driven by MRGs, and that the 2009 removal of MRGs "hit the pause button" on PPPs. The clear message from practitioners was of a need for transitioning to an alternative form of government financial support to PPPs. While PPPs have also benefited from other forms of support, including construction grants, they were eclipsed by MRGs.

Practitioners pointed out the shortcomings/missteps of the MRG approach, which can provide lessons toward a future suitable program. Some of these lessons include:

- Contingent liability management: It became clear to the Korea's Government that liabilities from MRGs were growing at a significant rate in terms of financial amount and frequency (estimated by numbers of PPPs invoking them). Several policymakers agreed that having a contingent liability management framework would have been useful to help aggregate the fiscal impact of MRGs from the portfolio of PPPs and to highlight MRG-related liabilities in a systematic manner.
- It was widely agreed that a key weakness was that a main determinant of MRG triggers was overly aggressive traffic forecasts by investors (for unsolicited deals) and government (for solicited deals). This resulted in moral hazard on the part of private investors, with incentives to overstate traffic estimates and subsequently claim MRGs on the basis of traffic shortfalls. But according to senior MOT officials, the government could also inadvertently overestimate traffic forecasts, primarily due to the lack of an effective basis for estimating traffic flows in the early days of PPPs. In addition, there is a view that the central government's push for PPPs and inadvertent overstating of traffic aligned with making strong business cases for these projects to be PPPs, and to make them profitable or attract private capital.
- Compounding the issue of aggressive traffic forecasts was the shortfall in due diligence conducted by lenders, not due to skills or capacity constraints, but because their loans were wrapped in multiple layers of security—such as in concession agreements (CAs), including MRGs, termination payments, and force majeure. There was therefore limited incentive to perform rigorous lender due diligence, as PPPs were not being financed under non-recourse project finance, but rather partial-recourse structures.

- Over time, public sentiment turned against MRGs, with reports—such as on the high-profile Seoul Metro Line 9—fueling resentment that private investors were making large profits from user tariffs as well as support from government. This in turn has partly resulted in policymakers' current limited ability and willingness to increase tariffs associated with PPPs, despite growing recognition of the need for tariff increases.

THE POST-MRG PPP LANDSCAPE

Government is rethinking ways to provide support to PPPs, considering a cost compensation program; mixed financing BTO + BLT; and shadow tolls.

Government has also been refinancing CAs for existing PPPs receiving MRG support, and has decreased acceptable equity returns at 6 percent or less. When required, government has bought out incumbents—such as in cases where the equity investors do not find the renegotiated terms acceptable, and prefer to exit. At this point financial investors, typically institutional investors such as pension and insurance funds, have stepped in

The currently available alternative to MRGs is construction grants. However, the view is that construction grants are unlikely to sufficiently cover the market, as the sector-specific ceilings may not be adequate to bridge the prevailing viability gaps. Moreover, due to public criticism of PPPs, the government is reluctant to provide the maximum construction grant support permissible under existing ceilings.

PPP players interviewed also expressed these sentiments:

- Lenders have a decreased appetite for PPPs, and often prefer that revenues be guaranteed by equity investors.
- Equity investors in Korea—particularly construction investors and financial investors—are in a reactive stance to the adjustments made by government and lenders.
- Domestic financial investors are unwilling to assume exposure to PPPs, as they have to guarantee project revenues to lenders.
- For both domestic and international equity players, Korean PPPs have not generated returns to meet expectations.
- Construction investors are willing to provide equity given their objective to make margins on the construction contracts. However, this class of investors tends to look at shorter investment horizons, preferring to exit and reinvest equity. At the same time, there is a lack of exit options for these investors.
- An emerging issue is that the boom years of Korean PPPs saw the rapid creation of infrastructure assets. As a result, fewer PPPs, particularly in the road and rail sectors, may be expected to come on line in the near future.

IN CONVERSATION WITH: SOUTH AFRICA

REGAINING LOST MOMENTUM

As expressed by one South African interviewee, "Political will is no longer with PPPs." The perception is that PPPs have lost favor with government and that political support for PPP projects is no longer available. Among indications of waning government commitment were: withdrawal of the PPP process following the receipt of RFPs; cancellation of many PPPs; and the time lost in taking projects from concept to the market. Also mentioned were a "stop-go-reverse" mentality that creates frustration among the private sector, investors, banks, and lenders.

Increasing lack of trust between the public and private sector was also highlighted during consultations, with the view that the sectors have lost mutual trust and respect that are the hallmark of a PPP relationship. Specifically, there was a belief that government feels it has been let down in many deals and that the private sector "is too expensive"; that the cost of debt is prohibitive; and that lenders should be placing a risk margin on the government. On the private sector side, the perspective was it has repeatedly "been burnt" by the uncertainty and bad decision making by government; that it feels cheated when bids are cancelled; that private sector and banks are "factoring government behavior into" pushing up the cost of debt; and that the private sector is increasingly considering the rest of Africa for investment in PPPs.

The concern that a pause in PPPs has led to a loss of capacity reflected the view that government is experiencing a trend of lost PPP momentum leading to a migration of skills to the private sector, resulting in perceived insufficient capacity to plan, prepare, and take a PPP project through a successful process. This is especially true at the municipal level. It was repeatedly expressed that individuals, not policies or plans, make the difference.

Feedback from the consultations also suggested there is a lack of project preparation and planning, including sound feasibility assessment, creating uncertainty and a heightened perception of risk in the market. The general view is that while IPPs have been exceptionally well-prepared to be bankable, such rigor is largely missing among other PPPs. It is also believed that appointing skilled project managers to spearhead PPPs would be a solution toward ensuring proper planning of PPP projects.

In addition, authors heard that "Cost of capital is increasing with higher risk margins being built in." Due to recent perception of PPPs as having poor preparation, planning, and treatment of risks, the private sector has, over time, built on its risk margins. Higher margins are also dictated by higher prudential norm requirements by the regulatory authority. The perception is that PPPs have become "very expensive" and that the project cost is pushed up through private finance. The impact of various new financial regulations, such as Basel III, is expected to have a significant impact on the banking industry's ability to

provide long-term financing. The norm appears to center around a preferred maximum term of seven to eight years—with longer-term financing likely to be available only at much higher costs.

South African audit laws are seen as severe, and the anti-corruption law is distributed across several other laws. Since PPPs are a new area with complex process requirements, there is often fear among the officials of not complying with requirements. This was expressed as: "Tight audits are increasing conservatism and fear among officials." As a result, departments often prefer traditional procurement. Stakeholders have also said that in taking the PPP route, the officials are subject to greater public scrutiny.

"Government is increasing its stake in PPP projects to lower cost of debt," several participants said, pointing to the growing trend of increasing government equity in PPPs. Going forward, the belief is that government will bring in more, with the specific objective of keeping debt finance at a low level. While government equity keeps costly debt down, it also brings down availability payments where applicable.

South Africa has an attractive refinance market, and refinancing was a hallmark of earlier PPP projects, such as toll roads. It is generally assumed that Gautrain is poised for refinance. It is also felt that the more well-structured and bankable the PPP is, the better the options for refinancing. However, refinancing has been restricted by increasingly rigorous equity tenor conditions, and lock-in stipulations as bid conditions.

South Africa has a unique debt bidding competition in place to spur competition among the four commercial banks. The successful bidder must obtain term sheet and lending conditions from a commercial bank to assure the government that the project selected the lender with least-cost financing. Is it understood that lenders are willing to change positions and offer better rates through this process, and that as a result the process failed after being attempted in two deals. Also at issue is the six months that are added to the project, which increase risk. A further contention is that arrangers may be undercut and lose the bid. As such, the perception is that the government needs proper advice in order to run this process more soundly.

IN CONVERSATION WITH: MEXICO

A MATURE MARKET IN NEED OF A SOLID LEGAL FRAMEWORK

Mexico has a mature PPP market that has existed for over 15 years. The PPP market launched in 1995 with 17 highway concessions awarded by the Secretariat of Communications and Transportation. PPPs have also been undertaken in healthcare, education, and highways.

Absence of a clearly defined legal framework has affected implementation of PPPs, with multiple PPP laws and sector regulations at the central and subsovereign level simultaneously applicable to PPPs. Upon conceptualization,

PPPs were governed by 27 different sub-sovereign PPP laws, with 15 such laws called PPP+PPS laws and two such laws called Private Investment and Service Provision (PIPS) laws. This was followed by various forms of PPP rules enacted by the Federal Government including the PPS Rules 2003 for "Pure PPPs" (AP based), the amended PPS Rules 2004, the PPP+PPS Rules for Concessions (2000 to 2006), and the Federal PPP Law, 2012 to cover all PPPs under a single regulation. The Federal Government's attempt to cover all PPPs under the new Federal PPP Law, 2012 has not been successful. The other PPP laws are still in effect and create confusion across government line agencies.

Government line agencies prefer structuring projects using sector regulations instead of the Federal PPP Law, 2012 due to the complex, time consuming, and expensive approval process, and advanced project planning and preparation required to be undertaken (at least 12 months prior to taking the project to the market). Also, such projects are not structured using principles of PPPs to avoid such projects from coming under ambit of new Federal PPP Law. As a result, the number of PPPs has substantially reduced.

FONADIN along with BANOBRAS has been a catalyst for private sector investments in PPPs, making PPPs financially viable and helping them achieve financial close. FONADIN has supported PPPs through various forms of reimbursable support including risk capital, subordinated debt and guarantees, and various forms of non-reimbursable support including construction grant and sub-equity. FONADIN also provides financial support at project preparation stage in the form of subsidies for undertaking project studies. BANOBRAS has supported PPPs by providing long-term loans (acting as the lead bank in a consortium of commercial banks) and through credit and financial guarantees. FONADIN and BANOBRAS offer financial support to PPPs through a bouquet of instruments to cover the entire spectrum of project risks.

Mexico is also in the process of developing a refinancing market for PPPs through the introduction of refinancing instruments. These include Capital Development Certificate (CKD) or "Certificado De Capital De Desarrollo" and FIBRAs or "Fideicomiso De Inversión En Bienes Raíces."

CKDs have been structured as debt/equity hybrid securities through Mexican trusts and have been placed as fiduciary stock exchange certificates to the investors at the Mexico Stock Exchange. CKDs are basically of two types: (i) CKDs financing individual projects; and (ii) CKDs financing private capital funds that invest in multiple companies or assets according to a business plan and pre-determined eligibility criteria. CKDs have supported PPPs by channeling long-term investments from pension funds, banks, corporations, and high net worth individuals in PPPs, without the need for rating of such investments. This provides exposure to investors to diversified portfolio of investments managed by these project sponsors or private capital funds.

FIBRAs refers to a real estate investment trust that has been raising funds by issuing real estate certificates to investors. The funds raised by FIBRAs are utilized for acquisition of a portfolio of real estate properties or projects. Although aimed only toward the real estate and hospitality sectors presently, government is contemplating enactment of new regulations to structure FIBRAs for investment in infrastructure.

Land acquisition has been a major challenge for Mexico's PPPs, especially in highways, railways, airports, and ports sectors. Land acquisition is usually delayed due to (i) an environmental clearance required from the Ministry of Environment for the change of land use for the forest land, which is a four- to six-month process, (ii) clearance required from the Institute of Archaeology and History (INAH), and (iii) a consensus from consultations with the indigenous groups. Such delays in land acquisition have been contributing to delays in financial close by the private sector. While land acquisition is the responsibility of the government line agency, the responsibility of funding the cost of land acquisition may be shared between the government line agency and the private sector. A dedicated government agency undertakes valuation of the private land to be acquired. As per regulations governing land acquisition, the government line agency responsible for land acquisition cannot pay a price to the land owner that is greater than the value of the land estimated by the government agency for land valuation. The land value estimated by government agency may not reflect market value and hence land owners are unwilling to sell their land. The private sector developer selected has the option to negotiate with the land owners and pay the differential between the land value estimated by the government agency for land valuation and the market determined fair value of the land.

Often, the lenders are willing to provide a bridge loan to the private sector developer to part finance the land acquisition cost a year before financial close.

The Federal Government is contemplating structuring PPPs through the SPV route to reduce the cost of funding. With sufficient funds available, the government will package projects through SPVs that will be fully owned by the government, and select appropriate EPC and O&M contractors. The SPV would be fully funded by government during construction. Upon the project becoming operational, the SPV may issue project bonds backed by the government guarantee to institutional investors and exit from the project. By adopting this government SPV route, the government will not fund the returns on the equity investment of private sector.

The Mexican government is also contemplating a stapled financing mechanism to increase competition among lenders and reduce cost of debt funding. Under this mechanism, a government line agency will procure debt funding for the project through a line of credit from a public sector Development Finance Institution. This availability and terms of debt financing would be communicated to the bidders at the time of bidding in the RFP package. The bidders will have the option to use the debt funding available from the government ("stapled financing") or arrange debt funding from their own sources, which may have a lower interest rate.

HOW GOVERNMENTS PROVIDE FVS

FVS instruments vary based on timing of infusion of capital during the project life cycle, and the manner in which they operate and are drawn down by the project company. The more prevalent forms include construction grants, operations grants, availability payments and minimum revenue guarantees[6]. These instruments operate as a support to reduce the construction cost of the project, as a means of covering/reducing operating costs, insulating the project company from demand risks, or assuring protection in event of revenue shortfalls. Each FVS instrument impacts a project cash flow in its own unique manner and has key prerequisites on the government side to ensure workability.

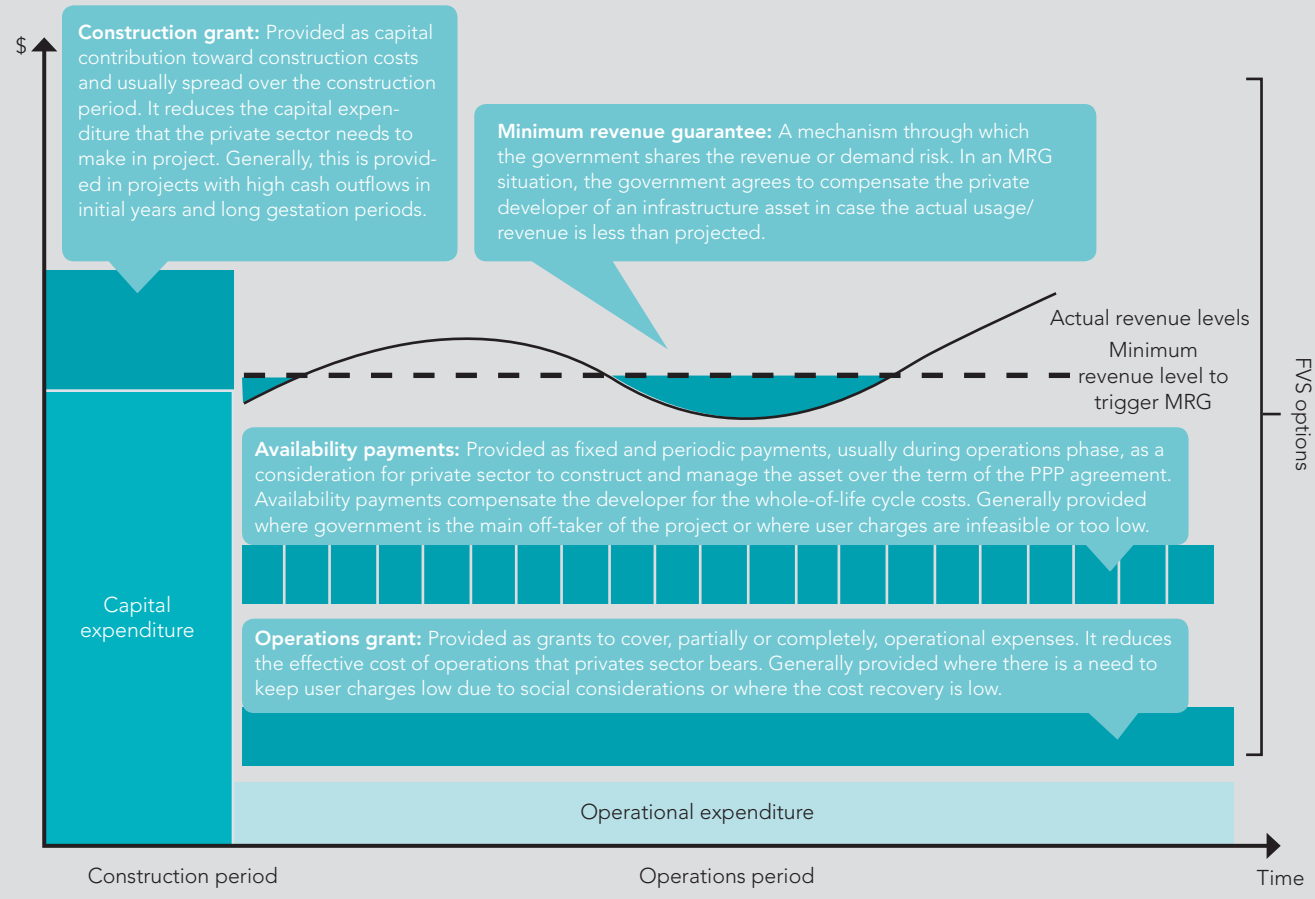
While both operations grant and availability payments take place during the operations period of projects, the details of each project (risk profile and its allocation) and government's strategic considerations inform an effective choice of FVS instrument.

It's important to note that governments also support PPPs through various forms of non-financial support[7]. These forms of non-financial support indirectly address financial viability and risk allocation issues, and are usually applicable when the financial viability gap is not large. While it is important to be aware of both financial and non-financial forms of support, the following sections focus on FVS instruments that close the viability gap and make deals commercially viable.

[6] The global terminology for FVS instruments may vary. For example, construction grant may also be known as capital grant or construction cost contribution; operations grant may also be known as operations cost contribution or operational grant; and availability payments may also be known as service payments or annuity/build transfer lease payments.

[7] Beyond FVS-type support, governments may also provide other forms of support to PPPs.

Figure 1: Typology of FVS instruments



CONSTRUCTION GRANT

A construction grant is provided as a capital grant contribution and is usually spread over the construction period. It reduces the capital investments that the project company needs to make to meet its capital expenditure. The disbursal of construction grants is usually linked to the physical progress or agreed-upon performance milestones of the project. For example, in India, disbursal of debt is taken as an indicator of physical progress of the project. Therefore, the construction grant FVS is disbursed with debt installments after key conditions are met, including the condition that 100 percent of equity investments have been made. Ideally, a construction grant should be competitively determined to max-

imize the value for money for the government. It is also the reason countries like Chile, India, and Korea have designated the construction grant as a key bid parameter. Brazil, Colombia, Mexico, Peru, South Africa, and the UK have also selectively used construction grants.

Figure 2: Construction grant, key features

Short-term financial commitment	Grants disbursed early in project life. Fully expended during or shortly after construction phase.
High degree of certainty	Maximum grant amount predetermined and part of PPP agreement.
Greater impact on project returns	Grants paid early in project lifecycle, with potentially higher impact on IRR/NPV.

Less impact on project outcomes	Grants provided at "input" stage of project, so linked to "output" (construction milestones, quality), not outcomes (service, performance) during operations.
Limited applicability to certain project types	Limited applicability to PPP models that have small or no build component and large O&M spend. Examples include management contracts or social sector projects that have far larger requirements to bridge operations deficits.

CASE STUDY 1: HYDERABAD METRO

PROJECT DESCRIPTION

Hyderabad's Metro is a rapid transit system for the city of Hyderabad in Andhra Pradesh, India. Phase 1 includes three lines along high-density traffic corridors, covering 71 kilometers.

Following a second round of competitive bidding, L&T emerged as the lowest bidder and signed the DBFOT Concession Agreement with the Government of Andhra Pradesh (GoAP) through its SPV, L&T Metro Rail Hyderabad Limited (L&T MRH) on September 4, 2010.

The project achieved financial closure in April 2011. Construction commenced in April 2012 and is scheduled for completion in 2016. The Concession period is 35 years (including five years of construction) and extendable by another 25 years.

FINANCIAL PACKAGE/STRUCTURE

The estimated project cost of $2.28 billion at financial close was proposed to be financed by the concessionaire, L&T MRH.

VGF of $230 million from the Government of India was determined competitively. It is being disbursed during construction in proportion to the debt drawdown, after the concessionaire spent its equity share of $450 million (about 20 percent of project cost).

The concessionaire was given the right to develop 6 million square feet of real estate at/over air space of Metro Rail facilities and collect lease rentals from occupants as additional revenue to augment farebox revenues.

The revenue model comprised of:

- farebox revenue;
- lease rentals; and
- advertising, parking, and others.

The estimated revenue was in the range of 55 percent, 45 percent, and 5 percent of total revenues, respectively. Passenger fares and escalation in fares were predetermined in the concession. The Contracting Authority had sanctioned expenditure of $330 million toward land acquisition, road widening, shifting of utilities, and resettlement and rehabilitation. The concession provided the Contracting Authority an affirmative right of vote on issues pertaining to reserved matters listed in the Shareholder Agreement, and the right to appoint a nominee director on Board of Directors of the SPV through a non-transferable equity share (Golden Share) in the project SPV.

STATUS

Pre-construction works are complete. All arrangements for right of way and land required for construction and setting up of allied facilities as per the concession agreement have been made available to the concessionaire. The project is progressing on schedule.

The state of Andhra Pradesh has recently been bifurcated into two states as per an Act of the Parliament of India. Consequently, Hyderabad city will be shared as a state administrative capital for two states for a specified period of time before one of the states relocates its state capital. The concessionaire has raised concerns about the impact of this political decision on the viability of the project, and has informed the Contracting Authority and the Chief Minister of Telangana that the project is no longer viable, as substantial investments are expected to move out of Hyderabad to another state capital. The matter is currently under deliberation.

Table 4: Case Study, Hyderabad Metro

VGF by Government of India	10%	$0.23 billion
Debt		
• Senior debt (15 years)	70%	$1.6 billion
Equity Sponsor		
• L&T	20%	$0.45 billion
Total Cost		$2.28 billion

KEY LESSONS

- VGF was provided into the project as a capital grant during construction.
- The project structure utilized other sources of revenues for the project, thereby reducing the requirement of VGF.
- The entire demand and market risk for generating various project revenues was transferred to the concessionaire.
- Fair and competitive bidding for the VGF ensured competitively determined value to the Contracting Authority.

OPERATIONS GRANT

Operations grants contribute to meeting the operational expenditure of a project and reduce the effective cost of operations borne by the project company. Operations grants are provided where the user charges are to be kept at a level lower than the commercial rates due to social considerations. In some cases, operations grants may take the form of "performance or output-based aid," where the payments are contingent on the infrastructure service meeting agreed performance standards and specifications. Such output-based aid may take various forms including:

- Consumption subsidies (e.g., water sector subsidies in Chile, and rural telecommunications in Chile and Peru);
- Connection subsidies (e.g., rural electrification in Guatemala); and
- Shadow tolls (e.g., privately financed roads in Portugal and the UK).

Operations grants have been used by the Government of Chile to keep the highway tolls at levels affordable to users. In some cases, a combination of various types of output-based payment arrangements may be used.

Figure 3: Operations grant, key features

Greater impact on project performance	Grants are contingent on service provision through output-based arrangements.
More effective risk transfer	Enables more effective risk transfer from government to private operator, especially with output-based payments.
Well-suited for certain project types	Greater applicability for PPP models with smaller or no build component and large O&M spend, e.g., management contracts, operating concessions, social sector projects with large requirement to bridge operations deficits.

Costly and complex to administer	More costly and complex as each grant payment needs to be determined based on performance outcome achieved.
Could delay tariff reforms	May take pressure off from tariff reforms during the PPP term, as government can fall back on increasing grants (and risk becoming open-ended subsidies).
Uncertain total grant amount	Grant amount not known upfront and may fluctuate over project period.

Compared to construction grants, the timing of operations grants is more closely aligned with the provision of infrastructure service. Operations grants are contingent on service delivery through output-based arrangements. Operations grant requirements are difficult to estimate at the time of project preparation as these requirements depend on many macroeconomic variables like cost inflation and interest rate variations; operations and maintenance expenses during the life of the asset; or patronage volumes. Therefore, competitive determination of operations grants is difficult.

CASE STUDY 2: GAUTRAIN

PROJECT DESCRIPTION

Following an international bidding process, the Gauteng Provincial Government awarded the project to Bombela Concession Company, consisting of Bombardier, Bouygyes Travaux Publics, Murray & Roberts, and Strategic Partners Group. The project is a Design, Build, Operate, and Maintain PPP with partial finance from the concession company. The concession comprised of 15-year O&M period after construction period of five years.

Gautrain comprises two links, one between Tshwana (Pretoria) and Johannesburg, and the other between OR Tambo International Airport and Sandton. Apart from four terminus stations on these links, six other stations are linked by about 80 km of rail along the route. Operations are led by RATP Développement, the transit operator responsible for public transport in Paris and its surrounding areas.

FINANCIAL PACKAGE/STRUCTURE

The 2006 concession contract value in nominal (2011) terms was $2.41 billion. The project had five sources of funding. The 88 percent contribution by the national and provincial government toward project cost was paid against completion of specific verifiable milestones, certified on a monthly basis by an independent certifier and consolidated into monthly payment certificates.

The revenue model is comprised of two sources: farebox revenues and value added revenue from advertisements, parking charges, and others.

The concession includes a patronage guarantee mechanism by which the concessionaire can be assured of covering operating, maintenance, and private sector investment portion of capital costs (adding up to Minimum Required Total Revenue). Government assured financial support to the concessionaire for patronage revenue below a certain level. It was expected that the guarantee payable would decrease as farebox income increased, with a system of 50:50 profit sharing between government and Bombela applicable once the farebox reached a state where all of Bombela's costs were covered.

The project-specific Socio-Economic Development (SED) objectives were established through agreed total and monthly SED obligations for 21 SED elements, which were included in the Concession Agreement.

STATUS

Current revenue averages around $5.16 million per month, in line with predictions. Also as expected, Gauteng has had to provide a "patronage guarantee" reaching $7.5 million per month. For 2012–2013 the government had paid a patronage guarantee of $78 million (by the end of March 2013).

In light of high patronage guarantee payments, the government has engaged in sustained efforts to increase revenue and patronage of Gautrain. These include a sustained campaign to promote migration from motor cars to Gautrain; introducing e-tolling of highways as part of the Gauteng Freeway Improvement Project; and rationalization and hiking of fares.

The efforts have had a positive impact as the ridership in increasing. The patronage guarantee government paid to Bombela has dropped from between $7.5 million to $8 million a month in 2012–2013, to between $6.56 million to $7 million a month in 2013–2014.

KEY LESSONS

- The Gautrain project was structured with a government contribution of 88 percent of project cost. At the same time capital investment was sought in the project to bring in private sector efficiencies in project implementation and O&M.
- In addition to farebox revenues, the concession allowed the concessionaire to supplement project revenues from advertisements, parking charges, and other sources. However, real estate development rights were not provided.

The concession provided an operations support guarantee in the form of a patronage guarantee from the government, a "Minimum Required Total Revenue" that was required to cover the cost of operations along with recovery of private sector capital.

Table 5: Case Study, Gautrain

Government Sector		
Central Government via Department of Transport	44.2%	$1.065 billion
Guateng Provincial Government		
• Medium-term expend framework	26.1%	$0.629 billion
• Provincial borrowing	18.4%	$0.443 billion
Private Sector		
• Equity sponsor	1.8%	$0.043 billion
• Debt	9.5%	$0.228 billion
Total Cost		$2.41 billion

AVAILABILITY PAYMENTS

Availability payments (APs), also termed as unitary payments or annuity payments, involve a private sector developer constructing an asset and providing an infrastructure service against a fixed consideration paid over the life of the asset. The fixed consideration compensates the private developer for capital expenditure, operational expenditure, financing costs, and an agreed-upon return on investment. In effect, the government pays for the construction and operations of the asset while the private developer executes the project and delivers the service. In the AP model, the focus is on utilizing the expertise of the private sector to ensure the more efficient execution and operation compared to the public sector.

APs may take several forms. The most common form is whereby payments from the government constitute the only source of revenue for the private developer. User charges, if any, are collected by the private developer on behalf of and deposited with the government. The UK's PFI program is based on this model. These are usually provided in the case of social infrastructure projects where user charges cannot be imposed and collected. They have also been applied in cases where the government takes on the demand or revenue risk, as in case of user-pay PPPs. India's annuity scheme for highways is based on this model.

Another variant, though not as prevalent, is where the APs from the government supplement the user charges collected by the private developer to make the project financially viable. In this case, APs act as a "top-up" to bridge the viability gap of the project. In India the Madhya Pradesh Road Development Corporation has used this approach (see case study 3) at the sub-national level. In some instances APs have also been used in combination with construction grants (see case study 5). These have been used where certain portion of capital spend was contributed by a government agency or where annual APs were felt to be beyond the affordability levels of the government counterparts.

Figure 4: Availability payments, key features

Greater control on project performance	As APs distributed through project life, government can suspend/delay/reduce APs if service is not satisfactory.
Reduce immediate financial pressures	Enables government to spread payments related to infrastructure investments over longer periods.
High interest from private sector	Induces high interest from private sector as patronage or revenue risk is removed; potential for private sector to offer lower risk premiums to governments.
Accelerates infrastructure investment	Helps accelerate investment in infrastructure programs beyond public works.

Requires mature budgeting system	Government payments across life of asset demand effective multi-year budgeting framework to honor AP commitments.
Financial and credit strength required	Government counterparty needs to be financially strong and credit-worthy. Otherwise, lenders may demand external guarantees, or the deal does not reach financial close.
Fiscal flexibility affected	May reduce fiscal flexibility of future government budgets due to long-term AP commitments.
Value-for-money implications	Often difficult for governments to manage refinancing and equity gains, thus reducing value-for-money for public sector.

CASE STUDY 3: MADHYA PRADESH ROAD DEVELOPMENT CORPORATION (MPRDC)

PROJECT DESCRIPTION

The project involves strengthening and widening an existing road to two lanes with an undivided carriageway for a section of 76 km from Silwani to Suitanganj in Madhya Pradesh, India.

The project was bid out competitively as Design, Build, Finance, Operate, and Transfer (DBFOT) project, with the annuity payment as the financial bid criteria. The project also allowed the concessionaire to collect tolls from users at predetermined rates.

Dilip Buildcon Limited (DBL) was selected as the successful bidder. DBL Silwani Sultanganj Tollways Ltd (DBLSSTL) was incorporated as the concessionaire for the project. The concession agreement was signed on September 8, 2011.

The concession period is 15 years. The project achieved financial closure on April 1, 2012 and was expected to be implemented over two years. The project completed construction ahead of schedule by 337 days, resulting in a bonus payment of about $2.83 million.

FINANCIAL PACKAGE/STRUCTURE

The project cost at financial close was $23 million and was financed by DBLSSTL with a debt equity ratio of 73:27.

The revenue model was comprised of two sources, semi-annual annuity payments from MPRDC, and tolls collected from users. Estimated revenue composition was 90 percent and 10 percent respectively.

Semi-annual annuity payment from MPRDC was $1.58 million and was paid during the period of operations. The toll rate was fixed by MPRDC in the concession along with rates for increase in tolls annually.

STATUS

The project was commissioned by DBLSSTL 337 days ahead of schedule resulting in a bonus of about $2.83 million to DBLSSTL. The project has been operating since April 2013 and is meeting the performance standards and specifications mentioned in the concession agreement.

Table 6: Case Study, MPRDC

Debt (PNB—13.5 years)	73%	$16 million
Equity (DBL)	27%	$7 million
Total Cost		$23 million

KEY LESSONS

- The project was structured in a hybrid "annuity plus toll" model where 90 percent of the revenue was through annuity and 10 percent through collection of tolls.
- Annuity payments were performance-linked.
- MPRDC reduced its outflows toward annuity payments by allowing tolls as an additional revenue for the project.

CASE STUDY 4: ALDER HEY CHILDREN'S PARK HOSPITAL II

PROJECT DESCRIPTION

Alder Hey Hospital is the first private finance initiative (PFI) hospital since the coalition government came into power in the UK in 2010. The new hos-

pital was designed by BDP, and is being built on behalf of Alder Hey Children's NHS Foundation Trust.

The project will have a floor area of 51,000 m2 and will contain 270 beds and 16 state-of-the-art operating theaters. Seventy-five percent of the bedrooms will be single occupancy with en-suite bathrooms, improving privacy and dignity for patients and their families.

Acorn was announced as preferred bidder for the project in June 2012, following approval by the Department of Health and HM Treasury. The Acorn consortium, comprising John Laing, Laing O'Rourke, and Interserve, achieved financial close in March 2013.

The planned redevelopment scheme for Alder Hey Children's NHS Foundation Trust will involve the creation of $356 million world-class hospital, built next door to the current site on Springfield Park. The new "Alder Hey in the Park" will involve construction of a new hospital building, creating a children's park, building a multi-story car park, and reinstating parkland.

FINANCIAL PACKAGE/STRUCTURE

Estimated cost at final business case was $432 million, with $75 million as retained costs for the trust—thus project cost was $356 million. Cost and financing are shown in the table below. The construction value of the scheme is $250 million, but the total value—including demolition, reinstatement of the park, and medical equipment—is $356 million.

Laing O'Rourke will build the BDP-designed hospital and Interserve will maintain and operate the hospital infrastructure. WSP is the engineer.

Total PFI investment is at debt to equity ratio of 90:10. John Laing and Laing O'Rourke will each hold 40 percent equity in the project, with Interserve holding 20 percent.

STATUS

The project closed in less than 10 months from announcement of preferred bidder and in less than five months from the beginning of contract negotiations in November 2012, which was considered to be a remarkable achievement given that it had an innovative financing structure.

The new hospital opened in October 2015. The old building will be demolished and the site landscaped and developed into a new park.

Table 7: Case Study, Alder Hey Children's Park Hospital II

Upfront capital grant support (trust funds)	$123 million
Foundation Trust Financing Facility	$60 million
PFI	
• M&G senior debt	$81 million
• EIB loan (tenure: 19 years)	$81 million
Equity Sponsors and Bridge Finance	$11 million
Total Cost	$356 million

KEY LESSONS

- The UK market is averse to taking market risk. The project was therefore structured on the PFI model that had been successfully used for several hospital projects in the UK.
- The upfront investment by the trust was made to bring down the PFI payment year on year.
- A debt funding competition was undertaken by Acorn. This further ensured the best cost of debt and thereby optimized the project cost.
- The project answered the need from institutions to invest in well-structured and good quality social infrastructure.

MINIMUM REVENUE GUARANTEES

Through the minimum revenue guarantee (MRG) approach, the government shares the demand or revenue risk in a PPP. With an MRG, the government promises to compensate the private developer of an infrastructure asset if the actual revenue is less than the projected revenue from user charges. MRGs are typically provided in projects with substantial demand risk, like highway projects and public transportation projects. The traffic/demand in such projects is dependent on several external factors and therefore put the returns of the private developer at risk. Governments offer MRGs to share a part of the risk incurred by the private developer and make the project attractive as an investment option.

It is worth noting that while MRGs are called guarantees, they are in reality a revenue-enhancing measure. While typical guarantee instruments provide risk mitigation to lenders, MRGs are directed at SPVs to cover potential shortfalls and enhance associated revenue streams, and are therefore considered FVS instruments.

Box 7

KOREA'S MRG SUBSTITUTE SCHEME

Korea discontinued its original MRG program in 2009. The MRG Substitute scheme was brought in as part of the 2011 Basic Plan in PPP in Korea. Coverage in this substitute MRG scheme was to the extent of the prevailing debt cost to the government; there was no cover for profits, only for costs. In the new MRG substitute scheme structure, the government assumed a portion of the investment risk that was limited to what the government's costs would have been in the case of a public-financed project. The "risk-sharing revenue" was defined as "the amount of operational revenue that guarantees the IRR comparable to the government bond's rate of return." Under this approach, the MRG would be paid for shortfall in the operational revenue below the risk sharing revenue as defined. When the actual operational revenue exceeds the share of investment risks, government subsidies are redeemed on the basis of, and within the limit of, the amount previously paid. Again, subsidies are provided only when the actual operational revenue surpasses 50 percent of the share of investment risk, thus placing a performance responsibility on the private sector.

Source: Based on in-country consultations 2013–2014

MRGs have been the most prominent form of FVS in Korea and have been instrumental in kick-starting the infrastructure PPP market in Korea. MRGs in Korea specified the minimum threshold lower band for operating revenue under which the guarantee would be redeemed. On the flip side, the project company was required to share a part of any surplus revenues (over an agreed-upon upper band of projected revenues). The typical mode of redeeming MRGs in infrastructure projects is the additional contribution of public sector capital. The

original MRG program was discontinued in 2009 owing to significant contingent liabilities flowing to the Korea's Government as almost all PPPs claimed MRGs[8]. Korea's Government has introduced recently a substitute scheme, but to date not many projects have utilized this scheme.

[8] By 2010, all except for one project from 15 projects had claimed MRG from Korea's Government and the annual MRG outflow for Korea's Government increased by eight times to about $ 400 million per year.

Figure 5: Minimum Revenue Guarantees, key features

Significantly reduces revenue risk	Substantially reduces such risk for private sector and lenders, and thus a big stimulus for private investment.
Can greatly reduce risk premium	Risk premium in cost-of-capital computations for private sector can reduce substantially. Premium to government borrowing rates should be minimal, as infrastructure debt becomes similar to government-backed borrowing.

Impacts on contingent liabilities	Results in contingent liabilities that can be spread over many years.
Needs strong institutional & administrative capacity	Demands sophisticated management framework and high capacity in government to measure, value, and plan for long-term contingent liabilities.
May pose high fiscal risk	Can present excessive risk for governments, with limited potential for upside sharing of project returns.
Weak control over project performance	Weaker linkage with performance, as government underwrites revenues with weaker linkage to performance or delivery.

CASE STUDY 5: MERSEY GATEWAY BRIDGE

PROJECT DESCRIPTION

Promoted by Halton Borough Council (HBC), this project includes the design, build, finance, operation (DBFO), and maintenance of new tolled

bridge over River Mersey in northwestern England. This involves construction of a new 1 km long cable-stayed, dual-three lane bridge between Widnes and Runcorn, about 9 km of access roads in the Borough of Halton, near Liverpool, and the installation of tolling facilities for Mersey Gateway Bridge and the existing Silver Jubilee Bridge.

Merseylink consortium was appointed the project company in March 2014. The consortium consists of financial investors Macquarie Capital (Australia), FCC Construcción S.A. (Spain), and Billfinger Project Investments (Germany). Contractors are FCC Construcción, Kier Infrastructure & Overseas Limited (England), and Samsung C&T Corporation (Korea). The toll operator is Sanef S.A. (France).

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Total projected construction and land assembly cost is around $900 million. Total lifecycle costs/revenues over the next 30 years will be around $3 billion. Initial development costs, land purchase, decontamination, and other project costs will be funded through a $129 million grant from the Department for Transport (DfT).

The DBFO contract is on a fixed-price basis, under which payments do not begin until the project is operational. Once operations begin, the majority of funding (about 70 percent) will come from tolls from both the new bridge and existing Silver Jubilee over the 26.5-year BDFO contract.

In addition, the UK DfT is providing a graduated, decreasing resource Availability Support Grant funding over 12 years from 2017–2018 (following

bridge opening) until 2028–2029. Under terms of funding, DfT will provide a capped annual revenue grant of $21.83 million, subject to periodic review. It may be adjusted downward if tolls exceed forecasts.

DfT has provided guarantees should revenues fall below the base case; it would make up for the shortfall of toll revenue in the form of additional grants. The Council will also make a capital contribution (about $210 million) at full service commencement (when the new bridge opens to traffic).

Merseylink consortium has put in place financing arrangements, which include making use of the new IUK Guarantee Scheme to guarantee $390 million of the senior debt required, with the balance of the financing provided by four banks (Lloyds, SMBC, KfW, and Crédit Agricole) and the Merseylink sponsors. Sharing of refinancing gains that accrue to authority will be further shared with the DfT, split evenly.

STATUS

Financial close was achieved in March 2014. Merseylink PLC issued a $390 million, 29-year guaranteed bond with HSBC as sole arranger, and Crédit Agricole, HSBC, and Lloyds Bank as joint book-runners to place the bonds. Moody's Investors Service assigned an Aa1 rating with stable outlook to the guaranteed secured bones. The issue was oversubscribed, with active participation of institutional investors. The first Government Guaranteed Bond price was at only 0.42 percent above the price of government borrowing.

Residents of Halton will be able to use the bridge toll free through a 100 percent discount scheme, provided they have registered their vehicles for the use of bridge for a fee. The Government has committed to cover this additional cost with a revised funding letter.

Table 8: Case Study, Mersey Gateway Bridge

Council capital grant support	$210 million
Debt	
• Senior (tenure: 29 years)	$390 million
• Term loan	$210 million
Equity sponsor	$90 million
Total Cost	$900 million

KEY LESSONS

- Since the market was unwilling to take demand risk, the project was structured to retain the revenue risk with the local council. To enable this, the project was bifurcated into two parts and two separate contracts were entered into: one for the annuity and another for the toll collection.
- The City Council was financially weak and not creditworthy. Accordingly, the UK government guarantee was used to back-stop the local council and provide the market the necessary confidence for the annuity payment. The government guarantee was provided directly to the lenders and not to the private sector, through an "on demand" promissory note.
- The new crossing was made in parallel to the existing bridge and both were tolled to address any user resistance to tolls that may arise.

CASE STUDY 6: SEOUL METRO LINE 9

PROJECT DESCRIPTION

Metro Line 9 was Korea's first private metro rail investment project under a BTO scheme, with a 30-year concession. Seoul Metropolitan Government (SMG), which was running its eight existing metro lines, decided in 2005 to entrust operation of its ninth metro line to the Seoul Metro Line 9 consortium, which included a number of manufacturers. They were led by Hyundai-Rotem group (subsidiary of Hyundai), and a set of financial investors, led by Macquarie Group (MKIF).

The operations contract was signed on June 29, 2007, between Seoul Metro Line 9 and operator "Seoul Line 9," which was assigned to prepare the commissioning of the line.

FINANCIAL PACKAGE/STRUCTURE

The consortium was responsible for design and construction, engineering and manufacturing, testing and commissioning, and O&M. Based on this scope of work the estimated cost at financial close was $1.2 billion.

The contribution of national and Seoul governments was paid against completion of specific verifiable milestones, certified on monthly basis by an independent certifier.

The revenue model consisted of two parts, over a concession term of 30 years. This included farebox revenue. It was estimated the line would carry 760,000 passengers every day (in 2013), for an annual total reaching 6 million train-km; and ancillary businesses. This included lease rentals from

underground shopping centers, and advertisements at stations, on trains, and at convenience stores.

This project was supported by an MRG provided by the SMG for the first 15 years of operation. Subject to actual revenues being no less than 50 percent of concession agreement forecasts, SMF would provide revenue support for up to 90 percent of inflation-adjusted concession agreement fare revenue forecasts for the first five years; 80 percent for six to 10 years; and 70 percent for 11 to 15 years of the concession terms.

STATUS

SMG finances were put under stress due to the annual payouts for MRG. Because of the MRG guaranteed rate of return of 13 percent, if ridership fell below projections the city had to pay the company millions of dollars each year. MKIF and other investors were paid $11.8 million in 2010, $26.2 million in 2011, and $34.5 million in 2012. Through this system, SMG paid a total of $154.22 million to the private operator from 2009 to 2013.

In light of this situation, SMG initiated negotiations on fare escalation and elimination of MRGs. Subsequently, there was a major reshuffle of private investors. In October 2013, Macquarie Infrastructure and Hyundai Rotem sold their shares for about $707 million, making way for capital participation by a total of 11 investors. These included two asset management companies (Hanhwa Asset Management and Shinhan BNP Paribas Asset Manage-

ment) and Kyobo Life Insurance, Hanhwa Life Insurance, and Heungkuk Life Insurance. SMG signed a new contract with the restructured Seoul Metro Line 9 corporation. This contract included a new cost compensation system. In the revised version of the agreement, MRG systems were replaced with a cost compensation system. If actual revenue from the subway did not cover operating costs, the operator would be compensated for its losses only. It also included a provision for regaining control over fare determination. Previously, the operator was required to report fare increases only to SMG, but now it must receive the consent of the city. The revision meant that SMG secured control over determining subway fares.

According to the previous agreement, the city had estimated it would have to pay an estimated total of $4.9 billion over the concession term. This sum would include $0.75 billion from the MRG system along with $4.2 billion in subsidies to compensate operator for not increasing fares. Under the revised agreement, SMG expects to decrease the financial assistance over the next 26 years from $4.9 billion to $1.9 billion.

Table 9: Case Study, Seoul Metro Line 9

Capital grant	$0.417 billion
Debt (Shinhan Bank)	
• Term loan	$0.533 billion
• Mezzanine loan	$0.067 billion
Equity sponsors	
• Construction investors	$0.085 billion
• Financial investors	$0.081 billion
Total Cost	$1.183 billion

KEY LESSONS

- Metro projects, internationally, are not viable. MRG support was, accordingly, provided to the project to make the project viable. The MRG guaranteed a return of 13 percent in addition to the capital grant that was provided by the national and Seoul governments.
- Since the MRG guaranteed a certain level of operational revenues, government also provided, as part of the project structure, additional revenue enhancement measures through commercial development rights (underground shopping centers, advertising rights) to supplement the farebox revenue.

A FINAL WORD FROM THE PRIVATE SECTOR

The FVS mechanisms described above are the tried and tested methods for delivering public support to infrastructure projects. The consultations underpinning this work highlighted that the private sector, in most of the countries visited, is driving innovation in FVS programs. In Korea, investors want to reinvigorate the program through the use of construction and operation grants since the government terminated the use of MRGs. In India, investors discussed hybrid PPP models that combine India's traditional annuity-based PPP with some toll exposure to the operators. The private sector is not calling for innovation in an absolute sense (i.e. developing brand new FVS mechanisms), but rather that governments learn to take advantage of the range of FVS mechanisms available.

To pivot policy in such a direction requires that the specific characteristics of the project/asset (or the transaction) drive the selection of the FVS mechanism. For example, there is widespread belief that lenders won't bear traffic risk. However, when one examines trends in global transactions, this is not the case. In certain circumstances, for instance in a brown-field toll PPP where demand forecasts are credible, lenders will take traffic risk, even in non-OECD countries. In such cases, governments may choose to provide MRG support, rather than offering an annuity-type structure. Or the government could deliver the FVS earlier in the project to bring down financing costs—a common occurrence in several of the countries visited.

The final word is that with FVS, one size most definitely does not fit all. A nimble FVS policy enables the public sector to vary how and when FVS support is offered to a project, thereby responding better to project characteristics and incentivizing project-level innovations. Such flexibility in FVS policy needs to be accepted and supported by the private investors and lenders.

CHOOSING THE RIGHT FVS INSTRUMENT

In designing government FVS programs, officials must factor in a variety of considerations, such as socio-political context, macroeconomic settings, fiscal space, and public priorities. The decision entails hard choices; each option has implications in the immediate and long term.

Based on the authors' synthesis of diverse practitioner experiences, this section details key strategic considerations that governments may find of interest while designing and refining their FVS programs.

In balancing these considerations, government policy makers need to understand the underlying causes for financial viability support, such as a project's cash-flow insufficiency and market failures. In these cases, the private sector would likely not be ready to bear the risks associated with the market failure, nor to pay the cost of the externalities. Therefore, if governments can enhance their enabling environment and address the market failures, then the requirement for financial viability support and ultimately the fiscal costs of PPP projects can be minimized.

Strategic factors such as a government's track record with PPPs or private investment in general, the overall investment climate, the legal and regulatory framework for PPPs and for the sectors at hand, directly influence whether financial viability support will be needed or not. These factors also determine intensity of the protection private lenders and investors demand.

Figure 6: Considerations for designing FVS programs

SOCIO-POLITICAL FACTORS AFFECT PPP MODELS AND FVS CHOICES

The fact that FVS utilizes the public budget for projects managed by the private sector can become a matter of high public scrutiny and potential criticism. Therefore, policy makers may desire to choose FVS instruments that can be better managed from the social and political perspective.

Table 10: Socio-political elements affecting FVS choices

Are user charges socially and politically acceptable?	The choice narrows down to availability payments if user charges cannot be levied or are not socially acceptable. For example, in the UK there is a high degree of reluctance to placing tolls on highways due to the public perception of (already) high taxation on motor vehicles and fuels.

Table 10: Socio-political elements affecting FVS choices, cont.

	In contrast, much of UK's regulated utilities such as in water and electricity have long operated on a user pay model.
Can provision of public money to the private sector be politically managed?	In many jurisdictions public perception vis-à-vis the use of government budget to financing/ support private/PPP enterprises is a constraint. In such cases, FVS instruments that infuse capital in the construction or operations phase may no longer be practical options.
Are the developers and lenders willing to take on demand risk?	Often investors are hesitant to take on patronage or demand risks. In such cases, tariff based models will only work with guarantees like MRGs or under AP structures. For example, banks and institutional investors in the UK and Korea are hesitant to take on exposures with a high demand risk.

FVS OPTIONS ARE CONSTRAINED BY FISCAL SPACE

As FVS commitments are government obligations, they have a bearing on the fiscal envelope. The extent and nature of FVS commitments depends on the available fiscal envelope with government; further existing FVS commitments (made from past years) would have an implication on the future fiscal envelope of the government. In years of economic downturn, one could expect pressure on the government's fiscal space and this could get further aggravated if past FVS commitments place an overwhelming pressure, as infrastructure demand is closely linked to the economic cycle.

Table 11: Extent of fiscal space available for government in future years

Is there fiscal space vis-à-vis existing liabilities and commitments?	The extent and duration of fiscal space drives the choices between near-term options, such as construction grants, and longer-term options. For example, MPRDC allocates 25 percent of its annual budget to service APs. The UK has adopted a 2 percent budgetary cap on the extent of payments or commitments to be made to PFI/PPPs. More recently, the United Kingdom Guarantee Scheme has been launched with an overall capacity of £40 billion. Similarly, in Korea, it is recommended to have a 2 percent budgetary cap on the extent of payments or commitments to be made to PPPs.
Is there buoyancy of tax revenues?	This will determine the potential longevity and sustainability of the chosen FVS instruments, and in turn may influence the choice of FVS instruments. A buoyant tax revenue base provides greater comfort to investors and lenders, as it signals a greater potential for fiscal shock absorption by the government.

FISCAL RISK MANAGEMENT SYSTEMS REQUIRED TO MANAGE GOVERNMENT FVS LIABILITIES

There is a high level of interplay between FVS commitments and government's fiscal space. While individually FVS commitments may not have substantive impact on a government's fiscal space, collectively at the level of a portfolio of FVS projects or commitments, governments can become susceptible to uncertainties of the future. Therefore, governments are exploring effective ways to identify and manage long term direct and contingent commitments.

Table 12: Fiscal risk management systems required to manage FVS liabilities

Can the government actively manage contingent liabilities?	Management of contingent liabilities requires adequate public sector capacity and tools to model the likelihood of contingent liabilities getting invoked and the expected payouts for the public sector. Unless the quantum of contingent liabilities is small relative to the government budget, or the government has a robust fiscal management system, contingent liabilities can become a fiscal and political challenge.
Is there a fiscal risk management system?	Colombia has developed a sophisticated system for managing contingent liabilities, or fiscal risk arising from guarantees offered to toll road concessions. This system includes assessing and approving the fiscal impact of guarantees before these are granted, and setting aside contingency funds to cover the expected payments from the guarantees. Mexico has set up FONADIN, the Infrastructure National Fund that is financed by the government, with the collection of toll road revenues under the federal government. It is a fund with significant liquidity levels ring fenced from the government budget/provisioning system. Similarly, Brazil's Fundo Garantidor de Parcerias Público – Privadas (FGP)[9] at the federal level is backed by the federal government.
What is an acceptable degree of fiscal control?	FVS instruments that allow the financial implications to be determined upfront, easily quantifiable and predictable, allow governments to have greater control on their financial mechanism. Therefore, the question that policy makers must ask is to what extent the government's FRM systems can manage fiscal uncertainties arising from FVS commitments.

[9] The FGP is established as a Trust Fund of public assets and the Banco do Brasil (Federal government owned bank) acts as the trustee of the fund. For each PPP contract the FGP issues a guarantee letter. The FGP has assets worth $3.4 billion in cash, public bonds, real estate, and stocks. The Federal government has transferred $2 billion worth of stocks and $50 million worth of public bonds. No leverage is allowed for the guarantees, i.e. the NPV of FGP guarantees must equal or less than the NPV of its assets. This rule limits FGP's risk exposure. The guarantee is provided free of charge to the PPP project. All FGP costs are paid by the Federal government. The funding of FGP with government held stocks implies no fiscal impact as stocks are treated as assets.

ALIGNING FVS PROVISION TO BUDGETING AND ACCOUNTING SYSTEMS

Often government planning and budgeting systems are geared toward meeting short-to-medium term direct liabilities. The fact that elected representatives need to approve annual budget allocations poses uncertainty regarding annual approvals and fund availability. This impacts the way FVS commitments are met.

Table 13: Aligning FVS provision to budgeting and accounting systems

Does the government budget system allow for the use of public budget to private/ PPP enterprises?	In many jurisdictions the legal set up of government budgeting may not allow for use of public budget toward private/PPP enterprises. This may prevent deploying FVS instruments that infuse capital during the construction or operations phase of the project, and/or impact the extent and nature of payments and guarantees that can be made.
Does the government budgeting system allow for medium-term planning?	Most government budgets are tuned for annual or short term budgeting. This may make it difficult to implement longer term commitments that some FVS instruments may require. Governments have found solutions that best fit their country settings. For example, in Brazil although FVS-type payments are appropriated through the annual budget of implementing agencies, the FVS payments at the federal level are classified as "interest payments" to avoid annual legislative approval. On the other hand in the state of Madhya Pradesh in India, the state's annual budget recognizes the ongoing FVS and annuity payment commitments. The fact that an explicit recognition for each project, for the entire duration of the payments, is made in the state budget and that, each year, the annual budget is passed by the state assembly, provides a high level of assurance to lenders.
How will the FVS payment be accounted for in the government books?	Most governments use cash-based accounting systems as against accrual based accounting systems. The cash-based accounting systems record only the cash flows pertaining to FVS payments that have been made against the FVS payments that have become due for a given accounting period. This results in only partial recognition of the FVS related liabilities of the government counterpart for a given accounting period, which may result in the government counterpart taking more excessive exposure to the FVS payments than it can sustain for a given accounting period. Another concern witnessed in certain jurisdictions, such as in Indonesia, is on the accounting treatment of FVS in the form of construction grants. Should it be treated as a state investment in a project or an asset of the state (to the extent created by FVS funds) or as an operational expense? For instance, construction grants go toward meeting a project's capital expenditure but they cannot be treated as state investment in the project enterprise as there is no returnable capital. Nor does the cash grant create a state asset; rather lenders have a first charge on all project assets. This persuades officials that FVS payments should be treated as an operational expenditure, but whether construction expenditure should be treated so is a question of interpretation.

CREDITWORTHINESS OF FVS PROVIDERS IS KEY TO CREDIBILITY AND RELIABILITY

The commitment to honor obligations in a reliable and timely manner is a requirement for FVS to succeed in attracting project finance. Commitments need to be backstopped by credible entities, whether they are governments or autonomous agencies. Therefore, the credit standing of the FVS provider or the underlying sovereign is of central importance and will have a bearing on the nature and form of FVS instruments that will be successful.

Table 14: Creditworthiness and reliability of FVS providers

What is the financial standing of the government with national and international investors?	A fundamental concern for investors is whether or not the government will meet its commitments. Investors usually have this concern in the case of governments that do not possess a long-standing and credible track record and are embarking on their PPP programs. For PPPs that are supported by FVS from such governments, the investors factor in an appropriate default risk premium for the FVS commitments from the government counterpart in their bids. This default risk premium in turn increases the amount of FVS support required. This default risk premium is factored in by investors in their bids and hence the FVS required is likely to be reduced as government counterparts build credibility for honoring their financial commitments in a timely and reliable manner, and create investor comfort. Alternatively, investors may prefer shorter term, more visible commitments in the case of governments that do not possess a long-standing and credible track record. In many instances, there could be a need for international guarantors to backstop longer term government commitments such as MIGA's Non-Honoring of Financial Obligations (NHFO) guarantee. Alternatively, investors would also feel comfortable looking at commitments that are backed by fully funded government budgets. In some countries, dedicated funds have been created to backstop government commitments, for example, Mexico's FONADIN, Brazil's national fund for guarantees, and Indonesia's Infrastructure Guarantee Fund.
Who provides FVS? National or sub-national level of government?	National policy-makers are keen to create greater buy-in from relevant sub-national levels to ensure commitment and in turn the project's success. But sub-national level governments often have weaker budgeting and financial management systems. This in turn can pose a risk for investors. In such instances, investors may seek counter-guarantees from the national level, may prefer shorter term and visible commitments from the sub-national level, or may prefer the entire commitment to be routed from the national level. These issues have a bearing on the choice of FVS instruments and the underlying government processes.

MONITORING FVS PERFORMANCE MILESTONES PLACES GREATER DEMANDS ON THE PUBLIC SECTOR'S CAPACITY

Public sector capacity is the key for governments to manage FVS and make deals commercially viable as originally intended. The more complex the administrative requirements to manage an FVS instrument, the more demands it places on government's institutional capacity. In most cases FVS payments or support mechanisms are linked to the private sector's contractual obligations to perform. This can vary in its application with the use of each FVS instrument, such as the private sector's obligations to meet project construction and performance milestones in construction grants; delivering service outputs or facility availability per agreed performance standards in case of APs; or meeting a certain level of services and revenue performance in the case of MRGs. Therefore, monitoring contractual performance to verify the private sector's compliance to FVS triggers becomes an increasingly demanding task for the public sector. For construction grants, project monitoring tasks are relatively simpler as they deal with the physical progress of projects and the private sector meet-

ing development and construction milestones. These become more complex in APs or operations grants where the quality and availability of facilities or services needs to be monitored, and even more complex in MRGs where not only these performance outputs need monitoring but also revenue performance and related auditing.

Table 15: Public sector capacity for monitoring FVS performance milestones

Does the government have the required institutional capacity to efficiently monitor FVS performance?	In most developing economies, government agencies are more attuned to managing expenditures for capital works and public procurement. Operations phase expenses in the government typically tend to meet salaries and institutional expenses, rather than meeting project life-cycle expenses or whole-of-life asset management. This in turn has shaped the manner in which government's project monitoring capacity has evolved. Therefore, governments need to evaluate how they would monitor the performance and compute FVS payouts under more complex forms of FVS.
Can the government effectively outsource project's performance monitoring?	A related issue that governments should consider is the availability of external services providers to monitor FVS performance and the government's ability to efficiently procure and contract manages such services. Long term contracts and sufficient budgets would be required for long term supervision and external audit functions.

COULD FVS DISTORT TARIFF REFORMS OR PRIVATE SECTOR PERFORMANCE?

A concern raised by policy makers in several developing economies relates to how much FVS is appropriate and the risk that provision of FVS might delay tariff reforms related to the project. National level treasuries are also concerned about whether an FVS supported project would continue to be viable in the future, as many of the tariff reforms or tariff escalation commitments are under the jurisdiction of line agencies or sub-national governments. If a tariff increase meets with substantial political or public pressure, and agencies/governments are unable to uphold their commitments, then the project could fail despite having received FVS. Sub-national governments may be tempted to avoid tariff reforms and structure their projects to maximize FVS support from the National Treasury.

Table 16: FVS may reduce pressure on tariff reforms

Does FVS reduce pressure on tariff reforms?	FVS is a double-edged sword. Policy makers would like to support projects just enough to make them financially attractive to private investors and lenders. But this should not be undertaken at the expense of a sector's tariff policy reforms that focus on a gradual increase toward greater cost recovery and efficiency. This may be safeguarded by applying strict appraisal criteria that ensures that FVS closes the viability gap remaining after all options of tariff increases and project structuring have been incorporated.
Does FVS reduce the pressure on the private sector to perform efficiently? The risk of moral hazard.	Related to the above is the risk of moral hazard associated with FVS. This may reduce the incentive for the private sector to improve the collection efficiency for user charges, appropriately manage the operations and maintenance costs, and optimally manage the commercial risks assigned. This is a key area to address and governments should evaluate how the FVS mechanism(s) can have in-built mitigation measures to address this issue. Open ended rate of return protection or operations grants to protect a minimum return on investments or revenues for the project enterprise have the danger of morphing into bottomless subventions. To address this concern, Korea devised the floor for its MRGs below which the MRGs would not kick-in. The MRG mechanism in Korea specified that if revenues achieved in a year were below 50 percent, then the MRG commitments of the government would not get invoked. Similarly, appropriate provisions may be included in the PPP contracts related to the performance obligations of the private sector, including penalties for non-performance, to address this concern.

BRINGING A PROJECT TO THE MARKET

A critical consideration determining the success of PPPs is the optimal allocation of risks between the public and the private sector to ensure that the overall risk of the project is minimized. This involves allocation of various project risks to the parties that are best capable of handling those respective risks. Therefore, while various FVS instruments can be used to enhance the financial viability of projects, the choice of the most appropriate FVS instrument applicable in the context of a particular project depends upon the overall risk profile of the project.

Table 17: Choice & design of FVS instrument depends on overall risk profile of the project

How are FVS instruments designed, chosen, and linked to the overall project risk profile?	Construction grants are appropriate for supporting projects that are highly capital-intensive in nature and where there is a need to share the financing risk with the private sector. Availability payments are appropriate for supporting social infrastructure projects like schools and hospitals, sewerage treatment, and municipal solid waste PPPs where it may not be possible to collect user charges explicitly and there is a need for the public sector to assume the revenue risk. In other cases such as water supply systems, where user charges can be collected for the service delivered, user charges need to be kept at a level such that the service is affordable to all.

Table 17, cont.: Choice & design of FVS instrument depends on overall risk profile of the project

	A combination of availability payments with user charges is appropriate to share the revenue risk with the private sector. Operations grants are appropriate for supporting projects that have relatively higher and uncertain operations and maintenance expenses and there is a need to share the operations risk with the private sector. MRGs as a form of FVS support are appropriate for supporting projects where there is demand risk, as in the case of roads, bridges, expressways, and ports. There may be potential demand for the infrastructure service provided by such projects but there is significant uncertainty around its actual realization, and hence there is a need to share the demand risk with the private sector.
How does the risk appetite of lenders and equity investors impact the design and choice of FVS instruments?	In addition to the overall risk profile of the project, the choice of FVS instrument also depends upon the risk appetite of the lenders and equity investors. Lenders are more comfortable in projects that generate stable and sufficient surplus cash flows to service debt after meeting the operations and maintenance costs. Therefore, lenders prefer projects where the market/demand risk is borne by the government counterpart through availability payments or MRGs. This is usually reflected in the lower default risk premium added by the lenders in the interest rates to such projects. The lender behavior has been well-observed in Korea before and after the MRG scheme was abolished in 2009. In the post-MRG regime, lenders are exposed to market/demand risks borne by equity investors, and therefore lenders prefer lending to PPPs where the equity investors provide contractual cash deficiency support commitments for project cash-flow shortfalls. Similarly, lenders in the UK who have been lending to projects based on APs under the PFI scheme have a limited appetite for taking on market/demand risks. The situation has worsened following the global financial crisis, with increasing non-performing assets (NPAs) for lenders globally. Therefore, there is greater inclination toward long-term lending to infrastructure projects supported by APs and MRGs. Such projects are expected to achieve financial close relatively easily as compared to projects supported by construction grants. Among investors also there are also differences in risk appetites and return expectations. Construction companies have an appetite for design and construction risks, and usually invest in projects to secure construction contracts. In contrast, financial and institutional investors have a limited appetite for construction risks and prefer stable (although) lower returns. Therefore, often the construction companies sell their equity to financial and institutional investors at a premium, once the project is operational and revenues are stable. The institutional and financial investors prefer lower risks and are willing to pay some premium for it. Projects with FVS mechanisms need to address these nuances to be effective.

Table 18: Operational constraints affecting FVS implement-ation

Is there political willingness and ownership in conceptualizing, preparing, and implementing projects?	Political commitment ensures that the project has broad stakeholder support, there is ownership and stability in policy at the highest levels of government, and potential political deal-breakers related to factors like land acquisition, environmental impacts, layoffs, and increase in user charges, among others, have been flagged or addressed early on in the process. High-level and visible political support influences policy and action. It manifests in many ways, key ones being making land available for projects, ensuring inter-agency coordination, communicating with stakeholders, and building capacities in the public sector to develop and move PPPs forward, readying them to receive FVS. Lack of political support creates confusion among stakeholders, resulting in a negative impact on the government's credibility. Private investors factor this political risk into their bids, thereby increasing the amount of FVS support required.
Is the public sector agency in possession of the land required for the project?	Land acquisition is a key risk with significant potential to delay or derail a project. Typically, in PPP projects, it is the responsibility of the government agency to acquire land and hand it over to the PPP concessionaire for construction. Unavailability of land, delays in land acquisition, acquisition-related litigation and public protests related to land or rehabilitation issues often prolong the time between commercial and financial close, or change the scope or alignment, increasing costs and consequently the viability gap of the project. While the FVS quoted is frozen at commercial close and there are provisions for compensation for delays or changes in scope beyond a pre-agreed level, these may become contentious issues between the public and private sectors.
Is there coordination and consensus among multiple government agencies associated with a PPP project?	Implementation of PPPs requires adequate coordination and consensus among multiple government agencies to ensure that project implementation schedules and budgets are not adversely impacted. Lack of inter-agency coordination may result in the time taken for obtaining permissions exceeding the time required for financial closure. Poor inter-agency coordination may also result in the rights to the project assets not being handed over to the private investors on time, thereby resulting in delays in project implementation. These delays in financial closure and project implementation result in construction cost over-runs and also have a negative impact on the project revenues due to delayed commercial operations. As a result, the viability gap for the project may increase. Therefore, interagency coordination for permissions like environment approvals, pollution control board clearances, shifting of utilities, right of way for accessing local construction materials or dumping of debris, and local body permissions to erect temporary structures or create barriers for safety during constructions are an extremely important component of project implementation. Strong political backing, with visible commitment to the project and a robust project governance structure, facilitates such inter-agency coordination.
Is the stakeholder communication process adopted by government effective?	PPP projects impact diverse stakeholder groups. It is essential to manage the perceptions of these stakeholders effectively to ensure smooth project implementation and operation. Ineffective and improper stakeholder communication may result in doubts on the integrity of the project sponsors, allegations of profiteering by private investors, political opposition, NGO activism, and the perception related to exposing existing employees of a brownfield public sector project to the vagaries of the private sector. This may lead to misgivings about the project and consequently result in change in scope or delays in the project implementation, thereby leading to an increase in the viability gap in specific projects. It may also result in public resentment, limiting the ability of governments to develop projects.

Table 18, cont.: Operational constraints affecting FVS implement-ation

Does the public sector have adequate capacity to administer and manage a FVS project?	The quality and pace of an FVS roll-out for PPPs depends upon the government's capacity to administer and manage it. Operationalizing a scheme for FVS to PPP projects requires skill sets to undertake technical studies, economic and financial feasibility assessment, and assessment of value for money. It also requires skill sets for administration of the FVS or government support scheme itself. This includes the ability to review the feasibility study for the project, validate the project assumptions (including those related to cost of capital), validate the key commercial principles proposed, and finally validate the FVS requested. In the absence of such skills, several problems could arise in projects and programs down the line: the private sector might be able to get away with favorable government support, or on the other hand, aggressive or speculative bidding; additional costs might arise that were not considered at the outset; guarantees could backfire or create issues for government; loss of focus in scope of projects could create unnecessary costs; and tariff issues could arise mid-way. All of these situations can have substantial consequences on the type and quantity of FVS required.

INTERPLAY BETWEEN FVS AND PROJECT FINANCE

A combination of in-country factors and the impact of the global financial crisis has led PPP deal flow to taper across markets in recent times. There is significant criticism of the high equity returns and interest rates to PPPs that benefit from some level of government financial support. Some governments have reacted to this by reducing or realigning their FVS mechanisms, while others are allowing the market to correct itself. Regardless of their approach, all governments are keen to bring down costs (targeted equity returns and interest rates) for PPPs and increase the role of long term institutional investors. However, this cannot happen unless investors' concerns about balancing risk sharing are addressed. This chapter explores how FVS can make projects financeable.

TRENDS IN DEBT INVESTMENTS AND RETURN EXPECTATIONS

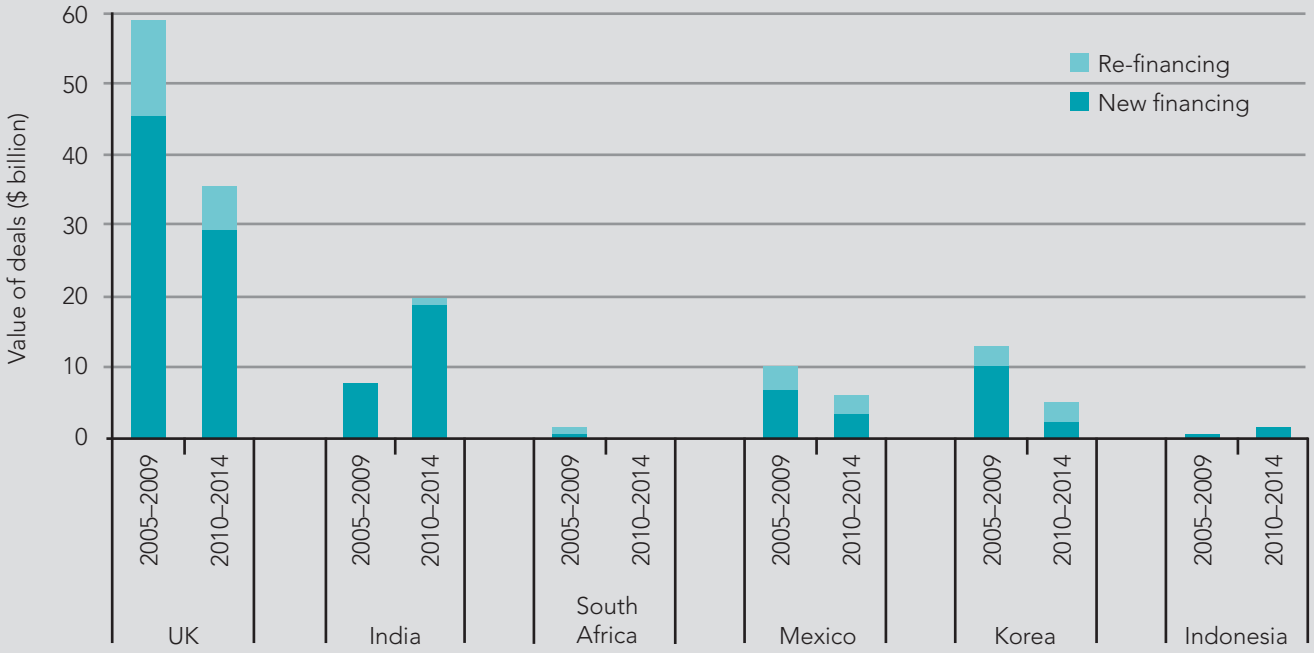
Lenders are the largest contributors of funds to infrastructure projects. Typically, their exposure to projects exceeds that of other investors. However, as investors, they are more risk averse than others. Therefore, addressing lender concerns is the key to making a deal bankable. The countries analyzed reveal a mixed trend in the growth of debt investments in the periods before and after

the financial crisis. The lending packages in these markets vary based on depth of the financial markets and government policies.

DEBT INVESTMENTS

As illustrated above, countries analyzed saw a decrease in value of debt flows (with the exception of India and Indonesia). Korea, Mexico, and the UK have a relatively more developed re-financing market compared to India and Indonesia.

Figure 7: Debt deal flows in select markets



Source: IJ Online Database

Lenders also became cautious after the global financial crisis, as can be seen by the reduction in debt-equity ratios (DER) in the deals that reached financial close between the two periods. The only notable exception was Korea, where the government policy allowed for DER to increase, bringing down the average cost of capital for PPPs.

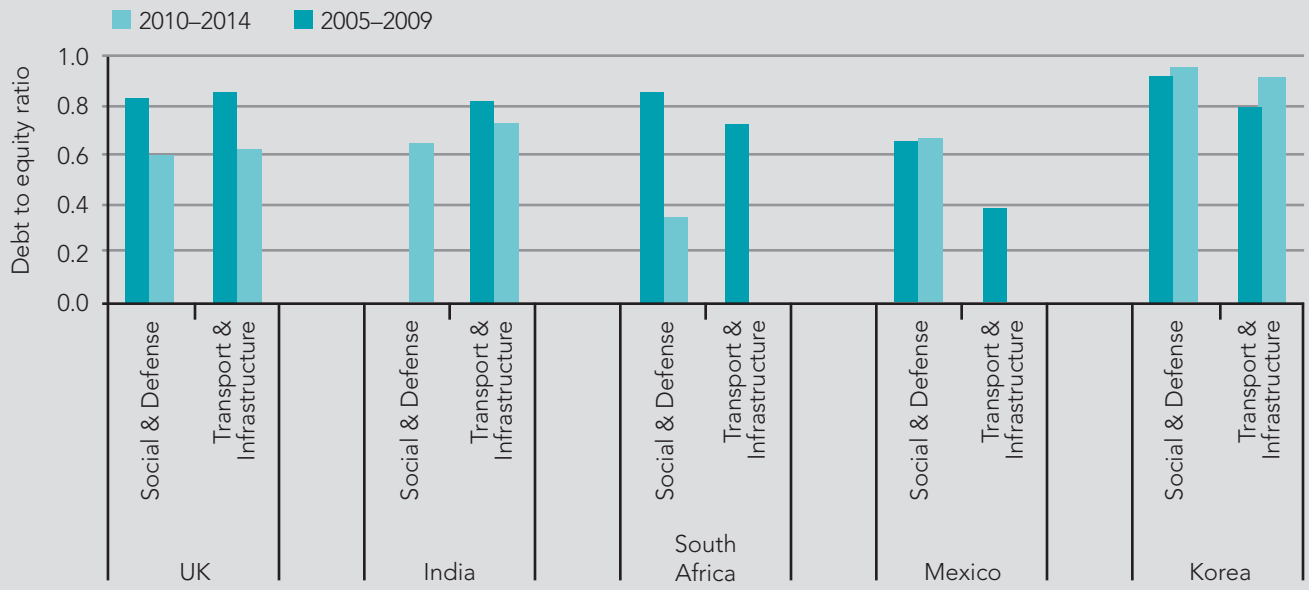
INDICATIVE LENDING TERMS IN THE DOMESTIC CURRENCY DEBT MARKET[10]

Lending packages to infrastructure are a product of the depth of the financial markets and government's policy to facilitate private financing of infrastructure. Countries with relatively more developed financial markets, such as Korea,

[10] Source: Based on in-country consultations 2013-14.

South Africa, and the UK, have witnessed infrastructure lending of long tenures, such as 20–25 years. On the other hand, developing economies with narrower financial markets, such as India and Indonesia, witness much shorter tenures of seven to 15 years. Similarly, the real interest rates are also much more favorable in more developed economies vis-à-vis developing economies. For example, real interest rates in the UK and Korea range from 1.5 percent to 4 percent, while those in India and Indonesia appear in the higher range of 4 percent to 8 percent. This is also reflective of the higher risk perception associated with developing economies.

Figure 8: Trends in debt-equity ratios across select markets, 2005–2014



Source: IJ Online Database

Role of security packages

On security packages, the authors observed that pure non-recourse project finance structures are not as prevalent as was once believed. Lenders would have typical project finance security cover that would include step-in and/or substitution rights into the concession or PPP agreement, lien on project assets, escrow and waterfall mechanism for project cash-flows, cash deficit or debt service reserves, and coverage of debt due under termination payments from the government contracting authorities. In addition, they may stipulate additional security from the project's promoters.

This is where the project's lending package moves away from being a non-recourse project finance structure to a partial recourse or full recourse structure. The term "recourse" is used in the context of the recourse for lenders beyond the project assets. Additional security may be in the form of parent company or promoter guarantees for full and timely payment of debt service obligations,

lien on additional assets of the promoter (they could even be personal assets of the promoter), and hypothecation of promoter's equity in the parent company.

The extent of additional security or recourse to the parent company is proportionately linked to the uncertainties associated with the project's revenues and its ability to service debt. For instance, it is observed that in projects where the market risks were borne by the government, such as in the unitary payment PFIs of the UK or in sectors with a regulated asset base that have some level of certainty on revenues, the security packages were more aligned to non-recourse structures. Similarly, in cases where the government back-stopped revenues or debt servicing, the risk perception of the lenders changed as they were now taking a risk on the creditworthiness of the government as a guarantor rather than on the project cash flows. Hence, in these cases the recourse for the lenders came onto the government and the need for additional security or recourse to parent company lessened.

During the construction period, lenders are more concerned with the performance of the promoters to deliver the project on time, within budget, and of specified quality. Lenders seek performance security from the promoters and their EPC contractors. These could be in the form of parent company guarantees amounting to 50 percent or more of the project cost. In larger projects this could include performance bonds of 10 percent to 20 percent of the project cost, stipulations of minimum upfront equity[11] to be invested before debt is lent to the project, or cost over-run support through a call on additional equity backed by letters of credit or bank guarantees. In certain cases and subject to bilateral negotiations, lenders may agree to part-finance cost over-runs.

Debt Service Cover Ratio (DSCR) is a key metric

In terms of the extent of lending or the asset cover that lenders seek, there isn't any magic figure. However, it does appear that lenders are usually comfortable with a ~1.4x – 1.8x asset cover. It could go lower to ~1.1x - 1.2x for annuity type projects because of absence of market or revenue risks. Lenders indicated that the key determinant for the asset coverage is actually the minimum debt service coverage ratio; for example, the extent of protection of interest and principal repayment obligations by the projected revenues during the life of the debt. Therefore, lenders keep a close eye on the annual DSCR figures while structuring the debt instruments for the project. Usually, they would consider a project to have a strong ability to pay interest and principal with minimum DSCRs being above ~1.5x throughout life of life and remaining above ~1.3x during periods of project stress (in various sensitivity analysis).

Potential role of FVS to provide comfort to lenders

This is where FVS can be structured to support unviable projects. By providing FVS as construction grants, the quantum of net funds required can be brought down. And, therefore, the annual debt service coverage would improve as the quantum of debt repayment and interest payment obligations would reduce. On the other hand, if FVS is provided as operations grant or revenue support grants during the operations phase, the annual revenues of the project would be supplemented with annual FVS flows. In this situation, the annual cash available to cover the debt service obligations will increase. FVS could provide adequate comfort to lenders and this may reduce their need to seek additional

[11] Usually lenders seek 20 percent to 50 percent of equity as upfront investment by the promoters. Where project promoters lack a track record or a relationship history with the bank, the requirements could rise to as high as 100 percent of the equity being invested or escrowed to the designated bank account.

security from the parent company or promoters. Thus, FVS can be a major enabler to make projects viable and bankable.

Table 19: Typical project finance packages, select countries

	UK	Korea	South Africa	India	Indonesia	Mexico
Tenure	20–25 years	15–22 years	15–22 years	7–15 years	7–10 years	8–20 years
Nominal rates	3%–4%	5%–6%	11%–14%	11%–14%	13%–15%	6%–6.5%
Real rates	1.5%–2.5%	3%–4%	5%–8%	4%–7%	6%–8%	2%–2.5%
Typical leverage	90:10	80:20; 85:15	80:20	70:30	70:30	70:30
Security package	Lender rights to step-in, substitute Charge on assets Receivables Escrow Waterfall mechanism for project cash flows Cash deficit reserves (10%–20% of project cost) Debt service reserves (6–12 months) Termination cover for debt due	Lender rights to step-in, substitute Charge on assets Receivables Escrow Waterfall mechanism for project cash flows Cash deficit reserves (10%–20% of project cost) Debt service reserves (6 months) Termination cover for debt due Minimum Revenue Guarantees or cost compensation guarantees, if applicable	Lender rights to step-in, substitute, Charge on assets Receivables Escrow Waterfall mechanism for project cash flows Cash deficit reserves (10%–20%) Debt service reserves (6 months), Termination cover for debt due Performance bonds or parent guarantees	Lender rights to step-in, substitute Charge on assets Receivables Escrow Waterfall mechanism for project cash flows Cash deficit reserves (10%–20% of project cost) Debt service reserves (6 months) Termination cover for debt due Performance bonds 5%–10% for construction Parent guarantees to back-stop project SPV commitments to lenders	Lender rights to step-in, substitute Charge on assets Receivables Escrow Waterfall mechanism for project cash flows Cash deficit reserves (20%–30% of project cost) Debt service reserves (6 months) Termination cover for debt due Performance bonds 5%–10% for construction	Lender rights to step-in, substitute Charge on assets Receivables Escrow Trust account to receive fiscal devolutions (Participaciones) or tax revenues of sub-national governments in case of Availability Payment PPPs Availability payment guarantees from Banobras for sub-national government projects Waterfall mechanism for project cash flows

Table 19, cont.: Typical project finance packages, select countries

	UK	Korea	South Africa	India	Indonesia	Mexico
Security package, cont.	Guarantees: Like parent guarantee till COD (up to 50% of project cost). Or for larger projects, performance bonds or letters of credit of up to 10%-20% of the project cost	KODIT guarantees up to $300 million of debt Promoter guarantees for uncovered debt, without MRGs Promoter guarantees to fund construction cost over-runs, cash deficiency support during operations, shortfalls in termination compensation for debt, if any Lenders take undated cheques from promoters to invoke the guarantees		Revenue shortfall loan from government concession authority (as a part of the terms and conditions of the Concession Agreement)	Parent guarantees to back-stop project SPV commitments to lenders	Cash deficit reserves (10%–20% of project cost) Debt service reserves (3-6 months) Termination cover for debt due Performance bonds or letter of credit or corporate guarantee 5%–10% for construction Banobras guarantees, if applicable Parent guarantees to back-stop SPV commitments to lenders Banobras gives ROW guarantees to banks on behalf of developer[12]

[12] Mexican banks stipulate that at least 90 percent of right of way or land should be available before first debt disbursement. Banks give bridge loans to promoters to acquire ROW or land, and in lieu of this they seek Banobras ROW guarantees. Although in most cases the government is responsible for ROW or land acquisition but it encourages private sector to acquire land on its behalf via negotiated prices. In many concessions, the land cost is included as project cost to be borne by the concessionaire.

TRENDS IN EQUITY INVESTMENTS AND RETURN EXPECTATIONS

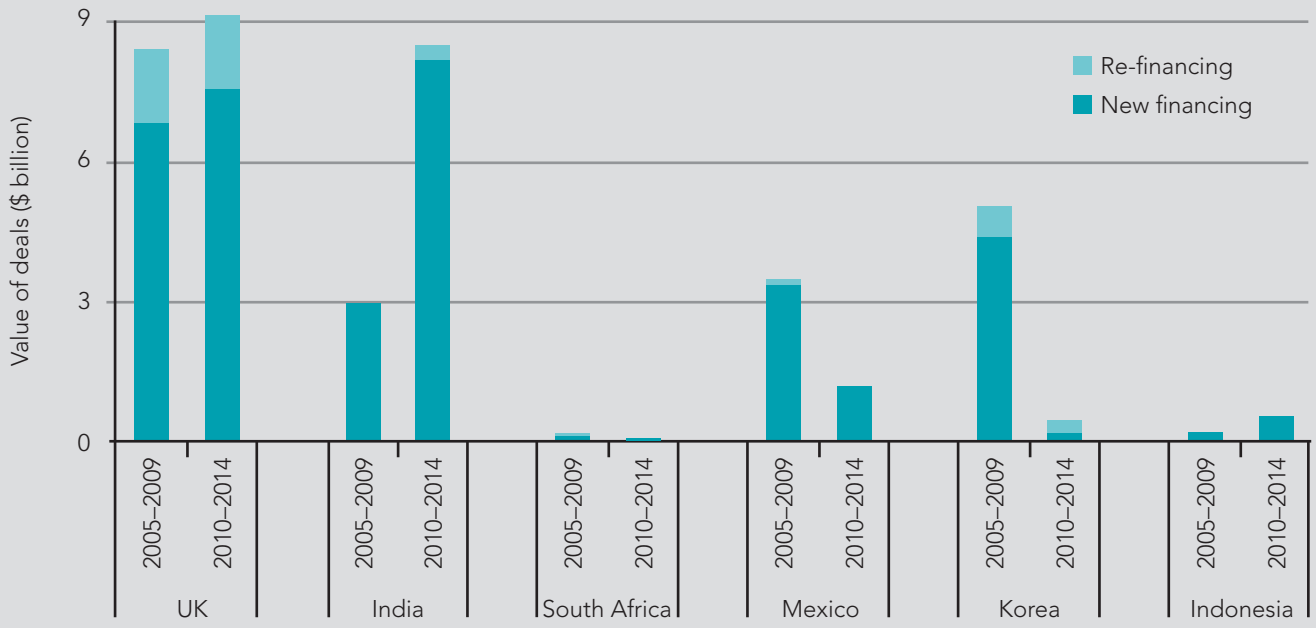
Equity investors take the highest risk in a PPP. Usually, equity investors are not guaranteed a return and they are subordinated to the interest of lenders, mezzanine capital, and creditors. The returns to equity holders come from dividends and valuation premiums derived from the appreciation in a project's equity value and/or sale of equity shares.

The countries analyzed reveal a mixed trend in the growth of equity investments in the periods before and after the financial crisis. To a certain extent the outcomes were driven by the challenges imposed in these markets. On the other hand, the real equity returns expectations in these markets have remained at relatively similar levels across countries.

EQUITY INVESTMENTS

The figure below summarizes the trend in equity investments in the countries analyzed.

Figure 9: Equity deal flows in select markets



Source: IJ Online Database

EXPECTATIONS ON EQUITY RETURNS

Unlike interest rates and returns to lenders, equity returns can vary and have different interpretations at various points in time. There is an equity return that the government anticipates at bid stage of PPPs, there is an estimate of equity return that the bidders make on their bid, and then there is an actual equity return that the private sector eventually makes based on the project outcomes. To be fair, it's only been a couple of decades since the first PPPs and only a handful would have approached a full term. So in reality the equity returns that are discussed below are the expectations of the private investors when they tend to put in their bids for PPPs. The actual returns would vary over time as the business cycles move and impact the actual revenues.

Table 20: Indicative targeted equity returns in select markets

	UK	Korea	South Africa	India	Indonesia	Mexico
PPP format	PFI (unitary)	BTO (MRG), BTL	DBFOT (unitary), DBFOT tolls	EOT (grant), EOT (annuity)	BOT	Concessions (grant), PPS (unitary)
Real rates	10%–12%	7%–11%	10%–15%	9%–13%	9%–13%	12%–14%
Nominal rates	13%–15%	11%–15%	15%–20%	16%–20%	16%–20%	16%–18%

Source: Range of estimates based on global consultations with the private sector practitioners 2013-14

Equity return expectations vary with the risk perception related to the country (including political and regulatory risks), project characteristics (including the degree of market and other risk transference to the private sector) and prevailing financial market conditions (including market liquidity, interest rates, and macro-economic fundamentals). It's also dependent on the experience of the market participants in relation to PPPs and the degree of market competition. For example, in the early days of PPPs, risk perception would be much higher and there would be less competition, and this will result in higher equity return expectations. However, with the success of a few deals and increasing competition, the market would reduce its risk premiums and equity return expectations would tend to reduce.

From the table above, it can be observed that the equity returns targeted by investors vary across countries. They are higher in developing markets as compared to more developed economies. While it is difficult to isolate the impact of each factor, the variances could be explained through a combination of impacting factors. For instance, the PPP models in the UK and Korea did not carry market risks and had well-established programs. Therefore, the targeted real equity returns were on the lower end of the spectrum. On the other hand, in India and Indonesia the risk perceptions related to BOT type models were different (because the BOTs bear market risks as well as higher country risk

perceptions). However, within a country such as India, the targeted returns were lower for BOT (annuity) in comparison to BOT (toll) type models.

These are the equity returns that were being targeted and not necessarily the actual returns realized by equity investors in these markets. In some cases, the returns experienced were much higher due to early divestments, while in other markets there was aggressive and over-optimistic bidding that crashed the actual returns.

IS THERE AN ACCEPTABLE LEVEL OF DEBT SERVICE COVER FROM THE PROJECT CASH FLOWS?

Lenders expect to be serviced in an adequate and timely manner throughout the loan duration. A key metric for this is the debt service coverage: the extent of protection of interest and principal repayment obligations by the projected revenues during the life of the debt. Usually a minimum DSCR of ~ 1.5x throughout the tenure of debt and remaining above ~1.3x during periods of project stress is considered as a good level of cover. A DSCR of 1.5x implies that the project would still meet its debt obligations even if the cash available from revenues after meeting operational expenses were to decline by a third. This addresses a key capital structuring issue for the project.

But this is only a part of the story. The other question that lenders examine closely is how certain the two-thirds of the cash flows are. A key determinant of this is the risk associated with private sector's performance. Typically, lenders are provided with various rights under the PPP agreement to rectify performance issues and step-in or substitute the private sector in cases of private sector default. In general, this risk is not covered through government's FVS mechanisms because the underlying philosophy is that the private sector was brought into a PPP to manage performance and therefore equity investors and lenders need to share this risk. However, various forms of FVS do provide certain levels of assurances to lenders by managing other risks that can impact the debt service ability of the project.

Table 21: Impact of FVS on project cash flows and debt service

FVS type	Comforts to lenders/investors
Construction grants	These grants bring down the funding requirement from equity and debt sources to meet the project's capital expenditure and so improve the asset cover and debt service cover for lenders. In addition, but to a limited extent, this keeps the tariff at affordable levels to maximize the facility usage.
Operations grant	These grants supplement project revenues and bring down the cash flow volatility to meet the operational expenses and meet debt service obligations. To a certain extent they also reduce the exposure of investors to market risk and improve the debt service cover for the lenders. In addition, but to a limited extent, this keeps the tariff at affordable levels to maximize the facility usage.

Table 21, cont.: Impact of FVS on project cash flows and debt service

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Operations grant	These grants supplement project revenues and bring down the cash flow volatility to meet the operational expenses and meet debt service obligations. To a certain extent they also reduce the exposure of investors to market risk and improve the debt service cover for the lenders. In addition, but to a limited extent, this keeps the tariff at affordable levels to maximize the facility usage.
Availability payments	APs are typically designed as payments made by the government on successful performance (such as availability of facility or performance of services as per specified standards) by the private sector. Hence, they usually remove the market risk (or risk related to third party revenues) from the project, either completely or partially. This is a major source of comfort for lenders and equity investors, as it provides greater certainty on their cash flows and insulation (either completely or partially) from the market risk. APs in the UK and Korea do not provide protection to lenders against the private sector performance risk; the government does not pay the AP if the private sector does not perform. In contrast, in Mexico the APs have a fixed and variable component. The fixed component is usually to meet the project's cash requirements up to debt servicing (irrespective of the private sector performance), while the variable component can vary with private sector's performance. As the government takes on more risk in this structure, it also expects a lower of cost of private funding both in terms of interest rates and equity returns. The overall cost of private funding is expected to be much closer to government borrowing rates in comparison to construction or operations grants.
Minimum revenue guarantees	MRGs are usually structured as guarantees to cover the project's revenue shortfalls to a certain guaranteed level of project revenues. They are designed to reduce, to a large extent, the volatility in project revenues and provide stability of cash flows to service debt service obligations and meeting the operational expenses of the project. This is a major source of comfort for lenders and investors, as it provides greater certainty on their cash flows and insulation (to a large extent) from the market risk. As the government takes on more risk in this structure, in return it also expects a lower of cost of private funding both in terms of interest rates and equity returns. The overall cost of private funding is expected to be much closer to government borrowing rates in comparison to construction or operations grants.

HOW RELIABLE IS THE COUNTERPARTY?

The fiscal ability and creditworthiness of the government counterpart to meet its FVS obligations becomes critical from the lenders' perspective. Budgetary allocations for FVS payments (either direct or contingent) usually require approval from a National Assembly or elected representatives of the government. Therefore, continued political commitment and policy backing to support bud-

getary allocations for FVS commitments becomes essential. Lender concerns on the credibility of government counterparts to honor long term FVS commitments are accentuated when such commitments are made by sub-national or financially weak government counterparts.

Table 22: Concerns related to reliability of government counter-party

Area	Comforts to lenders/investors
Government policy	Contractual commitments for FVS that are legally enforceable through government's stated policies and regulations, create confidence among lenders. All countries profiled have provided a credible policy: India's VGF scheme, Indonesia's VGF decree, Mexico's PPP Law, South Africa's National Treasury Regulations, Korea's PPI Act, and UK's PFI/PF2 program.
Financial standing	The reliability of government counterparts to honor FVS obligations depends on the underlying financial standing of the sovereigns. Most countries examined have sovereign ratings of an investment grade or above, reflecting adequate financial flexibility to meet specific project commitments. Lenders also get adequately assured when FVS commitments are backed by dedicated and robust cash flow streams. There are dedicated funds in Mexico (FONADIN, which is backed by toll-road revenues, provides construction grants) and India (NHAI's annuity commitments are backed by buoyant cash flows of the Central Road Fund, a dedicated fund that channels fuel tax to India's national highways sector).
Budgetary approvals	Recognizing the rights of national parliaments and elected representatives to approve annual budgets, different countries have tried to make future FVS commitments explicit and visible to provide comfort to lenders. For example, the UK and Korea follow a medium term expenditure framework that recognizes future PFI payment commitments under respective departmental expenditure budgets. The UK also specifies a 2 percent cap on PFI payments within each departmental budget. India classifies VGF commitments under the MOF budget and it is subject to annual parliamentary approvals. Long term FVS payments such as annuity payments are duly recorded as footnotes/remarks in the budget so that the approving authorities are aware of future liabilities. Brazil classifies FVS/PFI payments as equivalent to interest payments so that, once they are approved, they are not subject to legislative approval on a yearly basis. An annual cap for FVS/PFI payments in a year has been imposed at 3 percent of the total state or federal revenues.
Sub-national government contributions	To create political ownership for the project, often national level policy makers seek to either channel FVS support via line agencies or local governments (for example, MRGs in Korea or availability payments under PF2 in the UK). Alternatively, they blend support from national and line agency or sub-national governments (for example, VGF grants in India or those under consideration in Indonesia). While on its own this policy seems prudent, for lenders and project investors, this could pose potential concern as the degree of comfort is often higher when they deal with national governments than with other levels of government. Often these concerns emanate from a higher risk perception at the decentralized level where susceptibility to public criticism and political capture are believed to be higher. To address these concerns, lenders may seek an appropriate payment security mechanism to assure the project of timely and reliable FVS support.

WHAT IS THE FVS PAYMENT SECURITY MECHANISM?

Lenders are concerned with possibilities of delays on disbursement of FVS payments by government counterparts based on their varying levels of liquidity and financial ability. Construction grants being relatively short-term in nature,

most of the government counterparts are able to meet the construction grant commitments in a timely manner. In case of availability payments, operations grants or MRGs involving long-term FVS payment commitments, the lenders usually perceive greater risk of delay/default on disbursements. To address this issue, governments have put in place payment security mechanisms to comfort lenders and investors.

Table 23: FVS payment security mechanisms

Area	Comforts to lenders/investors
Escrow account	Establishing escrow accounts is typical in project finance transactions. Government counter-party payment obligations can be channeled through escrow arrangements with maintenance of one or two installments of reserves in the escrow account. For example, for the Naya Raipur water supply system in India, the Naya Raipur Development Authority (NRDA) put in place a payment guarantee mechanism via escrow structure. The account was initially credited with four monthly installments, which can be accessed by the private sector in case of delays in payment by NRDA. The account would subsequently get replenished within 30 days of withdrawal.
Letter of Credit	Provision for payment security in the form of a letter of credit from a commercial bank. For example, in the Colombo Kathunayake Expressway Project in Sri Lanka, the contracting authority issued an irrevocable, revolving Letter of Credit equivalent to two times the bid availability payment within 30 days from the expected date of COD as referenced by the concessionaire, and in favor of the concessionaire. In India, the National Highways Authority of India (NHAI) under the North-South Corridor 2006, provided letter of credit from a commercial bank to back its annuity payment commitments to the project SPV.
Demand promissory note	To support sub-national PFI commitments, the HM Treasury has issued back-stop payment commitments to Halton Borough Council for Mersey Gateway estuarial crossing PPP.
Third party guarantees	For counter-parties that are yet to establish a credit track record, lenders may seek guarantees to back stop government commitments from guarantors with higher credit standing. In case of foreign currency sovereign obligations, guarantees such as MIGA's Non-Honoring of a Sovereign Financial Obligation could be used. Recently this has been used for a debt issuance by the Government of Vietnam (GOV) for national highway 20 where a 15-year guarantee was provided to a consortium of international lenders led by Sumitomo Mitsui Banking Corporation of Japan (SMBC) to cover debt service obligations of GOV. The guarantee covers 99 percent of principal ($250 million) and 99 percent of future interest and premium ($255 million). To provide additional comfort to lenders against their credit exposure to GOV, the GOV guarantee is backstopped by a corresponding MIGA guarantee to cover the risk of Non-Honoring of a Sovereign Financial Obligation by GOV.
Guarantee fund	Brazil's Federal Guarantee Fund (Fundo Garantidor de Parcerias Público – Privadas, or FGP) provides guarantees to the concessionaire against government counterparty payment delays and penalties. This is the case with the Pontal Irrigation Project, Brazil.
Interest on delayed payments	The government compensates the private sector for delays in making payments through penal interest payments. For example, in Korea, the government compensates private investors for delays in making payments by considering the return that the private investor is expected to earn from the project. Similarly, in South Africa and the UK, the delayed payments accrue a predetermined percentage of interest. Specific project examples include Skukuza Airport, South Africa where a default could trigger accrual of interest on all overdue amounts payable at the prime overdraft interest rate charged by the First National Bank of South Africa, plus 2 percentage

Table 23, cont.: FVS payment security mechanisms

Area	Comforts to lenders/investors
	points. The interest would be computed on a daily basis from the payment due date until the relevant amount plus accrued interest is fully paid by the defaulting party.
Contractual termination provisions	Chronic payment delays beyond an agreed time threshold are construed as an event of default of the government counterpart. The PPP agreement provides termination rights to the private sector and claims adequate termination compensation.

WHAT PROCEDURES NEED TO BE FOLLOWED TO SECURE FVS PAYMENTS?

This issue relates to administrative processes that would apply to the method and approval of each FVS installment and the quality of treasury operations to disburse FVS. The administrative processes can become time consuming and complicated. Lenders and investors value a high level of automation and speed with which the disbursement process (including dispute resolution) can be undertaken.

Table 24: Concerns on government procedures impacting timely FVS payments

Area	Comforts to lenders/investors
Estimation of FVS payments	Construction grants and availability payments are usually the financial bid parameters and get fixed at the time of commercial close. Typically, PPP agreements provide a clear and transparent mathematical formulation for computing each installment or payment based on private sector performance. This would apply to construction-related milestones in case of construction grants or facility/service performance and availability milestones under availability payments. For example, UK PFI contracts specify the methodology for computation of PFI payments. Similarly, the VGF payments in India are subject to a fixed cap and disbursed parri passu with debt installments through the lead bank/financial investor. However, in case of operations grants or MRGs, FVS payments are dependent upon the estimate of costs to be supported or the actual annual revenues and the corresponding shortfall vis-à-vis projected revenues respectively. These costs and actual revenues need to be ascertained by government counterparts, and could often become contentious issues among parties. The parties approach the independent engineer or resort to arbitration for resolution of such dispute on estimation of FVS payments.

Table 24, cont.: Concerns on government procedures impacting timely FVS payments,

Area	Comforts to lenders/investors
Payment processing and administration approvals	Administrative procedures in the government can be time consuming. Investors consulted in most countries expressed the need for a reliable and timely process for FVS disbursements. Concerns were cited on the prospects of FVS being provided at a sub-national level that could be subject to unnecessary delays. For example, in India delays were cited at the sub-national level in administrative processing where the concerned government contracting authority needs to verify and make its recommendation to the national level (the Ministry of Finance). Concerns were also raised in Indonesia where the prospects of local government share of VGF commitments were being debated. Where such delays are unavoidable, suitable payment security mechanisms need to be put in place.

WHAT IS THE RECOURSE FOR COST OVER-RUNS?

There could be several reasons for project cost over-runs. These include delays in obtaining statutory approvals resulting in time over-runs and hence cost over-runs, construction delays resulting in cost over-runs, underestimation of project cost by government counterpart at bid stage resulting in cost revisions at detailed engineering stage, and so on. Lenders are often most concerned with the manner in which the cost over-runs will be managed and funded.

Table 25: Recourse for cost over-runs

Area	Comforts to lenders/investors
Private sector obligation to fund cost over-runs	Usually managing development and construction risk is the responsibility of the private sector under a PPP Agreement. Therefore, the private sector is obliged to fund any cost over-runs resulting from delays that are not directly attributable to the government counterpart. The PPP Agreement seldom has provisions for sharing of these cost over-runs between the private sector and the government counterpart. Moreover, the total project cost estimated to be incurred during the construction period, including contingencies, needs to be financially closed as a Condition Precedent before commencement of construction. Therefore, funding any cost over-runs is an obligation of the equity investors. To cover their exposure to fund these cost over-runs, lenders usually demand additional comforts from the equity investors, including: • Performance security from the EPC contractors or promoters in the form of parent company guarantees amounting to 50 percent or more of the project cost, or in larger projects, performance bonds of 10 percent to 20 percent of the project cost.

Table 23, cont.: Recourse for cost over-runs

Area	Comforts to lenders/investors
	• Higher upfront equity investment before debt is injected to the project. Often lenders seek a majority or full share of equity to be made available to the project prior to loan disbursements. This could range from 20 percent to 100 percent of equity, depending upon promoter strengths and track record. • Cost over-run support through a call on additional equity backed by letters of credit, bank guarantees, or contingency capex reserve accounts of 10 percent to 30 percent of total project cost.

CONCLUSIONS

This issue of *Partnerships IQ* set out to synthesize views from a series of consultations that were held over the course of a year in six countries: India, Indonesia, Korea, Mexico, South Africa, and the UK. These consultations involved more than 120 in-depth interviews that were conducted with a cross-section of PPP practitioners across government, development institutions, investors, lenders, and private equity funds, along with PPP advisors. The valuable insights gathered from the global consultations can help guide governments that are shaping FVS mechanisms, policies, and programs.

KEY TAKEAWAYS

FVS MECHANISMS NEED TO EVOLVE WITH CHANGES IN MARKET NEEDS

This issue of *Partnerships IQ* covers the first generation models and more established approaches to FVS. These mechanisms have been tried and tested in various in-country settings with high success. However, as the needs of the market change, the need for FVS mechanisms to evolve becomes apparent. This thought was voiced by practitioners during consultations. It appears that it is not a question of choice of one FVS model over the other. Instead, there is a need for adoption of a broader policy framework to provide FVS to infrastruc-

ture. It's necessary that this framework encourages innovation in FVS models, and that it is flexible enough to suit the changing market needs and sector characteristics.

Government policy makers need to consider adopting uniformity in FVS models. The compelling arguments in favor of a uniform FVS model include the equality of government support, treatment across sectors, and the ease with which the market is able to understand and respond. On the other hand, the raison d'être for a framework policy approach is that it can modernize and innovate with changing market needs and effectively address sector specific nuances. However, it also imposes greater burden on the government to justify change.

WHILE DESIGNING FVS PROGRAMS, GOVERNMENTS MUST CAREFULLY ASSESS THEIR STRATEGIC CONSIDERATIONS

FVS design has specific strategic implications for governments as it is derived from, and in turn impacts, diverse areas related to public policy and fiscal space. Determining the fiscal envelope available for FVS contributions must form part of a deliberate and well-coordinated public investment management system that allocates fiscal allotments to strategic priorities. Following such a system will enable the public sector to delineate among projects best suited to a purely public procurement and those projects better suited to a public-private partnership.

Identifying strategic priorities and then developing a well-focused investment program is just one aspect of designing a FVS program. Governments must take heed of the socio-economic context and macro-economic variables as subtle changes in these variables could affect fundamental project characteristics such as traffic volumes, or forex risk. Budgeting and accounting systems as well as the creditworthiness of FVS providers will also need to be assessed and buttressed to ensure that the fundamental building blocks of a FVS program are well maintained. Failure to adequately set priorities, or safeguard the building blocks of a FVS program, could negatively affect a FVS program over a period of time.

Another dimension addresses the proximate factors. As FVS-supported projects are a subset of PPPs, it is apparent that all issues that impact PPPs also impact the FVS-supported PPPs. In fact, the stakeholder reactions are often accentuated in FVS projects, due to the high extent of government commitments. Therefore, the typical issues impacting PPPs around the world, such as land acquisition challenges, political or policy stability, public sector capacity, and managing public opinion, also impact FVS projects. Hence, government policymakers and implementers need to devise full package solutions that not only resolve the infrastructure financing gaps but also address the proximate factors. Each proximate factor has a bearing on the commercial viability of the FVS-supported project and has the potential to negate efforts of governments to make projects commercially viable for private investors.

THE INTERPLAY BETWEEN INFRASTRUCTURE FINANCING AND FVS NEEDS TO BE BETTER UNDERSTOOD

The global project finance market, like any market for financial instruments, is not static. We have witnessed a large number of changes in the actors, type of instruments, and availability of capital for project finance transactions since 2008. These events emphasized that factors external to a specific transaction or national project finance market can affect the availability of project finance for a national investment program.

Variation, however, is not necessarily bad. Governments using or developing FVS schemes can acknowledge that the project finance market may shift over time by creating a policy framework that allows FVS mechanisms to be recalibrated over time. Building such flexibility into the overall system supporting a FVS program can enable innovation to take place in a FVS program and, also ensure that a national FVS program can adapt to the ebbs and tides of the global project finance market.

NEED FOR FLEXIBILITY IN THE WAY FVS IS STRUCTURED AND ADMINISTERED

Typically PPPs are long term contracts requiring private sector commitments for 20–30 years. Often these contracts are awarded after a rigorous tender process with binding terms and conditions. Therefore, governments become reluctant to revisit the contract terms, even when market realities change or external factors play out in a manner that creates a financial stress on the project. To address these issues, the private sector practitioners made some suggestions for future FVS programs. These included having in place one or two specific points of resetting the contract terms (and therefore the underlying FVS support) at critical junctures in the project life.

Another idea was to introduce an independent PPP regulator or arbiter that could resolve contract disputes and renegotiations within a transparent framework to ensure fair returns to investors. A further thought was to design FVS models to provide cash deficiency or contingency support during periods of high financial stress, rather than giving it to the project upfront or in a pre-determined quantum and manner.

While it could be debated whether these ideas could work either globally or in a specific country setting, the need for flexibility is undeniable. It can go a long way to reduce the risk perception, and therefore risk premiums, that equity investors and lenders apply to infrastructure PPPs.

LOOKING AHEAD

FVS mechanisms were originally designed to meet specific market needs. Since the FVS approach was developed, the realities of infrastructure finance markets have changed. Infrastructure developers and construction companies are finding themselves stretched to stay invested long term in infrastructure; banks are migrating to Basel III norms and will find difficulties in taking high risks and lending longer term; and faced with budgetary pressures, governments are keen to bring down costs of infrastructure delivery. The need to involve long term institutional investors in infrastructure has resonated among governments and practitioners. However, structurally the institutional investors are more risk

averse than traditional investors. For this group to find a right balance in their risk-return matrix, governments would need to create next-generation FVS mechanisms and more flexible models of investing in PPPs.

Below are a few ideas that could be considered by practitioners moving forward.

ENCOURAGING SCALE-UP OF SUCCESSFUL FVS APPROACHES

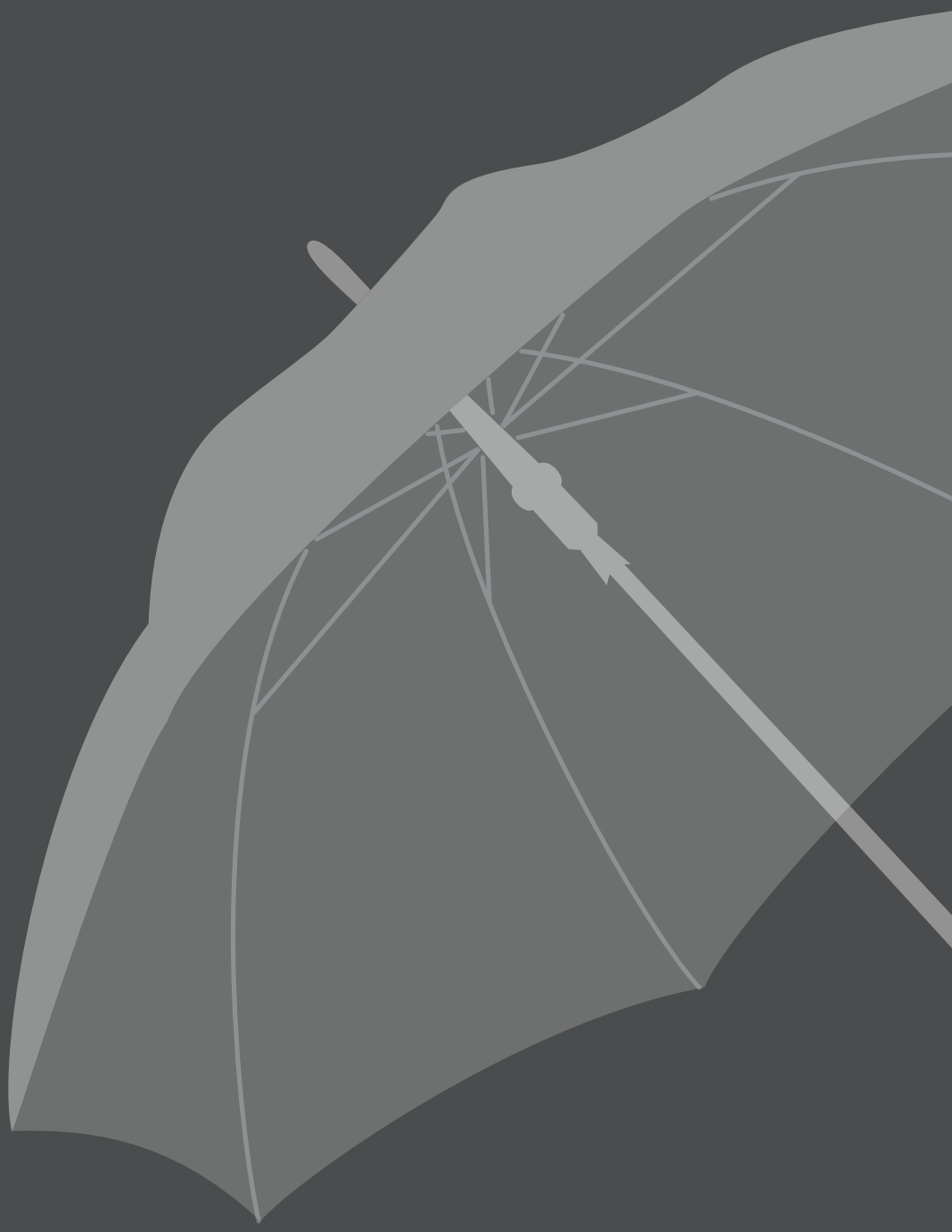
Globally there is a wealth of experience in using FVS mechanisms and financial innovation to catalyze private investments in infrastructure. Countries that are contemplating FVS or are in their early stages of PPP/FVS programs could learn from the experiences of others that have gained practical experience and have already put in place such mechanisms. Wider dissemination of the experience of designing and deploying FVS mechanisms could help accelerate and improvise the adoption and scale-up of successful FVS mechanisms.

COLLABORATING WITH INVESTORS AND PRACTITIONERS TO DEVISE NEXT GENERATION FVS MECHANISMS AND INFRASTRUCTURE FINANCING PLATFORMS

Governments, investors, and the development community will need to come together to devise practical solutions that can address the investment risk-reward criteria of long term institutional investors. It would not be unrealistic to envision a blending of different funding sources—be it the development community or the public sector or the private sector or the CSR/philanthropic initiatives. Another paradigm change would be to consider shifting away from typical project-focused investments to investments in portfolios or platforms. The list is endless. A whole body of knowledge needs to be created around pragmatic and innovative FVS and financing solutions. Through task-oriented multi-disciplinary working groups, a cross section of infrastructure players could be brought together to develop and implement the next generation of FVS mechanisms.

BRINGING TOGETHER THE KNOWLEDGE AND EXPERIENCE OF DIFFERENT STAKEHOLDERS IN A GLOBAL KNOWLEDGE REPOSITORY

To accelerate and guide the evolution of next generation FVS mechanisms and project financing structures, governments, investors, and international organizations must improve global tracking and analysis of data relating to PPP, FVS, and project financing transactions. While some governments and PPP Units have made some progress to this end in their individual capacity, collective efforts of many such institutions at a global level to create a verifiable online database would pave the way for path-defining new ideas in infrastructure financing. Such a repository could also support setting up a global exchange in order to



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