

Best Practices in Public-Private Partnerships Financing in Latin America: the role of subsidy mechanisms

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FOREWORD

Latin America has seen buoyant investment in private infrastructure projects over the period since 2005, weathering the global financial crisis better than most regions and even seeing an upsurge in investment in the first half of 2011, according to recent figures from the World Bank-PPIAF Private Investment in Infrastructure database. Brazil and, to a lesser degree, Mexico and Peru have driven the recent increases in investment, which has been concentrated in energy and transport public-private partnerships (PPPs).

While all of this is positive, there remain serious challenges. Following the global financial crisis, the higher cost and lower availability of debt and an increase in risk aversion have meant governments have had to resort to increased support to PPPs to enable them to go forward. This has taken the form of subsidies or payments under PPP contracts as well as increased risk-bearing. While necessary to ensure projects reach financial closure, increased support raises questions about the value-for-money of doing projects as PPPs, the specific risks governments should bear and the type and the nature of grant and subsidy support that should be provided. Guarantee and or subsidy schemes have to be run to have the maximum impact and also satisfy the concerns of private sector investment. Governments are also looking to mobilize additional sources of financing in the light of reduced financing from traditional sources, including commercial banks. This may require looking at ways to “crowd in” financing from pension funds, including developing new investment vehicles and new approaches that can facilitate increased participation in PPPs by institutional investors.

This is one in a set of three reports looking at the three key areas – the design and use of subsidy schemes to promote PPPs, the use of guarantees to support PPPs, and innovative approaches to financing PPPs - which draw on recent experiences from Latin America and elsewhere. The reports look at actual case studies of programs, projects and approaches in these areas and evaluate their impact and their success. As such they provide a rich set of resources for policy-makers and practitioners in the field of PPPs. These reports were developed by consultants (subsidies – Castalia Strategic Advisors; guarantees - Sergio Alejandro Hinojosa, consultant; and financing - Sergio Bravo Orellana, consultant) under a work program managed by Lincoln Flor, Senior PPP Specialist in WBI. They were possible only with the generous support from and collaboration with the Ministry of Economy and Finance of the Government of Spain, as well as the World Bank teams of the LAC Sustainable Development Department (LCSSD). The reports benefitted from comments

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List of Acronyms, Abbreviations, and Definitions

Availability payments	Subsidies in the form of regular payments based on the availability and quality of service
BNDES	Brazil's state-owned development bank
CGP	Brazil's <i>Conselho Gestor das Parcerias Publico Privadas</i> or Management Council for PPP
CONFIS	Colombia's <i>Consejo Superior de Política Fiscal</i> or the National Council on Fiscal Policy
CONPES	Colombia's <i>Consejo Nacional de Política Económica y Social</i> or Council on Economic and Social Policy
Contingent liabilities	Contingent payment obligations arising from government guarantees to PPP projects
CPP	São Paulo's <i>Companhia Paulista de Parcerias Publico-Privadas</i> or PPP Company
DNP	Colombia's <i>Departamento Nacional de Planeación</i> or National Planning Department
FARAC	Mexico's <i>Fondo de Apoyo para el Rescate de Autopistas Concesionadas</i> or Fund for the Support of the Rescue of Highway Concessions
FINFRA	Mexico's <i>Fondo de Inversión en Infraestructura</i> or Infrastructure Investment Fund
FONADIN	Mexico's <i>Fondo Nacional de Infraestructura</i> or National Infrastructure Fund
GDP	Gross domestic product
Implementing agency	The government agency developing a PPP project and owns or manages the associated asset
INCO	Colombia's <i>Instituto Nacional de Concesiones</i> or National Institute of Concession
INVIAS	Colombia's <i>Instituto Nacional de Vías</i> or National Roads Institute
MOF	Ministry of Finance
MOT	Ministry of Transportation
NHDP	India's National Highway Development Plan
PFI	Private Finance Initiative – United Kingdom's approach to financing PPPs
PPP	Public private partnership
Shadow tolls	Subsidies in the form of a fee from the government calculated per user
VGF	Viability Gap Funds – subsidies in the form of capital payments to PPPs
WBI	World Bank Institute

EXECUTIVE SUMMARY

Countries in Latin America that want to improve their economic condition need to have high quality physical and social infrastructure. To close current infrastructure deficits, Latin American countries are increasingly turning to the private sector. Engaging the private sector to finance, build, and operate infrastructure assets can increase the efficiency and quality of services and mobilize additional financial resources to get more infrastructure built. Typically, the private sector is engaged to deliver public infrastructure through a **public private partnership (PPP)**.

To attract private investors, PPP projects must be financially viable. That means private investors must be able to collect revenue sufficient to make a commercial risk-adjusted return on the long-term capital investment they have made. When projects are economically viable not financially viable, the government may want to provide subsidies to ensure the PPP is attractive to private investors.

In the context of PPPs, a **subsidy refers to a direct fiscal contribution or grant to pay for a portion of costs that is not repaid by project revenues**. Subsidies to PPPs can be structured in a number of ways. Governments can provide subsidies by making upfront cash contributions to pay for capital costs. Alternatively, once a project is constructed, governments can make regular payments to the private company based on the availability and quality of the service it is contracted to provide. A third option is for governments to pay a fee per user, such as number of vehicles on a toll road. These forms of direct fiscal support are the focus of this study. However, in addition to these direct fiscal contributions, there are more indirect ways to make a fiscal contribution to a project, such as providing concessional loans, guarantees, or paying for project preparation—these are often called ‘implicit subsidies’ because they are less transparent.

In theory, subsidies to PPPs serve a single purpose: **to make sure projects that will produce a net economic or social gain can be commercially financed**. There are two broad reasons why an economically justified project may not be financially viable. First, infrastructure projects can create public benefits that are not reflected in the price consumers are willing to pay for the service, such as a toll road that creates third-party benefits by increasing mobility and lowering vehicle emissions. Second, user fees can be deliberately set below consumers’ willingness to pay to keep user fees at a socially acceptable level.

There are a range of policies and institutional arrangements governments use to provide subsidies to PPPs. **This study analyzes how governments budget, manage, and pay for subsidies in the form of direct fiscal contributions to make PPPs financially viable.** Because infrastructure is so essential to a well-functioning, growing economy, and there is so much public money at stake, it is vital that subsidy funding is well spent and helps to deliver infrastructure services people really need at the least possible cost. The lessons presented in the study, if properly implemented, can help countries use limited funds to attract more private investment, get more infrastructure built and, as a result, achieve greater economic growth.

To draw out lessons, the study looks at four case studies—three in Latin America (Brazil, Colombia, and Mexico) and one outside the region (India). The experience of these four countries is summarized below. Each has adopted unique policies and institutions for providing subsidies to PPPs, and has had varying degrees of success.

Brazil’s Federal and State PPP Policy	Colombia’s Policy for Future Budget Appropriations
<p>Brazil’s National PPP Law allowing for subsidies to PPPs was signed in 2004. The PPP and subsidy program at the Federal level is administered by the PPP Unit in the Ministry of Planning, Budgeting, and Public Administration. Implementing agencies request subsidy funds, which are then reviewed by the PPP Unit and the Ministry of Finance, approved by an inter-departmental PPP council, and paid through the annual budgetary process. States, such as São Paulo, follow a similar practice.</p> <p>Although no federal subsidies have been disbursed to date, the federal PPP reforms and the work of the federal PPP Unit has helped states, including São Paulo, develop over US\$12.4 billion worth of PPPs funded in part with state subsidies. Ten projects have been initiated in São Paulo with an average of 24 percent subsidies.</p>	<p>Toll road concessions are the main focus of the Colombia case study because these have been the largest recipient of subsidies—other infrastructure sectors also receive subsidies under this program. Subsidies to toll roads in Colombia are granted under the 1993 transport law, approved through a special ‘future budget appropriations’ process, and paid from the budget of the National Institute of Concessions (INCO)—part of the Ministry of Transport (MOT).</p> <p>Between 1994 and 2010, Colombia signed twenty-four toll road concession contracts with a total investment of close to US\$17 billion. Nearly half of this investment has been funded with government subsidies.</p>

Mexico's National Infrastructure Fund (FONADIN)	India's Viability Gap Fund
<p>Mexico's National Infrastructure Fund FONADIN was launched in 2008 with initial capital of US\$3.3 billion. FONADIN was established, under the management of Banobras (the national development bank of Mexico), to procure new contracts for highway concessions and mobilize private sector investment in other sectors by providing subsidies to make PPPs financially viable.</p> <p>In its first two years, FONADIN has approved US\$1.3 billion in subsidies for projects with a total cost of US\$3.4 billion, mostly in urban transport. FONADIN has not closed any PPP transactions and disbursed subsidies yet, but Mexico is in the process of adopting legal reforms to make it easier to do PPPs.</p>	<p>In India, subsidies are provided to PPPs through the Viability Gap Fund (VGF), created in 2005 under the <i>Scheme for Financial Support to Public Private Partnerships in Infrastructure</i>. India's VGF funds are administered by the PPP Cell in the Ministry of Finance, Department of Economic Affairs. The VGF is funded through annual appropriations from the national budget based on amount of funding approved by the Ministry of Finance.</p> <p>Since 2005, India's VGF program has proven very successful. Twenty-three PPP projects with a total investment of US\$3.5 billion have received subsidies or 'viability gap funds'. An additional 43 projects are under review or have received in principle approval. The majority of projects have been in the transport sectors, primarily state and national highway concessions.</p>

For a subsidy funding mechanism to be effective, it must **maximize public benefits per dollar of public subsidy**. Public benefits are maximized when the most economically justified projects receive subsidies, the amount of subsidy any individual project receives is minimized and managed well, and subsidy policies help to mobilize more private finance. To help governments achieve this objective, the study asks 10 questions related to budgeting, managing, and paying for subsidies to PPPs. Based on the answers to these questions, the study identifies seven lessons for officials to consider when they design and implement new, or strengthen existing, policies for delivering subsidies to infrastructure PPPs.

Table 0.1: Matrix Analysis of Subsidy Funding Mechanisms in Brazil, Colombia, India, and Mexico

	Brazil (Federal PPP Law and related state-level policies)	Colombia (Budget policy allowing future appropriations)	India (Viability Gap Fund)	Mexico (FONADIN—Fondo Nacional de Infraestructura)
Key Features				
How are funds appropriated in the budget?	Subsidies are appropriated through the annual budget of implementing agencies. At the federal level, subsidies are classified as 'interest payments' to avoid annual legislative approval	Appropriated from the federal budget using a special process for future appropriations	<ul style="list-style-type: none"> Appropriated annually from national budget based on the amount approved VGF for national highways are earmarked annually from road user revenues 	Appropriated from state budget as capitalization of infrastructure funds (FINFRA and FARAC). Later transferred (US\$3.3) billion to capitalize FONADIN
Who identifies, prepares, and procures projects?	Implementing agency (national or state level) with support from PPP Unit (and/ or CPP – PPP Company in São Paulo)	Implementing agency (INCO – National Institute of Concessions, Ministry of Transportation)	Implementing agency (local, state, or national government body and statutory entities)	Implementing agency (national or state level) with support from FONADIN Business Units
Who reviews requests for subsidies?	PPP Unit, Ministry of Planning, (also CPP and Executive Secretary of São Paulo's CGP)	Investment Banking Unit, MOF and Infrastructure Unit, National Planning Department	PPP Unit, Ministry of Finance	FONADIN Studies and Technical Evaluations Unit and Sub-Committee for Evaluation and Financing
Who approves subsidies?	Inter-departmental committee (federal and state CGPI)	Inter-departmental committee [National Council on Fiscal Policy (CONFIS) and National Council on Economic and Social Policy (CONPES)]	Inter-departmental committee (Empowered Institution/Committee and Minister of Finance)	Inter-departmental committee (FONADIN Technical Committee)
What projects are eligible for subsidies?	<ul style="list-style-type: none"> Be greater than US\$12 million Have a contract length from five to 35 years Other less well-defined criteria 	<ul style="list-style-type: none"> All toll road concessions Subsidy consistent with medium-term fiscal plan Other less well-defined criteria 	<ul style="list-style-type: none"> Follow open, transparent, competitive procurement Maximum 20 percent subsidy from VGF Maximum 20 percent matching subsidy by government entity Projects is with a private sector company (minimum 51% owned by private entity) Projects in transport, urban infrastructure, power, special economic zones, and tourism infrastructure 	<ul style="list-style-type: none"> Maximum 50 percent subsidy Minimum 20 percent equity investment Other less well-defined criteria
How is the amount of subsidy determined?	<ul style="list-style-type: none"> Through competitive bidding. Subsidy amount is main bid variable. Maximum total subsidy amount of three percent of state revenues 	Through competitive bidding. Subsidy amount is one variable in the calculation of 'net present value of revenue'	Through competitive bidding. Subsidy amount is single bid variable (allows for VGF 'premium')	Through competitive bidding. Subsidy amount is main bid variable.
When is the subsidy paid?	Paid during operations after output/performance-based level of services defined in contract are reached	Paid after construction and operations output/performance-based milestones defined in contract are reached	<ul style="list-style-type: none"> Paid after equity is fully contributed to the project, and then matched in proportion to debt disbursements VGF can be paid after construction with approval of Empowered Committee and Minister of Finance 	Paid at dates defined in contract
What are related policies? <ul style="list-style-type: none"> Tariffs (user charges) Contract lengths Other fiscal support 	<ul style="list-style-type: none"> Tariffs and contract length fixed in advance Total fiscal impact of subsidy and guarantees evaluated but managed separately (National Guarantee Fund or CPP in São Paulo) 	<ul style="list-style-type: none"> Tolls set by Ministry of Transport Variable length contracts used to guarantee revenue Total fiscal impact of subsidy and guarantees evaluated 	<ul style="list-style-type: none"> Tariffs and contract length fixed in advance Maximum 20% matching subsidy from government entity Termination payments to cover debt 	<ul style="list-style-type: none"> Tariffs and contract length fixed in advance Entire package of fiscal support considered and adjusted in 'financial proposal'
Who monitors project outcomes?	<ul style="list-style-type: none"> Implementing agency monitors project performance PPP Unit (and CPP in São Paulo monitors subsidy disbursement and project performance Audit agencies have authority to oversee and audit projects Commission for monitoring the fiscal impact of PPPs and checks subsidy limit 	<ul style="list-style-type: none"> Implementing agency monitors project performance General Comptroller's Office authority to oversee and audit projects 	<ul style="list-style-type: none"> The lead financial institution (e.g., bank) is responsible for monitoring and evaluation of compliance and performance related to disbursement of VGF Lead financial institution submits quarterly progress report to the Empowered Institution/Committee 	<ul style="list-style-type: none"> Implementing agency monitors project performance FONADIN Monitoring Unit monitors subsidy disbursement and project performance
How is information publicly disclosed?	<ul style="list-style-type: none"> National PPP Unit publishes report on PPPs at the national, state, and local level PPP Unit presents biannually at the Legislative Assembly CPP publishes annual reports 	Project information and contracts published on INCO website	<ul style="list-style-type: none"> Policies are provided on India's PPP website Basic project information, including bidding process and financing, are provided on the online PPP project database 	All policies and project information available FONADIN website

	Brazil (Federal PPP Law and related state-level policies)	Colombia (Budget policy allowing future appropriations)	India (Viability Gap Fund)	Mexico (FONADIN—Fondo Nacional de Infraestructura)
Investment impact				
Years	2004 to 2009	1994 to 2009	2005 to 2009	2008 to 2009
US\$ value of PPP projects receiving subsidy	US\$12.4 billion	\$19.2 billion	\$3.5 billion	\$3.4 billion
Average subsidy to project value	N/A	54%	20%	39%
US\$ value of all PPP projects	US\$118.3 billion (US\$19.7 billion/year)	\$19.2 billion (\$0.5 billion/year)	\$115.8 billion (\$23.1 billion/year)	\$9.5 billion (\$4.8 billion/year)
Total annual investment in PPP project/GDP	0.9%	0.7%	1.6%	0.4%
Subsidy/PPI (inverse = mobilization effect)	N/A	54% (1.8 X)	0.6% (170 X)	14% (7.0)

SOURCE: MULTIPLE, INCLUDING: WORLD BANK PPI DATABASE. www.ppi.worldbank.org

How are funds appropriated in the budget?

Lesson 1: Creating a dedicated ‘subsidy fund’ with a clear funding commitment from the government allows for a more streamlined and simplified subsidy approval process, attracts attention and increases awareness in the subsidy program, increases the number of infrastructure projects done as PPPs, and encourages better policies and decision criteria.

Mexico capitalized FONADIN with US\$3.3 billion from its previous infrastructure fund and toll road concession program. India’ VGF provides security to investors with policies that ensure funding is available to meet government’s commitments under the program. Other countries are already beginning to follow this lesson. Colombia, for example, is now considering the option of creating a fund that would be capitalized through the sale of a 10 percent share of the national oil company.

Who identifies, prepares, and procures projects?

Lesson 2: Having the agency responsible for managing the subsidy program assist implementing agencies during the preparation of a PPP transaction can transfer knowledge and ensure projects are well-structured and properly screened.

In the four countries in this study, implementing agencies receive various levels of support from staff managing the subsidy program:

- The federal PPP Unit in Brazil (or the PPP Company (CPP) in Sao Paulo)
- The PPP Unit in the National Planning Department and the Investment Banking Unit of the Ministry of Finance in Colombia
- FONADIN's business units in Mexico
- The PPP Unit in the Ministry of Finance in India.

The assistance provided by staff in charge of the subsidy program varies depending on the specific institutional arrangement in each country and the amount of experience with PPPs.

Who reviews requests for subsidies?

There is no clear best practice for who should review requests for subsidies. Each country reviewed in this study uses a slightly different approach, and who reviews requests for subsidies appears to be less important than making sure staff managing subsidies are involved in the PPP structuring process (Lesson 2) and creating clear eligibility criteria (Lesson 3).

Who approves subsidies?

There is no clear best practice for who should approve subsidies to PPPs. It is common for officials from finance and economic planning agencies to be involved in the subsidy approval process, which should help ensure subsidies are consistent with the country's broader fiscal and economic priorities. However, each country evaluated in this study uses a slightly different approach. As with reviewing subsidies, who exactly approves subsidies appears to be less important than making sure staff managing subsidies are involved in the PPP structuring process (Lesson 2) and creating clear eligibility criteria (Lesson 3).

What projects are eligible for subsidies?

Lesson 3: Adopting clear, concrete project eligibility criteria can help ensure only well prepared, economically viable projects receive subsidies.

India, and to some extent Mexico, have adopted clear criteria for deciding which projects are eligible to receive subsidies. For example, both countries cap the percentage of total project costs that can be paid by subsidies (40 percent in India and 50 percent in Mexico). Having clear, concrete criteria like these helps make sure only well-structured, economically viable projects receive subsidies and increases the amount of private investment mobilized per dollar of subsidy.

In contrast, when criteria are unclear, projects can be pushed through based on political pressures and projects tend to be prioritized on a more *ad hoc* basis. Brazil's PPP Law includes eligibility criteria that are vague and difficult to follow, such as to promote efficiency and be fiscally sound. Similarly, in Colombia only projects of 'strategic importance' can receive a future appropriation, which has no clear definition.

How is the amount of subsidy determined?

Lesson 4: Setting the amount of subsidy through competitive procurements minimizes the amount the government pays. Allowing bidders to bid 'premiums'—negative subsidies—creates an additional source of revenue and ensures the government maximizes value.

All countries in this study use the amount of subsidy as one of the main variables—or the single variable—in financial bids during competitive tenders. When PPP contracts are openly and competitively tendered, competition will drive private companies to request the minimum amount of subsidy to make a project financially viable.

When is the subsidy paid?

India's policy of allowing 'premiums'—negative subsidies paid by the private investor to the government—has been particularly successful by creating an additional source of revenue and ensures the government maximizes value it receives from contracting a private company to develop and operate public infrastructure.

Lesson 5: Using output- or performance-based milestones to trigger subsidy payments can strengthen the incentives for the private proponent to meet its contractual obligations.

Three of the four countries evaluated in this study use output- or performance-based milestones to trigger subsidy payments, which can create strong incentives to make sure projects are completed on time and the service standards defined in the PPP contract are met. Only Mexico—who has not yet implemented many PPP contracts and is in the process of issuing a new PPP law—uses primarily time-based milestones for disbursing subsidies.

What are related policies?

Lesson 6: Evaluating direct subsidies together with indirect fiscal support—such as guarantees and concessional loans—ensures the entire fiscal impact of the project does not exceed its net economic benefits. Having a separate agency manage guarantees or concessional loans, or making policies non-discretionary, reduces conflicts of interest.

Direct subsidies are usually just one of many instruments used by governments to make PPPs financially viable. Other, more indirect forms of fiscal support include guarantees and concessional loans. Evaluating direct subsidies together with indirect fiscal support ensures the entire fiscal impact of the project does not exceed its economic benefits. However, to avoid conflicts of interest and reduce a tendency to structure projects with more implicit subsidies, it is a good idea to have a separate agency manage guarantees or concessional loans, or making policies non-discretionary.

Colombia, for example, has been a leader in assessing the contingent liabilities associated with guarantees when it approves PPP projects. As an alternative to rigorously evaluating indirect forms of fiscal support, India has adopted a clear policy to guarantee senior debt in case of a termination of the PPP project, known as termination payments. This is similar to a partial risk guarantee for each project. In the case of termination of the PPP agreement, the lenders are repaid a minimum of 90 percent of their outstanding debt. This eliminates discretion, makes it easier to compare projects, and reduces the need to evaluate the total fiscal impact on a project-by-project basis. Similarly, it is good practice to set clear, concrete policies for determining user fees, such as toll rates, to provide investors with more certainty about the source of revenue and make it easier evaluate projects on the basis of the amount of subsidy requests.

Who monitors project outcomes?

There is no clear best practice for monitoring outcomes associated with subsidy payments. The countries in this study use three approaches to monitoring outcomes in their PPP programs generally, and for subsidies specifically:

- Having staff of the subsidy fund or PPP unit assist or lead monitoring efforts (used by Brazil, Colombia, Mexico, and India)
- Having an independent agency monitor subsidies (as in Brazil and Colombia)
- Use the lead private financial institution as the proxy monitor (as in India)

Each of these approaches has different advantages and typically at least two approaches are combined. The optimal monitoring policy will depend on the institutional arrangement in the particular country.

How is information publicly disclosed?

Lesson 7: Creating a website to host policy documents and information on projects receiving subsidies can improve transparency and public oversight, and increase the interest and confidence of private investors.

Increasing transparency can often strengthen a PPP program by giving investors more confidence, attracting greater interest, and increasing participation and competition in a country's PPP program. Following open and competitive procurement processes when allocating subsidies increases transparency, and is widely accepted as best practice. Another important way to improve transparency is by publicly and regularly disclosing information. Most countries, including the four evaluated in this study, are using the internet as a low-cost, accessible medium to make information on the PPP programs publicly available to citizens, private investors, and implementing agencies.

I. INTRODUCTION

The World Bank Institute (WBI) is undertaking a review of government interventions aimed at facilitating sustainable investment in public private partnerships (PPPs) in Latin America. This is one study in WBI's larger review. **The study presents best practices for providing public subsidies to make PPPs financially viable.** The lessons presented here, if properly implemented, can help countries use limited funds to attract more private investment, get more infrastructure built and, as a result, achieve greater economic growth.

The objective of WBI's review is to: (i) define the various types of fiscal mechanisms used by governments to support PPPs; (ii) evaluate the design and diagnose the conditions under which various interventions have proven to be effective, and (iii) identify solutions that could be successfully applied in other countries. The scope of the entire review includes four categories of government intervention in PPP investment:

- Infrastructure funds or other sector- or region-specific funds
- Guarantee funds and the use of contractual guarantees
- Subsidy funds and other subsidy delivery mechanisms
- Other new financial instruments combining public and private capital.

In this context, subsidies are direct fiscal contributions or grants paid by the government to a project when revenues from user fees are insufficient to cover all capital and operating costs while still providing private investors with a reasonable rate of return. Without subsidies, some infrastructure projects that would provide economic or social gains, but are not financially viable, would go undeveloped.

The four countries highlighted in this study—Brazil, Colombia, Mexico, and India—in total develop an average of nearly US\$50 billion in PPPs per year. Since they have launched their respective subsidy programs, these countries have granted over US\$15 billion in subsidies to PPPs. Because infrastructure is so essential to a well-functioning, growing economy, and there is so much public money at stake, it is vital that subsidy funds are well spent and that they deliver services people really need at the least possible cost.

There are a range of policies and institutional arrangements governments use to provide subsidies to PPPs. For example, some countries have created dedicated agencies, or 'funds', capitalized with money from the national budget to manage and allocate subsidies. This is the approach Mexico followed in 2008 when it launched its National Infrastructure Fund. Other countries have established well-defined policies for appropriating subsidies

on an *ad hoc* basis through an annual budget process. Colombia and Brazil both use this approach, but through unique legal frameworks.

Section 2 of this study lays out key concepts for readers: the definition of subsidies to PPPs; the economic and policy justification for subsidies; and a summary of different approaches for managing subsidies. **Section 3** then presents the experience of four countries: Brazil, Colombia, Mexico, and India. These countries have adopted different policies for budgeting, approving, and paying for subsidies, and so they help to illustrate what key features can work well and under what conditions. Finally, **Section 4** compares the four cases and summarizes lessons that can help to inform other countries when they design and implement new, or strengthen existing, policies for delivering subsidies to infrastructure PPPs.

II. KEY CONCEPTS

This study focuses on how governments budget, manage, and pay for subsidies in the form of direct fiscal contributions to make public private partnerships (PPPs) financially viable. Before jumping into the specific policies and institutional arrangements governments have adopted for providing subsidies to PPPs, it is useful to clarify some key concepts. This section defines “public private partnership” and “subsidy” (Sections 2.1 and 2.2), and then explains the justification for providing subsidies to PPPs (Section 2.3) and introduces some different approaches governments have adopted (Section 2.4). Understanding these key concepts is essential to grasping the lessons drawn from the four countries highlighted in the body of the study.

2.1. What is a PPP?

A **public private partnership** (PPP) is a long-term contract between a government entity and private company, where the private company is involved in delivering a public infrastructure service through some combination of financing, designing, constructing, operating, and maintaining an infrastructure asset. The private company is then repaid through either revenue collected from user fees or government payments that depend on the availability of the service, or both.

A PPP requires that the private company make a long-term investment and assume some financial risk associated with a project. For example, it is common that the company will assume the risk that construction costs will escalate or that demand for use of the infrastructure will be lower than expected. For the private company to make an investment, the project must be financially viable. When projects are not financially viable, the government may want to pay subsidies to ensure the PPP is attractive to private investors.

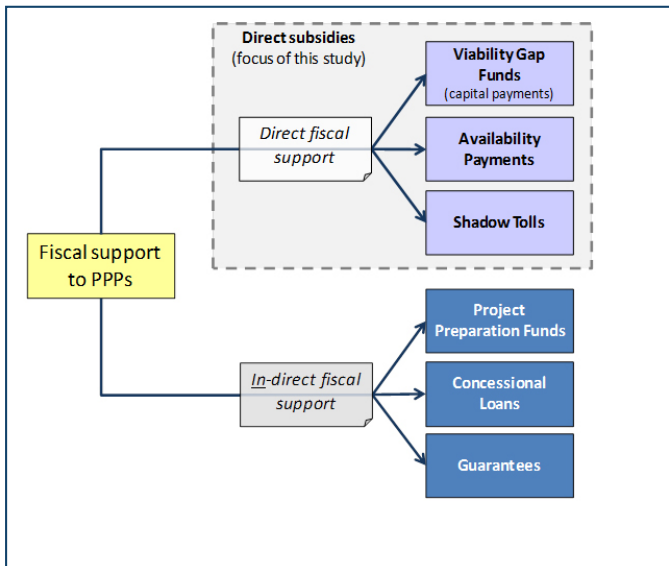
2.2. What are Subsidies?

In the context of PPPs, a subsidy refers to a **direct fiscal contribution or grant** to pay for a portion of the capital or operating costs that is not repaid by project revenues. This is distinct from public expenditures to pay for goods or services used by government, where the private company assumes no investment risk.

Subsidies to PPPs can be structured in a number of ways. Government can provide subsidies by making upfront cash contributions to pay for capital costs. This is the approach used in India, where subsidies are called 'viability gap funds' for their role in making a project financially viable. Alternatively, once a project is constructed, the government can make regular 'availability payments' to the private company based on the availability and quality of the service it is contracted to provide. A third option is for the government to pay 'shadow tolls'—a fee per user, such as number of vehicles on a toll road. The United Kingdom's Private Finance Initiative (PFI) is well known for using this last approach.¹

Figure 2.1 illustrates the different types of fiscal support that governments can provide PPPs. This study focus on how governments budget and manage subsidy funds used to pay for the various forms of direct fiscal support.

Figure 2.1: Subsidies and Forms of Fiscal Support to PPPs



SOURCE: CASTALIA

1. See the UK Treasury's website for more detail: www.hm-treasury.gov.uk/ppp_index.htm

Figure 2.1 also shows other financial instruments available for government to support PPP projects, in addition to direct subsidies. Three common examples are: (i) funds to pay for studies during project preparation; (ii) concessional loans; and (iii) sovereign guarantees. These other examples of indirect fiscal support have a cost to government and are sometimes used as a less transparent and less targeted way to subsidize PPPs. Because they have unique characteristics, however, they are often dealt with separately from direct subsidies when developing PPPs. For example, Brazil has established a Guarantee Fund that operates independently from its policies for allocating direct subsidies to PPPs and from concessional loans provided by BNDES, Brazil's state-owned development bank. This study briefly mentions guarantees and concessional loans as they relate to direct subsidies. The topics are covered in more detail in the other studies being prepared by WBI.

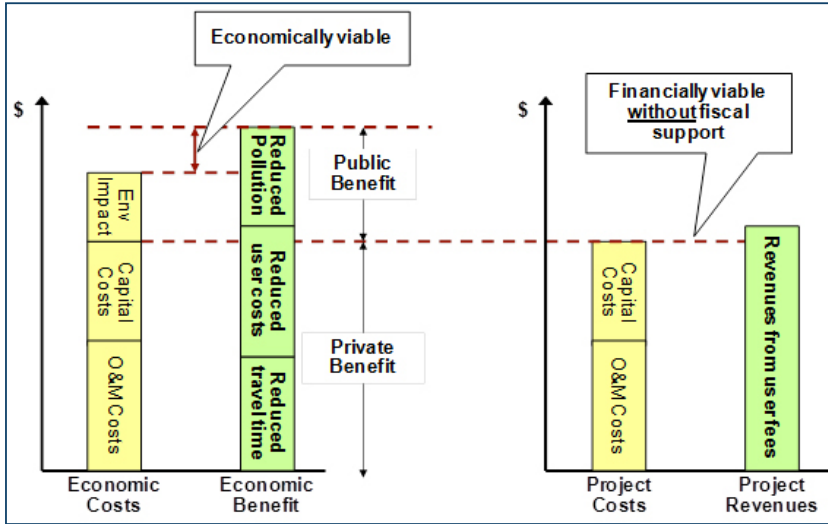
2.3. Why Provide Subsidies to PPPs?

Technically, providing subsidies to PPPs serves a single purpose: to make projects financeable that, alone, are economically viable but not financially viable. In most cases, however, there is underlying social or policy goals that prevent economically viable projects from being financially viable.

Financially viable means that total project revenues are greater than total project costs, including commercial returns on capital investment. Similarly, **economically viable** means that the total economic benefits of a project are greater than the total economic costs—in this sense, economic viability is synonymous with economic cost-benefit justified.

Figure 2.2 illustrates a project that is economically *and* financially viable. Projects that are economically viable provide a net benefit to society. Projects that are financially viable require no subsidies and are attractive investments to the private sector without any government support.

Figure 2.2: Economically and Financially Viable Projects



SOURCE: CASTALIA

Projects like the one illustrated in Figure 2.2 can, and should, be financed without subsidies from the government.

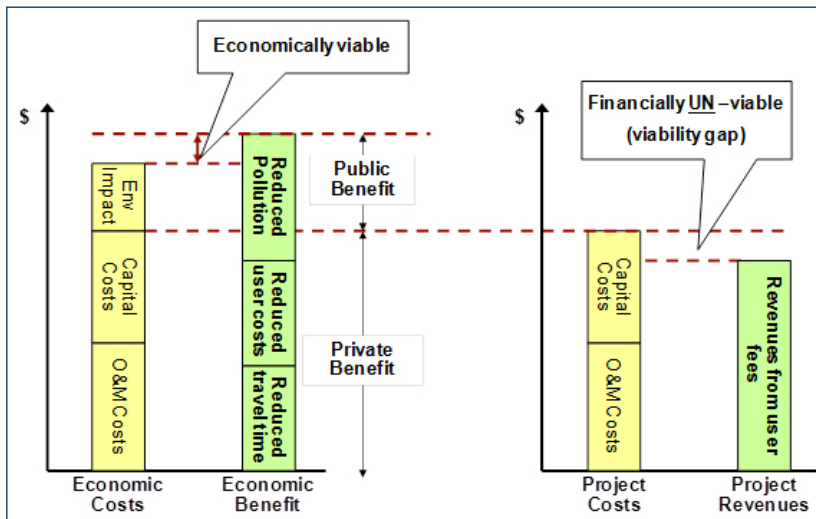
Some projects, however, are economically viable, but *not* financially viable. In other words, there are projects that would produce a net economic or social gain, but cannot be commercially financed. There are two broad reasons why an economically viable project may not be financially viable.

First, infrastructure projects can create public benefits that are not reflected in the price consumers are willing to pay for the service. For example, a toll road that reduces congestion and lowers vehicle emissions has positive economic benefits associated with higher mobility and lower pollution. Individual vehicle owners are unwilling to pay for increased productivity, connectedness, and clean air enjoyed by third-parties. Similarly, wastewater treatment plants keep water resources clean and safe. All of the beneficiaries of clean water are impossible to identify, let alone charge for the service. In both examples, revenues do not reflect the total economic benefit of the project.

Second, user fees can be deliberately set below consumers' willingness to pay. As a result, project revenues will be lower than what is needed to recover costs. This is common when a government regulator wishes to keep user fees at a socially acceptable level. For example, the government might have a policy of making public infrastructure affordable for all (or most) citizens, so that the poor can use a service without significantly reducing their disposable income. Governments often pursue a policy of equitable user fees for infrastructure that is thought to provide an 'essential service' like potable water. When user fees are kept low, the cost of economically viable projects must be repaid through other means, such as general tax revenue or revenue transferred from more profitable projects.

Figure 2.3 illustrates a project that is economically viable, but financially *unviable*. These projects are good public investments, but require subsidies to be financeable.

Figure 2.3: Economically Viable, but Financially UN-viable Projects



SOURCE: CASTALIA

2.4. How do Governments Provide Subsidies to PPPs?

Governments have adopted a number of different policy and institutional arrangements to provide subsidies to infrastructure PPPs. Subsidy funding mechanisms differ across four broad dimensions:

- How subsidy funds are appropriated
- What projects can receive subsidies
- What rules determine how much subsidies to pay and when
- What agencies perform the key functions needed to manage and distribute subsidies?

To appropriate subsidy funds, some countries, such as Mexico, have established and capitalized a dedicated agency or 'fund' (FONADIN) to provide subsidies to PPPs (see Section 3.3). Other countries internationally have taken a similar approach. For example, Canada recently launched a national infrastructure fund in 2009 (see **Box 2.1**). India has also established a Viability Gap Fund that is managed by the national PPP Cell in the Ministry of Finance (see Section 3.4). The budget of the VGF in India is appropriated annually. Brazil and Colombia also use routine budget processes (covered in Sections 3.1 and 3.2).

Box 2.1: PPP Canada Fund

In 2009 Canada launched an infrastructure fund with the goal to fund (through direct subsidies and co-investments) projects implemented as PPPs and to disseminate knowledge and act as a center of excellence for PPPs nationwide. In total, PPP Canada Fund manages US\$1.257 billion. Implementing agencies at the federal, provincial, and municipal level are invited to submit proposals to open calls. Projects above US\$50 are eligible and are selected for funding based on merit.

PPP Canada Fund successfully completed its first call for project proposals in October 2009, receiving over 25 submissions. Projects ranged in size from \$45 to \$500 million in capital costs and were from a range of infrastructure sectors. PPP Canada's first funds were disbursed in early 2010. A second call for proposals closed in June 2010, attracting over 70 proposals.

SOURCE: PPP CANADA FUND www.p3canada.ca

Countries also target PPP subsidies to different kinds of projects. Often subsidy funds and legal frameworks apply to several infrastructure sectors, as is the case for all four countries highlighted in this study. However, some governments have developed policies

and institutions for targeting fiscal support at investments in a particular sector. For example, the Philippines has established a program for subsidizing off-grid electricity generation and starting in the early 1990's Peru established a successful output-based aid program to subsidize rural telecommunications. BOX 2.2 below elaborates on these two unique, sector-specific programs.

Box 2.2: Sector-specific Subsidy Programs in the Philippines and Peru

Subsidies Off-grid Rural Electrification in the Philippines

Electricity generation in off-grid areas in the Philippines is not financially viable and has been traditionally provided by the National Power Corporation (NPC)—a national government-owned utility. In 2001 the government passed a law that required NPC to transfer generation in off-grid areas to private providers. The law also introduced a subsidy to make investments in off-grid generation financially viable. The subsidy is set through a competitive process. Bidders are told the value of the socially acceptable generation rate that can be charged in a specific off-grid area, and the bidder requiring the least subsidy to top off the rate is awarded the contract. The subsidy is paid every month and is calculated by multiplying the electricity generated during the month by the subsidy set through the competitive selection process. The subsidy payments are funded through a surcharge that is applied to all electricity users in the Philippines—that is, it is a cross-subsidy from all electricity users nation-wide to electricity users in off-grid areas.

SOURCE: POWER SECTOR ASSETS AND LIABILITIES MANAGEMENT COMPANY (PSALM) AND CASTALIA

FITEL – Providing Subsidies for Rural Telecommunications in Peru

In 1994, Peru's Ministry of Transport and Communications passed a law to reform the regulation of telecommunications and establish FITEL (Fondo de Inversión en Telecomunicaciones), a national rural telecommunications fund. The objective of FITEL was to mobilize private investment to achieve universal access to telephone service. To create incentives for private telecommunications operators to expand services to rural areas of the country, FITEL awarded subsidy for pay phones installed in targeted areas. Operators bid for the right to provide services to rural areas, with the winning bidder requesting the least subsidy. Payments of subsidies were linked to performance, with part was paid when the contract is awarded, part once phones are installed, and the remainder in semi-annual installments. The semi-annual payments were in turn tied to the operator's achievement of key performance indicators. From 1994 to 2004 FITEL procured four successful PPPs that helped bring phone services to nearly 6 million people.

SOURCE: TELECOM SUBSIDIES: OUTPUT-BASED CONTRACTS FOR RURAL SERVICES IN PERU. VIEWPOINT NOTE 234. WORLD BANK. 2001.

EXPANDING THE FRONTIERS OF TELECOM MARKETS THROUGH PPP IN PERU. GRIDLINES NOTE 5. PPIAF. 2006.

MEDIDA, PAMELA. EVALUACIÓN DEL FONDO DE INVERSIÓN DE TELECOMUNICACIONES (FITEL): ¿ES SUFICIENTE TODAVÍA SU ESQUEMA DE SUBASTAS? CIES. 2008

CASE STUDY: PROVIDING UNIVERSAL ACCESS: FITEL, PERU. ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS. 2009

Finally, countries have adopted different policies for managing subsidies to PPPs. Policies for managing subsidies define the rules for determining how much subsidy is paid to a

project, and when and how the payment is made. For example, Brazil pays subsidies after a project has been commissioned and achieved certain service standards. In contrast, India uses viability gap funds to pay for capital costs when construction milestones have been met. All four countries highlighted in this study set the amount of subsidy through a competitive procurement process.

Policies also define the process and institutional framework for managing subsidies to PPPs. This includes what agencies performs which key functions, such as reviewing and approving requests for subsidies and monitoring project, and how. The next section of this study elaborates on “the who, the what, and the how” of three countries in Latin America (Brazil, Colombia, and Mexico) and one international case (India). These countries illustrate different approaches to providing subsidies to PPPs to draw out lessons that can help to inform other countries when they design and implement new, or strengthen existing, policies for delivering subsidies to infrastructure PPPs.

III. CASE STUDIES

The case studies in this section are the heart of this study on subsidy funding mechanisms. Brazil, Colombia, India, and Mexico have each adopted unique policies and institutions for providing subsidies to PPPs. These four countries have also had varying levels of success. The purpose of this section is to highlight the experience of each country, describe the key features and conditions that have proven effective, and identify lessons that officials in countries can learn from.

The case studies that follow describe “the who, the what, and the how” of the subsidy funding mechanisms in each country. For each country, ten questions are asked and answered:

1. How are funds appropriated in the budget?
2. Who identifies, prepares, and procures projects?
3. Who reviews requests for subsidies?
4. Who approves subsidies?
5. What projects are eligible for subsidies?
6. How is the amount of subsidy determined?
7. When is the subsidy paid?
8. What are related policies?
9. Who monitors project outcomes?
10. How information is publicly disclosed?

These questions are the key questions officials in any country should be asking when designing or improving policies for subsidizing PPPs. To provide further context, the case studies also present background information and summary statistics that help to measure the investment impact of the subsidy programs in these countries. At the end of each case study, there is a short discussion of how effective the program has been in the country and, in the final section, we draw from those discussions to present lessons that other countries can learn from.

3.1. Brazil’s National and State PPP Policy

Over the past three decades Brazil has had achieved high levels of private sector investment in infrastructure and public services. According to the World Bank, from 1990 to 2009 Brazil had the largest amount of private sector investment in infrastructure of all

developing countries. As of 2010, total investments reached U\$270 billion, over U\$100 billion more than second largest program in India. It wasn't until 2004, however, that the legal framework allowed for public subsidies—at either the national and sub-national levels—to make projects financially viable.

This transition led to a narrower definition of PPPs in Brazil where concessions, leases and other types of private participation that do not require subsidies are not PPPs. In Brazil PPPs are those projects that are financially unviable by definition.

In 2004, Brazil passed a new PPP Law that established a PPP Unit in the Ministry of Planning, Budgeting, and Public Administration and allowed the government and implementing agencies to make financial contributions in the form of direct subsidies and guarantees to make PPP projects financially viable. Soon after, many state governments, including the State of São Paulo, passed similar laws to complement the federal PPP Law. This section of the study describes Brazil's efforts to provide subsidies to PPPs at the federal and state level.

Box 3.1: Snapshot of Brazil (and State of São Paulo's) PPP Program

Country: Brazil (and State of São Paulo)

Subsidy funding mechanism: National PPP Law and related state-level PPP policies.

Year established: The National PPP Law allowing for subsidies to PPPs was signed in 2004. São Paulo created its own PPP Law the same year.

Objective: To increase private investment in infrastructure by making projects financially viable through subsidy transfers tied to performance

Projects funded: No projects have reached financial closure at the national level. Thirty-five PPPs have reached financial closure with state and municipal subsidies. In São Paulo, two projects have received subsidy funds since 2004 and more are in the pipeline.

Brazil's PPP program at the Federal level is administered by the PPP Unit in the Ministry of Planning, Budgeting, and Public Administration. Implementing agencies request subsidy funds, which are then reviewed by the PPP Unit and the Ministry of Finance, and approved by an inter-departmental PPP council. Once subsidies are approved, the funds are classified as interest payments to avoid annual legislative approval, and automatically included in implementing agencies annual budgets. States, such as São Paulo, follow a similar process.

Although no federal subsidies have been disbursed to date, the federal PPP reforms and the work of the federal PPP Unit has helped states, including São Paulo, develop over US\$12.4 billion worth of PPPs funded in part with state subsidies. The main lessons that emerge from assessing Brazil's policies for providing subsidies to PPPs are:

- Establish or use budgetary rules that eliminate the need for annual legislative approval. Brazil's federal policy of classifying subsidies as interest payments eliminates the need for annual legislative approval. This should simplify the process and increase private investors confidence that payments will not be eliminated from the budget
- Determine the amount of subsidy a project will receive through competition. At both the federal and state level, the actual amount of subsidy is calculated as the variable in scoring financial bids from private investors. This helps to minimize the governments subsidy contribution and is good practice that each of the countries in this study follow
- Establish debt limits on the total amount of subsidies that can be approved for disbursement in any one year. Brazil's limit of three percent of government revenue is especially important since it pays appropriates and pays funds from the annual budget. A limit or debt ceiling on the amount of approved subsidies is unnecessary, however, in countries like Mexico where an upfront appropriation has been used to establish a subsidy fund. In effect, the one-time budget appropriation caps the total amount of subsidy and makes an additional ceiling redundant
- Establish debt limits on the total amount of subsidies that can be approved for disbursement in any one year. It is important to evaluate the entire fiscal impact of project, as Brazil does. However, Brazil's policy of independently managing—through the federal Guarantee Fund—helps to eliminate conflicts when deciding on deciding between direct subsidies or more implicit fiscal support when structuring a PPP.

The case study for Brazil is presented in six sub-sections:

- Section 3.1.1 presents the background of Brazil's PPP program, including the move toward providing subsidies to projects
- Section 3.1.2 states the objectives that the government is seeking to achieve by providing subsidies
- Section 3.1.3 presents the key features of how Brazil and São Paulo manage and allocate subsidies to PPPs
- Section 3.1.4 summarize the impact subsidies have had on private investment in

infrastructure in Brazil

- Section 3.1.5 discusses the effectiveness of the Brazil's PPP program
- Section 3.1.6 explains how the case was developed and provides links to further information.

3.1.1. Background

Brazil has achieved higher level of private sector investment than any other country over the past 30 years. From 1990 to 2009 Brazil had US \$270 billion in private sector investment in infrastructure, the largest amount of all developing countries.² The current legal framework allowing for public subsidies to make PPPs financially viable, however, did not emerge until 2004. Private investment in infrastructure took off in Brazil during the early 1990s when a push for privatizations transferred many state-owned enterprises and other assets to the private sector. In the mid-1990s, with the passing of the 1995 Concessions Law³, the private sector began to engage in PPP contracts. Due to large fiscal deficits and concerns over corruption at the time, the 1995 Concessions Law explicitly prohibited direct subsidies to PPPs without special legislative approval. This restricted private investment in infrastructure, since effectively all projects were required to be financially viable through user fees. As a result, the projects developed under the Concessions Law were mainly in highways. After an initial wave, which saw over 60 highway concessions signed in the three years following the passage of the law, most of the low hanging fruit had been picked and the flow of concessions slowed down.

In 2004, Brazil passed a new PPP Law⁴ that established a PPP Unit in the Ministry of Planning, Budgeting, and Public Administration and allowed the government and implementing agencies to make financial contributions in the form of direct subsidies and guarantees to make PPP projects financially viable. In Brazil 'PPP' specifically refers to projects that are not financially viable. **BOX 3.2** explains this definition and related terminology in Brazil. This case study focuses on PPPs and not 'common concessions', which are financially viable projects and still governed under the Concessions Law.

2. World Bank PPI Database. www.ppi.worldbank.org

3. Lei 8987.

4. Lei 11079.

Box 3.2: The Distinction Between PPPs and Concessions in Brazil

Most other countries use the term concession interchangeably with PPP, or to refer to a particular type of PPP. In Brazil, there is an important distinction between the two terms, which was codified in the 2004 PPP Law. Although concession and PPP laws interact in Brazil, only PPP projects receive direct subsidies.

Brazil uses the following terminology:

- Projects that are financial viable are called **common concessions** (or simply *concessions*)
- Projects that are financial UN-viable are called PPPs (to contrast with *concessions*), which include two specific categories of concessions:
 - **Sponsored Concessions** (*Concessão Patrocinada*) are Design-Build-Operate-Transfer/Build-Operate-Transfer (DBOT/BOT) contracts, and operations and management contracts for assets built by the Government that, in order to be financially viable, require subsidies in addition to user charges
 - **Administrative Concessions** (*Concessão Administrativa*) are DBOT/BOT for the provision of services to the government or the public that are remunerated only through subsidy payments

Many state Legislative Assemblies responded to the new legal framework for private participation in infrastructure by passing state-level PPP laws to complement the federal law at the local level. The State of São Paulo reacted quickly and in April 2004 it passed a State PPP Law.⁵ In August, the São Paulo's Governor then issued a decree establishing São Paulo's CGP (*Conselho Gestor das Parcerias Público Privadas* or Management Council for PPP), a council made up of members of the State's cabinet with the mandate to approve PPPs, and the CPP (*Companhia Paulista de Parcerias Público-Privadas* or São Paulo's PPP Company), a state-owned company in charge providing technical and financial support to PPPs. The decree also created and defined the mandate of a PPP Unit within the Secretary of Planning. At the same time São Paulo issued guidelines defining the process for identifying, approving, monitoring, and evaluating projects to ensure the objectives in the State's 2004 PPP Law were achieved.

The new legal framework for PPPs in Brazil—at both the national and state level—sought to overcome three key barriers that were limiting the impact of public resources, and restricting private investment in infrastructure:

- Brazil legal framework had become obsolete. By not allowing for public subsidies to the projects that were not financially viable, all of the low hanging fruit had been picked and projects with positive economic returns were not being developed. Although this may have been a sensible policy during times of widespread fiscal deficits at the federal and state levels, it prevented the government from rendering financially viable much needed infrastructure projects

5. Lei 11688.

- The procurement rules in the Concession Law emphasized technical capabilities to keep service quality high, but neglected costs, leading to projects being implemented that were not least-cost. At the time this seemed sensible, as concessions received no government subsidies. However, with a push to provide fiscal support to PPPs based on project performance, there was a need for new procurement rules that increased competition among bidders and reduced cost
- There was a regulatory vacuum for risk allocation in PPP contracts. The new PPP Law established that risks had to be defined and allocated in contracts and Guarantee Fund was established at the national level. In São Paulo, the State's legislature established CPP to provide guarantees to PPPs.

3.1.2. Objective

The objective of the Federal PPP Law in Brazil is to provide legal and institutional framework for Federal and the State governments to:

- Provide performance-based subsidies to make projects financially viable
- Create a process and authority for approving and monitoring the implementation PPP projects according to policy principles
- Provide guarantees to reduce risk and attract greater private investment.

To that end, the law established two new types of concessions that could receive government funds, allowing the government to leverage private investment in projects that were not financially viable. The law also established a national Guarantee Fund.

In São Paulo, the explicit objective of the state PPP program is to:

*Foster, coordinate, regulate, and control the activities of private sector agents whom, as collaborators, implement public policies aimed at the development of the state and the collective well-being.*⁶

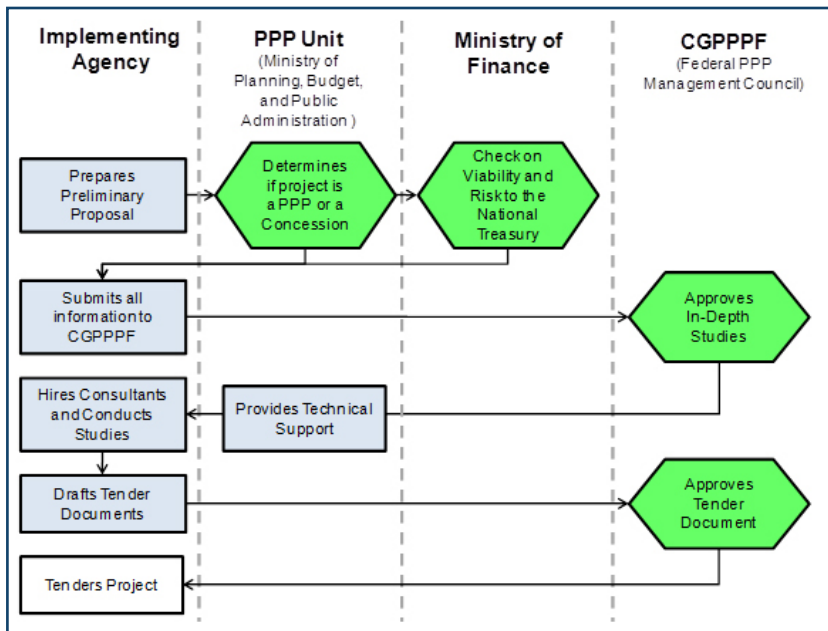
The law also specifies that the objective should be achieved by adhering to broad principles of: efficiency, competition, transparency, universal access, user welfare, and fiscal, social and environmental responsibility.

6. Lei 11688 (2004).

3.1.3. Key features

Brazil's PPP program at the federal level, illustrated in Figure 3.1 below, is administered by the PPP Unit in the Ministry of Planning, Budgeting, and Public Administration. The unit receives projects from implementing agencies, and, in the case of unsolicited bids, from private investors⁷. The PPP Unit conducts preliminary analyses and determines if the project is a PPP (if it is financially unviable) or a common concession (if it is financially viable). If it is a PPP, the federal CGP reviews the project and the request for subsidies, and approves or rejects it.

Figure 3.1: Diagram of Brazil's Federal PPP and Subsidy Process

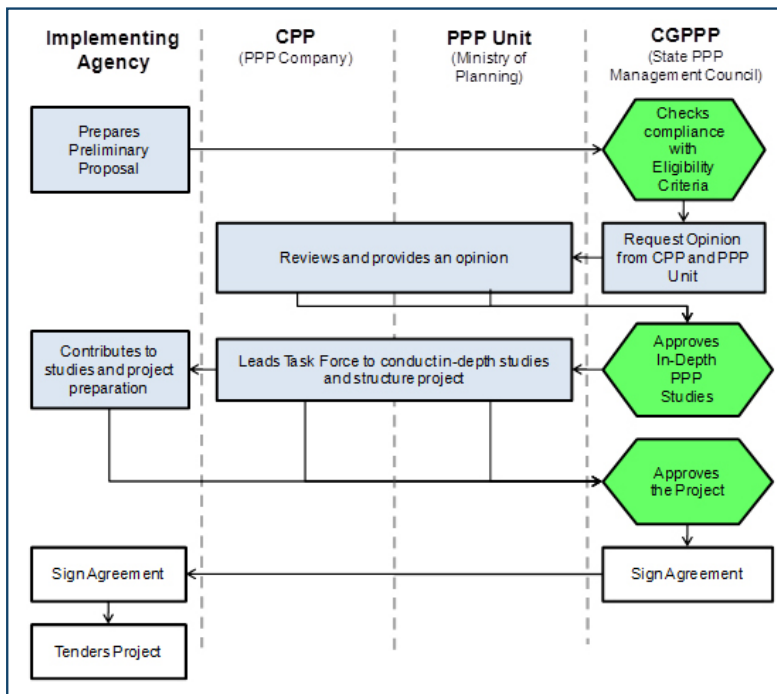


SOURCE: CASTALIA

7. Presidential Decree 5977 of 2006 established the guidelines and norms for unsolicited bids in Brazil. The Decree states the requirements that the unsolicited bidder must fulfill to be eligible to be considered by the CGP (Article 10).

No subsidies have been disbursed at the federal level in Brazil. However, the Federal Government has granted two sponsored concessions: the Datacenter for the Banco de Brasil/Caixa Economica Federal and the Pontal Irrigation Project. In addition, many state governments have established similar policy and institutional arrangements and have begun to disburse subsidies to PPPs from the state budget. The State of São Paulo has developed the largest number of PPPs in the country, mostly in core infrastructure sectors. Figure 3.2 illustrates the corresponding PPP and subsidy approval process in São Paulo.

Figure 3.2: Diagram of São Paulo’s PPP and Subsidy Process



SOURCE: CASTALIA

In the remainder of this section the processes shown above are described in more detail to illustrate the key features of the subsidy program at the federal level in Brazil and at

the state level in São Paulo. Throughout, the focus is on: where funds come from; how responsibilities are allocated; what projects are eligible to receive subsidy and how the amount is determined; and, what incentives are in place to monitor and ensure good outcomes.

How are funds appropriated in the budget?

In Brazil subsidies are appropriated through the annual budgetary process at both the state and federal level.

In São Paulo, the PPP Unit informs the Secretary of Finance every year of which projects are likely to become eligible to receive subsidy funds. The Secretary of Finance then includes the expenditure into the Budget Bill that is submitted yearly to the Legislative Assembly for approval. The Legislative Assembly reviews, and modifies the Budget Bill and passes the year's Budget Law. The Annual Budget Law includes all State expenditures, including subsidy payments to PPPs. The implementing agency sponsoring the PPP receives its annual budget from the Secretary of Finance as stated in the Annual Budget Law.

At the Federal level, subsidy funds are classified as interest payments so that, once they are approved, they are not subject to legislative approval on a yearly basis. Although no federal subsidies have been disbursed yet, this policy should help reduce the likelihood that committed funds are retracted and provides investors with more certainty.

Who identifies, prepares, and procures projects?

Implementing agencies and private investors (in the case of unsolicited bids) identify projects and prepare a preliminary proposal that includes a description and the basic financial modeling of the project. Once a project is approved, the implementing agency is responsible for procuring the PPP contract.

In some cases, implementing agencies at the federal and state levels may receive technical support from the state or federal PPP Unit. Providing technical advice is a key mandate of the Federal PPP Unit at the Ministry of Planning, Budgeting, and Public Administration, and, in the case of São Paulo, in the office of the Secretary of Planning.

Who reviews requests for subsidies?

At the federal level, the project's preliminary proposal is reviewed by the **PPP Unit** in the Ministry of Planning, Budgeting and Public Administration, which creates more thorough financial models to determine whether the project is a PPP or a common concession based on its financial viability. If the project is financially unviable it can be restructure as a common concession or implemented as a PPP. The PPP Unit submits the results of the financial analysis to the Ministry of Finance for approval based on fiscal impact of the project, including the contingent liabilities that the National Treasury would assume.

In São Paulo, the project proposals are submitted to the **Executive Secretary of the State PPP Management Council** (*Conselho Gestor de Parcerias Publico Privadas* or Management Council for PPP)—CGP is described in more detail below. The Executive Secretary conducts an initial analysis of compliance and forwards the proposal to the **CPP** (*Companhia Paulista de Parcerias* or São Paulo's PPP Company) and the **PPP Unit** at the office of the Secretary of Planning. Both agencies then give an initial opinion about the project, which are returned to the full São Paulo CGP council. The council reviews the documentation and authorizes in-depth technical, financial and environmental studies required for final project approval. If the council grants authorization, the PPP Unit and the CPP hire the expert consultants and they establish a project development Task Force.

CPP was established by the São Paulo Legislative Assembly through its PPP Law of 2004. The State transferred resources from the sale of part of its shareholding⁸ in SABESP—São Paulo's water utility—to establish CPP. As time went by, the State and other government agencies sold assets of other state owned companies, and transferred them to CPP. CPP manages these resources as a Fiduciary Fund. CPP supports PPP projects by funding studies, providing guarantees, and debt financing. However, it does not provide direct subsidies, as subsidies are appropriated from the state budget.

Who approves subsidies?

At the federal level, the **Federal CGP** (*Conselho Gestor de Parcerias Publico Privadas* or Federal Management Council for PPP) approves projects requesting subsidies. The Federal

8. SP maintained majority shareholding.

CGP approves the maximum amount the government is willing to pay. The actual amount is determined through the bidding process. Similarly, the São Paulo **CGP** (*Conselho Gestor de Parcerias Público Privadas* or Management Council for PPP) approves the maximum subsidy that a project can receive.

The federal and state Management Councils for PPPs are interdepartmental committees established with the mandate to oversee approve and oversee the development of PPPs. The councils include representatives of both finance and planning ministries. For example, in São Paulo, CGP members include:

- The State Minister of the Civil House⁹ (*Casa Civil*)
- The Secretary of Economy and Planning
- The Secretary of Finance
- The Secretary of Science, Technology, Economic Development, and Tourism
- The Attorney General (*Procurador Geral*) of the State of São Paulo
- Three members chosen by the Governor.

The Federal CGP has a similar membership made up of federal officials.

At the state level, when the project is in operation and performing at the levels established in the contract, the subsidy disbursement is approved by the **State's Legislative Assembly**, when it approves the Budget Law for the year where the subsidy is disbursed.

What projects are eligible for subsidies?

In **BOX 3.2** we clarified the distinction between concessions and PPPs in Brazil. If a concession does not require public subsidies, it is not considered a PPP. To be considered a PPP, the project must be financially unviable and meet the following criteria:

- Be greater than BRL\$20 million (roughly US\$12 million)
- Have a contract length from five to 35 years
- Not have the provision of workforce, equipment, or the implementation of a public works as its sole purpose (in other words, it must be a PPP).

9. This is the State Government's agency in charge of supporting and coordinating the governor's interaction with all other levels of government (Federal, State and Municipal executive, legislative, and judiciary branches).

In addition, an eligible PPP must be implemented according to the following broad criteria:¹⁰

- Promote the efficient provision of public services
- Allocate risks objectively
- Maintain the interest of users
- Ensure that the exclusive roles of the state, such as enforcement and regulation, are maintained
- Be fiscally sound
- Be transparent.

There is no clear basis or guidance for determining what it means for risks to be allocated “objectively” or what is required for a project to be fiscally “sound”.

How is the amount of subsidy determined?

At both the state and federal levels, the amount of subsidy is determined through a competitive bidding process. The procurement rules established in the PPP Law state that the lowest financial proposal—that is, the proposal that requires the smallest subsidy payment—and that complies with the technical requirements must win the tender process. In some cases, the winning bid awarded based on a combination of financial and technical scores. For example, in the Pontal Irrigation Project, the Implementing Agency used a formula whereby the inclusion of small farmers in the project design and implementation scored along with the amount of subsidy required.

In addition, the total amount of subsidies approved for any one year must not exceed three percent of the total state or federal revenues. This ceiling helps to keep the governments obligations below what is considered an acceptable fiscal limit. There are no limits on the amount of subsidy as a percentage of the project costs.

To determine if an individual project requires PPP subsidies that bring the total beyond the three percent limit, staff of the Ministry or Secretary of Finance calculates the present value of future payments for the next five years. Because the amount that will be paid in the future depends on the performance of the project, the calculation uses the present

10. Lei 11079.

value of the maximum possible payments to all the PPPs being implemented. This amount is established in the contractual arrangement between the implementing agency and the private operator. Then, assumptions derived from the *Lei de Diretrizes Orçamentárias* (Budgetary Guidelines Law) are used to estimate the Government's revenues. Finally, the present value of government revenues are compared with the present value of total disbursements to determine if the ceiling has been reached.

When is the subsidy paid?

The PPP Law in Brazil requires that subsidies be paid once the project has reached performance levels defined in the contract.

In order for the payments to be disbursed, a committee led by the implementing agency must inform the PPP Unit (at the Federal or State level) that the project is eligible to begin receiving subsidy funds. An independent verifier or industry body confirms that performance criteria have been met. In São Paulo, the PPP Unit then requests that the funds be included in the Annual Budget Bill that the Secretary of Finance presents to the Legislative Assembly. At the Federal level, the PPP Unit requests the disbursement from the Secretary of Finance. Federal subsidies are classified as interest payments and, therefore, do not need to be approved by the Legislature each year provided the payment has been initially approved and the annual budgetary process is followed.

Once the funds are in the budget of an implementing agency and project is confirmed to comply with the performance standards set in the contract, the funds can be paid directly to the private company or transferred to a Trust Fund that manages the subsidy funds.

What are related policies?

At the national level, the Federal government created a Federal Guarantee Fund to provide sovereign guarantees to the private investors to enhance a project's credit risk. In the case of São Paulo, CPP provides revenue guarantees and guarantees for *force majeure* risk and government default. At the federal level the entire fiscal impact of a project, including guarantees, is considered when evaluating and approving a project, but guarantees and direct subsidies are managed separately. At the state level, the separation is less distinct, with CPP having a greater role when the package of subsidies and other fiscal support is being structured.

A separate study being conducted in parallel to this one explores how countries in Latin America, including Brazil, manage guarantees and the contingent liabilities they create.

How does the government monitor outcomes?

There are two agencies that monitor PPP projects at both the federal and the state levels in Brazil:

- **Committee on Technical Performance of the Project**—this committee is established for each PPP project, led by the implementing agency, and may involve other sectoral experts identified by the agency. The committee monitors the procurement process and progress during construction. During operation, it measures the performance indicators that trigger subsidy payments
- **Federal and State Accounts Tribunal**—the financial, budgetary, and operational auditing division of the federal and state legislatures. The Accounts Tribunal oversees financial commitments from the state and federal budgets. This includes inspecting the tender processes and subsidy disbursements, and tracking the debt ceiling. The Accounts Tribunal acts only after the Technical Committee reports on a project, but retains the authority to freeze any PPP project that it considers to be outside the law or detrimental to the government’s fiscal stability.

In São Paulo, the PPP Unit and CPP have also established the Committee on Fiscal Impact of PPPs that monitors and reports on the total fiscal impact of the PPP program. The committee helps to ensure the three percent limit on payments to PPPs is not breached.

How is information publicly disclosed?

At the federal level, the Federal CGP is required to submit biannual reports on the performance of PPP contract to the Legislature and the Accounts Tribunal. The PPP Unit also regularly posts information on PPP projects online and publishes reports on federal, state, and municipal PPPs.

In São Paulo, the PPP Unit must report to the Legislative Assembly twice a year. Its report includes information on the progress of commissioned PPP projects, funds that have been disbursed, and projects under development. The CPP publishes financial statements in the State’s Official Gazette, along with details on the various projects that it is supporting.

3.1.4. Investment Impact

Since the Federal PPP Law was passed in 2004, State and Federal Agencies in Brazil have signed over 172 PPP contracts, with a total investment of nearly US\$118 billion¹¹. The projects have taken place in seven different sectors: transport, water and sanitation, education, health, prisons, communications, and government services (such as building construction, operation, and maintenance, and data centers). A total of thirty-five PPPs, with a total investment of US\$12.4 billion, have received subsidies. However, all of these projects have been implemented by state and local authorities. No projects to date have received federal subsidies. Table 3.1 presents a summary of these statistics.

Table 3.1: Investment Impact in Brazil (2004 – 2009)

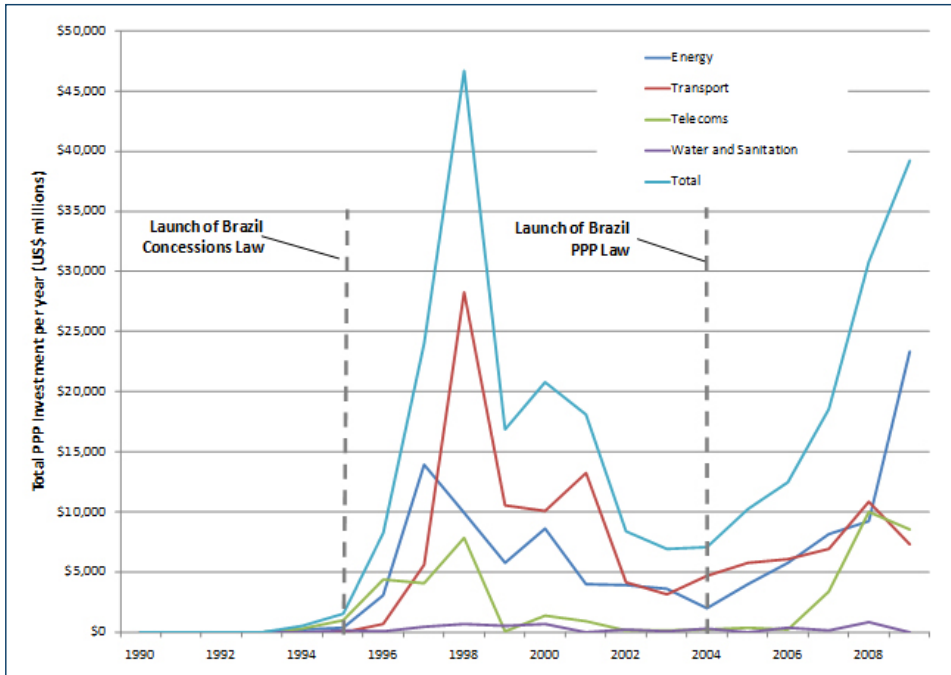
Indicator	Brazil
US\$ investments in PPP projects receiving subsidy	US\$12.4
Average subsidy to project value	N/A
US\$ value of all PPP projects	US\$118.3 (US\$19.7 billion/year)
Average Investment in PPP project/GDP	0.9%
Subsidy/PPI (inverse = mobilization effect)	N/A

SOURCE: FEDERAL PPP UNIT, MINISTRY OF PLANNING. WORLD BANK PPI DATABASE. www.ppi.worldbank.org (*) DATA FOR 2004 TO 2009

Private investment in Brazil's infrastructure and public services sectors has been highly responsive to legal reforms. With the passing of the Concession Law in 1995, total investment in energy, transport, telecoms and water and sanitation went from US\$1.5 billion dollars in 1995 to US\$46.7 billion in 1998. With the passing of the PPP Law in 2004, total investments in these sectors increased from US\$7 billion in 2004 to US\$39 billion in 2009, even after a decline due to the 2008 financial crisis. Figure 3.3 presents a time-series of total PPP investment in Brazil and shows the dramatic spikes following legal reforms. While none of this can be directly attributed to federal subsidies, the federal PPP reforms helped to facilitate better policies and more state-supported PPPs.

11. World Bank PPI Database. www.ppi.worldbank.org

Figure 3.3: Time Series of Total PPP Investments in Brazil

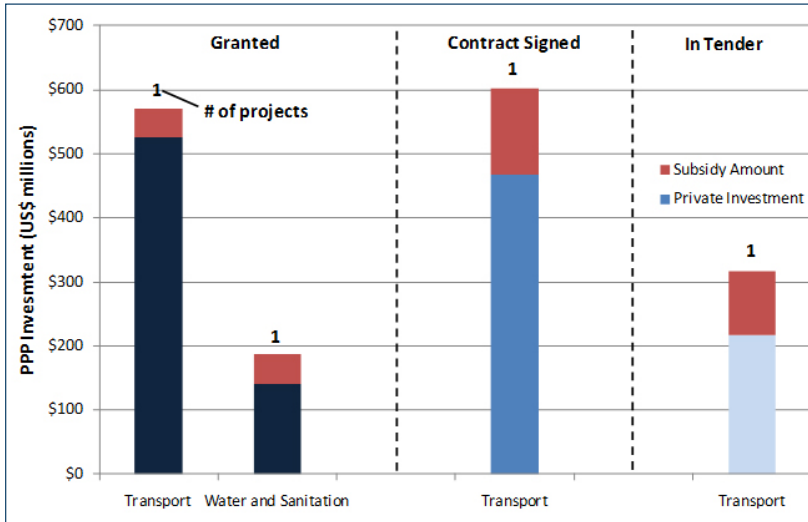


SOURCE: WORLD BANK PPI DATABASE. www.ppi.worldbank.org

The PPP program in São Paulo has initiated 10 PPPs. Information on total investment is available for only four projects. For these four projects, preliminary studies estimated the total investments at US\$1.67 billion—US\$1.48 billion in transport, and US\$186.7 million in water and sanitation. Two of these projects are in operation, one contract has recently been signed, and one is being tendered. Figure 3.4 compares the total investment and amount of subsidies for these four projects. On average, these four PPP projects in São Paulo have received or requested subsidies for 24 percent of the total capital costs.

The two commissioned projects in the state of Sao Paulo are Line 4 (yellow) of the Sao Paulo metro System, and the water treatment plant in the Taiacupeba Reservoir. Line 4 is a sponsored concession, and the water treatment plant is an administrative concession.

Figure 3.4: PPPs Receiving Subsidies in São Paulo



SOURCE: SECRETARY OF PLANNING AND REGIONAL DEVELOPMENT. MINISTRY OF PLANNING, BUDGETING AND PUBLIC MANAGEMENT

3.1.5. Effectiveness

Brazil's PPP program has been effective in mobilizing private investment in many infrastructure and public services sectors, but little of this success can be attributed to federal subsidies. To date, no federal subsidies have been disbursed. Nevertheless, federal reforms and the work of the federal PPP Unit has helped states, including São Paulo, develop over US\$12.4 billion worth of PPPs funded in part with state subsidies. In fact, it is likely the case that some good projects that could be eligible for federal subsidies are instead being implemented with state and municipal fiscal support.

Individuals that are familiar with Brazil's PPP program believe that a lack of coordination among government agencies is preventing projects from reaching financial closure. This challenge is further compounded when implementing agencies are reluctant to develop PPPs that have traditionally been publicly-funded while also relinquishing some control to federal oversight agencies. Streamlining the project preparation process to make it easier

for implementing agencies to prepare projects that are eligible for federal funds may lower this barrier. Providing stronger incentives to develop projects with federal funds, for example by committing a large budget appropriation to establish a fund as Mexico has done, may also help. Alternatively, Brazil may wish to keep state and municipal governments as the driving force behind the PPP program.

Having two different laws to govern financially viable 'common concessions' and financially unviable PPP may also be working against Brazil's efforts to provide federal subsidies. The approval process and procurement rules for PPPs are generally more complex and burdensome. The additional complexity creates a bias toward concessions, and gives implementing agencies an incentive to structure projects so that they are financially viable. This might cause some economically viable but financially unviable projects to be neglected. It may also lead to sub-optimal project design. For example, projects that are not financially viable could be restructured to add unrelated land developments to increase revenues or, to eliminate costly, but economically justified sections of the project. If the rule leads to sub-optimal project designs, then the net economic benefits of some projects may fall. Overall, however, a bias toward concessions may be an advantage if Brazil is able to structure projects and get infrastructure built without federal subsidies.

As a final note, there are some key features of Brazil's PPP and subsidy policies that are worth highlighting. While it is difficult to justify the effectiveness of these features based on projects funded, they provide examples that other countries may be able to learn from:

- Establish or use budgetary rules that eliminate the need for annual approval. Brazil's federal policy of classifying subsidies as interest payments eliminates the need for annual legislative approval. This should simplify the process and increase private investors confidence that payments will not be eliminated from the budget
- Determine the amount of subsidy a project will receive through competition. At both the federal and state level, the actual amount of subsidy is calculated as the variable in scoring financial bids from private investors. This helps to minimize the governments subsidy contribution and is good practice that each of the countries in this study follow
- Establish debt limits on the total amount of subsidies that can be approved for disbursement in any one year. Brazil's limit of three percent of government revenue is especially important since it pays appropriates and pays funds from the annual budget. A limit or debt ceiling on the amount of approved subsidies is unnecessary,

however, in countries like Mexico where an upfront appropriation has been used to establish a subsidy fund. In effect, the one-time budget appropriation caps the total amount of subsidy and makes an additional ceiling redundant

- Consider the fiscal cost of guarantees when approving projects. It is important to evaluate the entire fiscal impact of project, as Brazil does. However, Brazil's policy of independently managing—through the federal Guarantee Fund—helps to eliminate conflicts when deciding on deciding between direct subsidies or more implicit fiscal support when structuring a PPP.

3.1.6. Further information

This case study was developed through research and interviews with Brazil's Ministry of Planning, Budgeting and Public Management; São Paulo's Companhia Paulista de Parcerías (CPP) and PPP Unit at the Secretary of Planning and Regional Development; and private consultants and investors. Further information is available at the following locations:

- For the federal government:
 - Ministerio de Planejamento, Orçamento e Gestão (Ministry of Planning, Budgeting and Public Administration) <http://www.planejamento.gov.br/hotsites/ppp/index.htm>
- São Paulo:
 - Secretaria de Planejamento e Desenvolvimento Regional (Secretary of Planning and Regional Development) <http://www.planejamento.sp.gov.br/modulos/ppp/ppp/apresentacao.aspx>
 - Official Gazette for State Owned Companies (including financial statements for CPP for 2005-2009) <http://empresaspublicas.imprensaoficial.com.br/>

3.2. Colombia's Policy for Future Budget Appropriations

Colombia signed between 1994 and 2010 twenty-four toll road concession contracts (or PPPs) with a total investment of close to US\$17 billion. Nearly half of this investment has been funded with government subsidies. Understanding how decisions on these subsidies are made, how these subsidies are administered, and the effectiveness of the subsidy program can provide lessons that are useful to other countries. This section of the study describes Colombia's subsidy program for toll road concessions and identifies some key lessons.

Box 3.3: Snapshot of Colombia's 'Future Appropriations' Policy for Subsidies

Country: Colombia

Subsidy funding mechanism: Subsidies to toll road concessions (or PPPs) are funded by future appropriations from the National Institute of Concessions' (part of the Ministry of Transport) budget.

Year established: Subsidies to toll roads were introduced in 1995. Policy for future appropriations was first introduced in 1994 and improved in 2003.

Objective: To control budget deficits while making the necessary infrastructure investments.

Projects funded: 24 toll road concessions totaling nearly US\$19 billion.

Subsidies to toll roads in Colombia are granted under the 1993 transport law, and paid from the budget of the National Institute of Concessions (INCO)—part of the Ministry of Transport (MOT). Because these subsidies are paid during the first five to ten years after the concession contract is signed, MOT needs special approval to make budget appropriations that take place beyond the term of the administration signing the concession.

Future appropriations are approved by CONFIS (*Consejo Superior de Política Fiscal* or the National Council on Fiscal Policy), chaired by the Ministry of Finance. If the appropriations are needed beyond the term of the current administration, the road must be declared of "strategic importance" by another council—CONPES (*Consejo Nacional de Política Económica y Social* or Council on Economic and Social Policy), chaired by the President and including all members of cabinet, governor of the Central Bank and others. Most toll road concessions that have received subsidies from MOT have exceeded the term of the administration that was in office at the time the subsidies are committed.

This remainder of this section elaborates on and assesses the policies for providing subsidies to financially unviable toll road concessions in Colombia. This includes the policies set in the Transport Law¹² and the Budget Law¹³—together referred to as Colombia's "subsidy program".

Toll road concessions are the main focus of this section because these have been the largest recipient of subsidies. However, the subsidy program described in this section is not only limited to toll road concessions, but has also been used to financially support projects in other infrastructure sectors, including airports, rail, mass rapid transit, telecoms and others (see box 3.4).

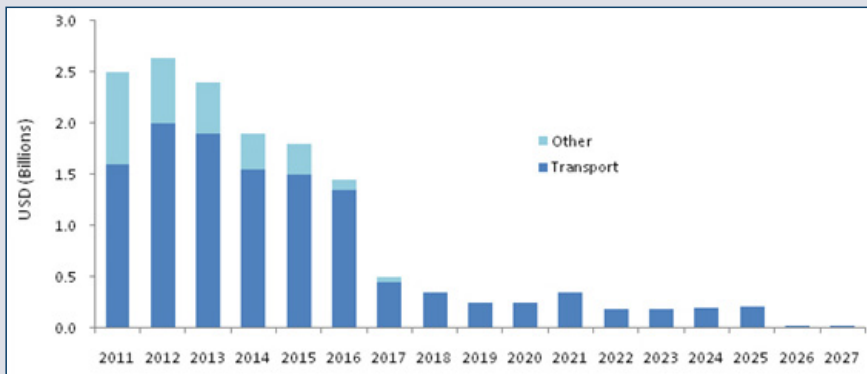
12. Law 105 of 1993.

13. Law 179 of 1994.

Box 3.4: Toll Road Concessions – Largest Recipient of Future Appropriations

The system of future budget appropriations describe in this section is used to financially support PPPs across all infrastructure sectors, as well as to secure the funding needed by multi-year capital investment projects implemented by government agencies. The main objective of the system is to provide budget certainty to multi-year investment projects. In the absence of a system for making future budget appropriations, government agencies were forced to reduce the size and scope of the projects to projects that could be fully funded within one fiscal year. This constrained the ability of the government to develop larger and more strategic projects that would deliver greater economic returns.

As of 2010 the government had approved US\$15 billion in future appropriations that would be disbursed during the period 2011 to 2027. The graph below presents the annual amount of approved future budget appropriations.



Of this amount, 81 percent corresponds to projects in the transport sector. The bulk of these transport projects are roads, including both concessions and publicly developed roads. The table below presents a list of the largest appropriations.

Project	Scope	Type	Future Appropriation (US\$ Billion)	Period
Complimentary Competitiveness Corridors	Building and rehabilitation 1,500km	Public	0.76	2009-2013
La Línea Tunnel	Building 2 tunnels of 8.6 and 8.8km	Public	0.11	2004-2013
Buga - Buenaventura Expansion	Rehabilitation of 48km	Public	0.02	2007-2012
Road Development of the South	Building and rehabilitation 630km	Public	0.33	2010-2016
Ruta del Sol	Building and rehabilitation 1,017km	Concession	3.83	2011-2025
Bogota - Villavicencio Expansion	Building new 45.5km lane	Concession	0.96	2011-2017
			6.01	

Close to 65 percent of the future appropriations for these larger projects have been for toll road concessions. Given the importance of toll roads concessions in the amount of future appropriations system, this section of the report focuses on describing how future appropriations for toll roads are approved and administered.

Given that the policies that define how for future appropriations work in toll roads concessions also apply to all infrastructure sectors and in general to all future appropriations, the section is useful to describe more generally how future appropriations work across all infrastructure sectors.

SOURCE: VIGENCIAS FUTURAS, DIVISIÓN DE INVERSIÓN Y FINANZAS PÚBLICAS, DEPARTAMENTO NACIONAL DE PLANEACIÓN, MAYO 14, 2010

The main lessons that emerge from assessing the subsidy program in Colombia are:

- Project selection and prioritization is essential to ensure that only least-cost project options are granted subsidies, and to prioritize projects that have the highest net economic benefit. If this policy were enforced in Colombia, it is likely that projects with subsidies of 80 to 90 percent of the total project cost would be done last, or not at all
- Combining the subsidy and guarantees offered to a project into a single decision provides a more complete view of the total fiscal impact of a PPP project. Colombia is one of the few countries that considers the fiscal impact of both subsidies and guarantees when making the decision to support a PPP project
- Disbursing subsidies based on outputs ensure that service standards are met. For example, if subsidies in Colombia were disbursed based on the concessionaire completing sections of the road, or meeting certain service standards, rather than on time-based milestones, the economic impact achieved by the program would likely be greater.

The case study for Colombia is presented in six sub-sections:

- Section 3.2.1 presents the background of the subsidy program for toll road concessions in Colombia
- Section 3.2.2 states the objectives that the government is seeking to achieve by providing subsidies to toll road concessions
- Section 3.2.3 presents the key features of the subsidy program
- Section 3.2.4 summarize the impact Colombia's subsidy program has had on private investment in infrastructure
- Section 3.2.5 discusses the effectiveness of the subsidy program
- Section 3.2.6 explains how the case was developed and provides links to further information.

3.2.1. Background

Colombia is one of the four countries in Latin America with the highest levels of private investment in infrastructure.¹⁴ The majority of this investment has been for toll roads. Twenty-four toll road concession contracts have been signed for 6,027 kilometers of roads and a total investment of close to US\$17 billion. Over 50 percent of this investment was funded by government subsidies. Some concessions have received subsidies of up to 98 percent of their capital investment.¹⁵

Most of the institutional reforms that initiated Colombia's toll road concessions program were introduced by the 1991 constitutional reform. The creation of INVIAS and INCO were key parts of these reforms. In 1992 the Ministry of Public Works and Transport and the National Roads Fund were restructured into INVIAS (*Instituto Nacional de Vías* or National Roads Institute). INVIAS was given the mandate to implement road policies and projects. Toll road concessions were managed by INVIAS until 2003 when INCO (*Instituto Nacional de Concesiones* or National Institute of Concession) was created under the MOT. INCO's mandate is to structure, procure and manage concession contracts for transport infrastructure, including roads, ports and railways. INVIAS was assigned responsibility for secondary and tertiary road networks and INCO for primary road networks.

While Colombia doesn't have a PPP or concessions-specific law,¹⁶ procurement of toll road concessions is governed by the Procurement Law.¹⁷ The issuance of a new procurement law was another key part of the reforms introduced by 1991 constitutional reform.

Since 1994, twenty-four toll road concession contracts have been signed. The contracts have evolved over four generations:

14. Colombia's private investment in infrastructure between 1990 and 2009 was US\$26.5 billion. Brazil has the largest private investment with US\$270 billion during the same period. Source: Private Participation in Infrastructure Database – World Bank.

15. Data presented in this study on capital investment, kilometers, and subsidies to toll road concessions in Colombia was provided by INCO, unless otherwise indicated.

16. One of the criticisms to the procurement legal framework is that it allows significant contract variations. Law 1150 allows the implementing agency to increase the duration or value of a concession contract by up to 60 percent, if this increase is for additional works related to the purpose of the contract. There are allegations that implementing agency have used this provision to bypass additional procurement by adding works to existing contracts, and by funding these additional works with government subsidies, rather than private capital. The government is currently working on drafting a law specifically for concessions that aims to resolve these and other issues.

17. Law 80 of 1993, which was amended in 2007 by Law 1150.

- The first generation included 11 contracts¹⁸ for 1,766 kilometers of roads with a total investment of US\$4.6 billion, of which 47 percent were funded by government subsidies.¹⁹ The procurement processes for seven of these ten failed, and the contracts were sole-sourced. Most concession contracts had a term of 17 years, offered minimum revenue guarantees, and a cost overrun sharing arrangement
- The second generation included two contracts, one of which was terminated. The remaining contract was for a 389 kilometer road with a total investment of US\$88 million, of which six percent was funded by government subsidies. This contract had a 20-year term, did not offer a construction risk sharing arrangement, but instead offered fiscal support for debt service, exchange rate risk, and geology risk
- The third generation includes 10 contracts, seven that are not yet operational, for 2,095 kilometers, and a total investment of US\$3.8 billion, of which 53 percent was or will be funded by government subsidies. Most of these contracts were awarded to the bidder that required the least present value of expected toll revenue
- The fourth generation of concession includes the recently awarded Ruta Del Sol and Transversal de las Americas concessions. Ruta del Sol includes three sectors under three separate contracts awarded to three separate companies. The total investment of these roads is US\$7.5 billion, of which US\$4.5 billion is funded by government subsidies. Some of the innovations introduced in this new generation include awarding the contract on the basis of the least present value of total revenue—including revenue expected from tolls and from government subsidies—adjusting the term of the contract to the date in which actual revenue equals expected revenue, and linking subsidy payments to verifiable outputs.

Table 3.2 lists the four generation of toll road concessions in Colombia.

18. Of which one has already terminated – Los Patios- La Calera- Guasca y el Salitre- Sopo- Briceno.

19. The government contribution excludes payments from called revenue guarantees. Actual traffic was reported to be between 74 and 85 percent of that guaranteed.

Table 3.2: List of Toll Road Concessions in Colombia

N°	Name	Year Awarded	Total Investment (USD millions)	Subsidy (USD millions)	Subsidy / Investment (%)	Length (km)
First Generation						
1	Los Patios - La Calera - Guasca y el Salitre - Sopo - Briceño (*)	1994	N/A	N/A	N/A	
2	Malla Vial del Meta	1994	102	19	18%	188
3	Siberia La Punta El Vino	1994	350	81	23%	82
4	Sta Marta Riohacha Paraguachón	1994	639	505	79%	428
5	Bogota Villavicencio	1994	1,596	1,114	70%	131
6	Cartagena Barranquilla	1994	227	223	98%	112
7	Desarrollo Vial del Norte de Bogotá	1994	510	6	1%	51
8	Fontibon Facativá Los Alpes	1995	209	-	0%	38
9	Neiva Espinal Girardot	1995	142	9	6%	168
10	Desarrollo Vial del Oriente de Medellín	1996	322	4	1%	297
11	Armenia Pereira Manizales	1997	460	178	39%	270
	<i>Subtotal</i>		4,557	2,139	47%	1,766
Second Generation						
12	Malla Vial del Valle y Cauca	1996	879	54	6%	389
Third Generation						
13	Zipaquira Palenque	2001	148	96	65%	370
14	Bosa Granada Girardot	2002	631	288	46%	132
15	Pereira La Victoria	2004	351	44	12%	54
16	Briceño - Tunja - Sogamoso	2004	522	315	60%	323
17	Zona Metropolitana de Bucaramanga	2006	149	98	66%	68
18	Rumichaca - Pasto - Chachagüi	2006	231	51	22%	164
19	Córdoba - Sucre	2007	583	569	98%	438
20	Área Metropolitana de Cúcuta	2007	327	90	27%	80
21	Ruta Caribe	2007	555	461	83%	257
22	Girardot - Ibagué - Cajamarca	2007	314	5	2%	207
	<i>Subtotal</i>		3,812	2,016	53%	2,095
Fourth Generation						
23	Transversal de las Americas (sector 1) (**)	2010	625	625	100%	706
24	Ruta del Sol (sectores 1,2 y 3)	2010	6,926	3,881	56%	1,071
	<i>Subtotal</i>		7,551	4,506	60%	1,777
	Total		16,799	8,715	52%	6,027

(*) contract already terminated and road currently operated by government
(**) amount of subsidy was estimated

SOURCE: INCO, EXCEPT FOR DATA FOR RUTA DEL SOL AND TRANSVERSAL DE LAS AMERICAS, WHICH WAS SOURCED FROM ONLINE RESEARCH BY CASTALIA

3.2.2. Objective

The main objective of Colombia's subsidy program for toll road concessions is to attract private investment to toll roads by making privately financed roads financially viable.

The subsidy program has two secondary objectives:

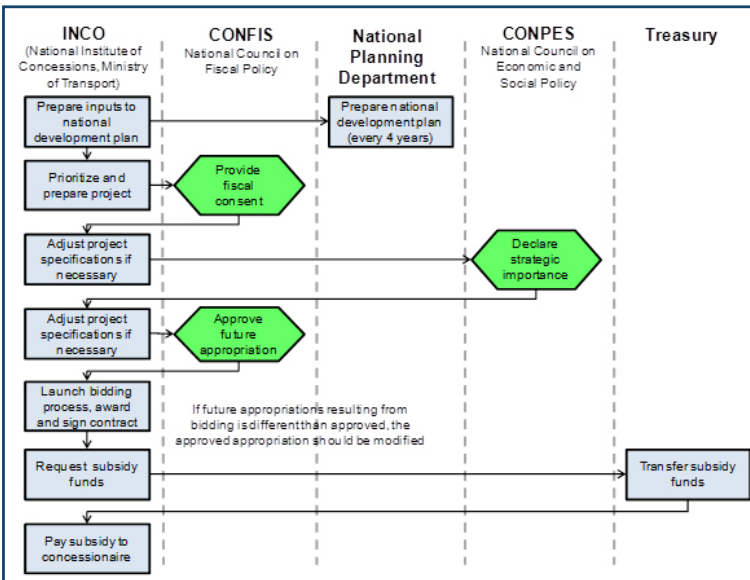
- Control the fiscal impact of subsidies
- Ensure that subsidy commitments are credible.

3.2.3. Key Features

The National Institute for Concessions (INCO) is the agency that initiates requests for subsidies and administers subsidy payments. Other national level agencies and councils are involved in reviewing and approving INCO's request.

The process for requesting and approving subsidies is presented Figure 3.5. Below the figure the process is described in more detail to illustrate the key features of the subsidy program. The focus is on: where funds come from; how responsibilities are allocated; what projects are eligible to receive subsidy and how the amount is determined; and, what incentives are in place to monitor and ensure good outcomes.

Figure 3.5: Approval Process of Future Budget Appropriations in Colombia



SOURCE: CASTALIA

How are funds appropriated in the budget?

The funds to pay for subsidies are set aside as a future appropriation in INCO's budget. Colombia's budget law allows two types of future appropriations:

- **Ordinary**—these are granted for expenditures in the current fiscal year's budget and with a commitment that will expire within the term of the current administration.²⁰ For example, a road that is already under construction and will be completed one year before the end of the term of the current president
- **Exceptional**—these are granted for expenditures that exceed the term of the current administration. For example, a road that will be procured in the current fiscal year will commence construction the following year and will have a 5 year construction period.

Most toll road concessions in Colombia have required exceptional future appropriations. The request and approval process illustrated in Figure 3.5 and discussed in the rest of this section focuses on the process for making exceptional future budget appropriation.

Who identifies, prepares, and procures projects?

INCO is responsible for identifying, preparing and procuring PPP projects.

In Colombia every new elected president sets a four-year National Development Plan that defines the vision for the administration and the specific projects that will be developed to achieve that vision. The National Development Plan is enacted as law and is prepared by DNP (*Departamento Nacional de Planeación* or National Planning Department) with inputs from agencies from each sector. MOT provides the inputs for the transport section of the development plan; and INCO in particular for the toll roads section. INCO prepares and procures projects identified and listed in the National Development Plan during the four-year presidential term.

Who reviews requests for subsidies?

The **Ministry of Finance** and the **National Planning Department** review INCO's request to make a future appropriation in its budget to provide subsidies to a toll road

20. At least 15 percent of the expenditure should be in the current fiscal year.

concession. The Investment Banking Unit and the National Budget Directorate are the two groups within the Ministry of Finance that review the request. In the National Planning Department the Directorate of Infrastructure and Sustainable Energy and the Directorate of Public Investment and Finance review the request.

The Ministry of Finance, specifically the Directorate of Public Debt and Credit, also reviews the fiscal impact of the contingent liabilities arising from the concession contract. Colombia's approach to considering the fiscal impact of PPP is unique in that the decision to support a project considers the fiscal impact of direct subsidies to the project and contingent liabilities (see Box 3.5).

Box 3.5: Fiscal Impact of Contingent Liabilities in Colombia

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 the fiscal impact of guarantees before these are granted, and setting aside funds to cover the expected payments from the guarantees. The key steps in the process for managing and approving guarantees to PPP contracts are described below:

- **Assessment:** prior to tendering a project, and after deciding on the allocation of risks and need for guarantees, the implementation agency will estimate the value of the exposure that the government would have if it provides the guarantees that the implementing agency is requesting. The exposure should be valued following guidelines set by the Ministry of Finance, and presented as the present value of expected payments from the guarantee
- **Approval:** The implementing agency will need to secure approval from the National Planning Department (DNP for its abbreviation in Spanish) and Ministry of Finance (MHCP for its abbreviation in Spanish), before requesting approval from CONFIS. DNP will check that the risk allocation of the project is consistent with the national policy on risk allocation for PPPs. MHCP will check that the valuation was done following its guidelines. Based on the valuation, MHCP and the implementing agency will up a schedule of payments that the implementing agency must transfer to a Contingency Fund (administered by a fiduciary agent) in order to assure the necessary liquidity for possible contingent liability payouts. The implementing agency will then need to obtain approval from CONFIS to make future budget appropriations for the payments to the Contingency Fund. CONFIS' decision is based on considering the fiscal impact of all the financial support that the project is receiving from the government, including both guarantees and subsidies
- **Payment:** After receiving CONFIS' approval, the implementing agency will tender the project. The implementing agency will also be required to transfer to the Contingency Fund the amounts that were approved by CONFIS and that will be used to cover the government's exposure from the guarantees. If and when the guarantee is called, the Contingency Fund will pay the concessionaire the amount owed. If the amount owed is greater than the amount set aside in the Contingency Fund, the implementing agency will need to cover the difference from its own budget.

Who approves subsidies?

Requests for future appropriations must be approved by the **National Council for Fiscal Policy** (CONFIS). CONFIS is a body attached to the Minister of Finance and in charge of setting fiscal policies and coordinating the budget system. The members of CONFIS include:

- Minister of Finance, who chairs the council
- Director of National Planning Department
- President's Economic Advisor
- Vice-Ministers of Finance
- Directors of National Treasury, Public Debt, and Taxes and Customs.

Prior to CONFIS considering a request for an exceptional future appropriation, the project should be declared of 'strategic importance' by the **National Council on Social and Economic Policy** (CONPES). CONPES is the highest planning authority in the country and advises the government on every aspect related to economic and social development. The members of CONPES include:

- The President, who chairs the council
- Ministers of Finance, Foreign Affairs, Agriculture, Development, Employment, Transport, Foreign Trade, Environment and Culture
- Director of the National Planning Department
- Managers of the Central Bank
- National Association of Coffee Growers
- Directors of Afro-Colombian Affairs and of Women Affairs at the Ministry of Interior.

What projects are eligible for subsidies?

All toll road concessions are eligible to receive subsidies.

To receive approval from CONFIS for an exceptional future budget appropriation, a project should meet the following eligibility criteria:

- *The maximum amount, timing and conditions of the future appropriation for the project should be consistent with the multi-year targets set in the Medium Term*

*Fiscal Framework*²¹—the law and corresponding decrees are unclear as to what “consistent” means. The text of recent CONFIS decisions suggests that “consistent” means that there are enough funds in INCO’s forecasted budget to make the subsidy payments

- *The National Planning Department and the Ministry of Transport have endorsed the project*— the criteria for deciding if a project is endorsed or not are not clearly stated in the existing laws and regulations. We assume that DNP’s endorsement is based on verifying that the project is part of the National Development Plan, and that MOT’s endorsement is based on verifying that the project is a priority above other toll road projects in the National Development Plan
- *CONPES has declared the project as being of strategic importance*—There are no clearly defined criteria for how CONPES makes the decision to determine that a project is of strategic importance. CONPES’ decisions are generally based on verifying that the project is included in the National Development Plan or is part of a corridor identify in said Plan. Given that CONPES is chaired by the President and that future appropriations are not approved by Congress, there is a risk that the current government commits a significant proportion of the next government’s budget.

How is the amount of subsidy determined?

The approach for setting the subsidy has evolved throughout the various generations of concession contracts in Colombia. During the current fourth generation, the amount of subsidy is determined through the competitive bidding to select the concessionaire. The bid variable is the net present value of the expected revenue to the concessionaire. Expected revenue includes toll revenues and revenues from subsidy payments.

Bidders are required to disclose in their offer the flows of toll revenue and subsidy payments that are used to determine the expected revenue. The discount rate to calculate the present value is set by Ministry of Finance at a level that reflects their estimate of the weighted average cost of capital of the toll road.

Toll rates are set in advance in the bid documents. The bid documents also set the maximum amounts of subsidy payments that INCO would be prepared to pay to the

21. The Medium Term Fiscal Framework is a 10-year forecast of the national revenues and expenses. The Medium Term Expenditure Plan is a 4-year plan, which is consistent with the Medium Term Expenditure Plan and is updated every year.

concessionaire each year of the concession contract. This maximum amount of subsidy payments includes payments during the construction and operation periods. Bidders can adjust (downwards) the subsidy amount, but this adjustment can only be made for the subsidy that will be paid during the construction period. INCO prefers to keep the subsidy payments during the operation period at a certain level to use these payments as incentives for the concessionaire to maintain the road.

INCO initially calculates the amount that will be needed every year to cover the difference between the forecasted toll revenue and the capital (including debt service) and operating cost of the road. This stream of subsidy payments is what INCO will request from CONFIS as a future appropriation on INCO's budget. As part of the review process that will lead to CONPES and CONFIS approving a project and appropriation, MOF, DNP, and INCO adjust INCO's initial estimates to find a balance between:

- Reducing the cost of capital associated with financing costs that will be recovered from the subsidy payment—that is, the earlier the subsidy is paid, the lower the cost of capital and the lower the subsidy
- Increasing the incentives to achieve outputs—if the subsidy payments are tied to achieving certain maintenance standards and paid over the life of the contract, the concessionaire will have stronger incentives to ensure the road is properly maintained

Limiting the impact of these subsidy payments on INCO's future budget—the decision on when and how much subsidy to pay is also influenced by the space available in INCO's future budget.

Box 3.6 below describes how the amount of subsidy was set in the case of the Ruta del Sol concession.

Box 3.6: Example of Ruta del Sol

The stream of subsidy payments approved by CONFIS for the Ruta del Sol toll road concession scheduled the disbursement of close to 70 percent of the subsidy during the six year construction period. The rest would be disbursed during the first nine years of operation of the road.

All the offers received for Ruta del Sol requested the maximum amount of the subsidy that INCO had offered in the bid documents. This means that the bid variable used—present value of total revenue, including expected toll revenue and subsidy—did not lead to minimizing the amount of subsidy.

This outcome was anticipated by the people that developed the approach of using the present value of expected revenue as bid variable²². They explained that this approach should only be used when the project is financially viable and not when subsidies are required. The combination of subsidy and toll revenue can create the opportunity for gaming and lead to inefficient outcomes.

When is the subsidy paid?

The trigger for paying subsidies in Colombia has evolved. During the first generation of concessions the subsidy was disbursed at dates agreed in the contract. For example, an initial substantial subsidy payment would be made upon signing the contract and other payments at agreed dates during the construction period. Payments were generally not tied to outputs.

Now that Colombia is in the fourth generation of concessions, it has adopted a policy of making payments that are tied to outputs. Subsidies during the construction period are paid when the concessionaire achieves agreed construction milestones. Subsidies during the operation period are paid when the concessionaire meets certain road maintenance standards.

The concession contract also includes the use of fiduciary agents that administer the subsidy payments to the concessionaire. INCO will deposit the subsidy funds in the account controlled by the fiduciary agent, and the agent will disburse the funds when the independent verifier has certified that the outputs or targets were reached. The use of a fiduciary agent also helped INCO to solve the problem of 'losing' funds that had been appropriated in INCO's budget, but could not be disbursed because the concessionaire did not reach the milestone or target during the year for which the appropriation was approved. INCO will transfer to the fiduciary agent the subsidy funds in the year in which appropriation was approved, regardless of the concessionaire's performance, and the fiduciary agent will pay the subsidy to the concessionaire when the agreed milestones or targets are reached.

What are related policies?

Other related concession terms in Colombia have also evolved. Earlier concessions had fixed terms and minimum revenue guarantees. In the latest generation of concessions,

22. Engel, E., Fischer, R., and Galetovic, A. Privatizing roads: An "old" new approach to infrastructure provision. *Cato Journal Regulation*. 18-22, Fall 2002.

contracts were awarded on the basis of least present value of expected toll and subsidy revenues, the term of contract is adjusted to the date in which the actual revenue equals the expected revenue, and no other minimum revenue guarantees were offered.

Throughout the evolution of the concessions program, toll rates have always been set by the Ministry of Transport prior to bidding the concession contracts. Toll rates are set separately for each contract and are periodically adjusted based on a consumer price index. Toll rates for roads under concession contracts are generally higher than toll rates for publicly operated roads. But there is no clear policy on how toll rates are set.

How does the government monitor outcomes?

Above we described how the subsidy for the fourth generation concessions is disbursed based on outputs verified by an agent. The agent will be competitively selected and contracted by INCO, and will be paid by a fiduciary agent that administers funds that the concessionaire and INCO contribute to a joint account. Beyond certifying that the concession met the targets that would trigger subsidy payments, the verifier also monitors the performance of the concessionaire against the operating standards set in the concession. The concessionaire is subject to penalties for not meeting these standards.

INCO, as any other government entity, is monitored by the General Comptroller's Office. This office is an independent body whose mandate is to monitor the fiscal management of agencies that use government funds.

Furthermore, the Ministry of Finance will also carry out a review of the performance of the project, with the view to assess if the risk profile, and related value of contingent liability from the project, has changed.

How is information publicly disclosed?

Colombia has made real efforts to be as open and transparent, and make information readily available to the public. INCO's website (<http://www.inco.gov.co>) posts copies of all the concession contracts and their respective variations. CONFIS decisions on future appropriations and CONPES decisions declaring projects of strategic importance can be found on the website of the Ministry of Finance (<http://www.irc.gov.co/MinHacienda/>

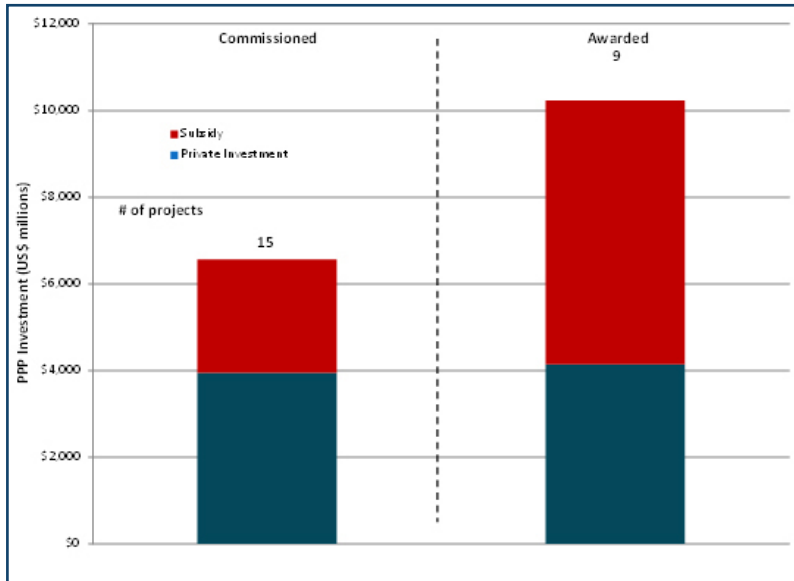
haciendapublica/politicafiscal) and National Planning Department (<http://www.dnp.gov.co/PortalWeb/CONPES/DocumentosConpes.aspx>).

3.2.4. Investment impact

Since Colombia's toll road program was launched in 1994 a total of 24 toll road concessions with a total capital investment cost of US\$17 billion have been awarded. Fifteen of the roads under these concessions have already been commissioned; the others are under construction. All of them have reached financial closure—including those that were awarded in 2010.

Some of the concession contracts have involved building new roads, and others have involved extending, expanding or rehabilitating an existing road. Figure 3.6 shows the number of projects and total size of investment.

Figure 3.6: Toll Road Concessions in Colombia

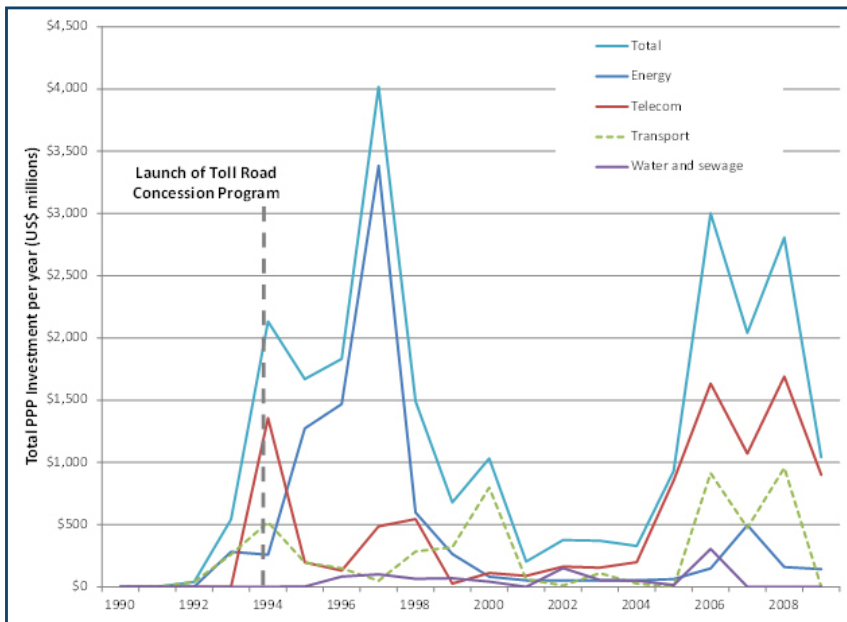


SOURCE: INCO

The average amount of subsidy granted to each project is 52 percent. Those concessions that were awarded but have not yet been commissioned have required significantly more subsidy—60 percent of total investment, or US\$6.1 billion—than those that are already commissioned—39 percent of total investment, or US\$2.6 billion. There is no obvious logical explanation for the large difference in subsidy as percentage of investments.

Private investment in infrastructure in Colombia started in the early 90s, peaked in the mid-1990's, decreased in the last 1990s and has been on the rise since then. Figure 3.7 shows a time series of the total private investment in infrastructure, by sector, from 1990 to 2009. From 1992 to 1998, annual investment increased by more than 10 times. In the transport sector, investment increased significantly in 1994 and then appears to have decreased until the late 1990s.

Figure 3.7: Time Series of Total PPP Investment in Colombia



SOURCE: WORLD BANK PPI DATABASE. www.ppi.worldbank.org

Over the last 15 years, total investment in toll road concessions has been 0.7 percent of Gross Domestic Product (GDP). In Colombia subsidies have not been as effective at mobilizing private investments compared to other countries. One dollar of subsidy for a toll road is associated with 1.8 dollars of investment. Table 3.3 presents a summary of these statistics.

Table 3.3: Toll Road Investment Impact in Colombia (2004 – 2009)

Indicator	Colombia
US\$ investments in PPP projects receiving subsidy	\$19.2 billion
Average subsidy to project value	54%
US\$ value of all PPP projects	\$19.2 billion (\$0.5 billion/year)
Average Investment in PPP project/GDP	0.7%
Subsidy/PPI (inverse = mobilization effect)	54% (1.8 X)

SOURCE: INCO, WORLD BANK PPI DATABASE. www.ppi.worldbank.org, (*) DATA FOR 1994 TO 2009

3.2.5. Effectiveness

Since the inception of the subsidy program for toll road concessions in Colombia, significant investments have been mobilized to build new roads, or rehabilitate or expand existing roads. Total investment in toll roads since the early nineties is close to US\$17 billion. This investment has been used to build new or rehabilitate or expand existing roads with a total length of more than 6,027 kilometers. To make this investment possible under concession contracts, the government had to provide a subsidy of close to US\$8.7 billion, or almost 54 percent of the total investment made.

The development or improvements of these roads has had a positive economic impact. For example, a recent report from the National Planning Department²³ estimated that close to US\$6 billion in subsidies to roads with a total investment of almost close to US\$12 billion generated:

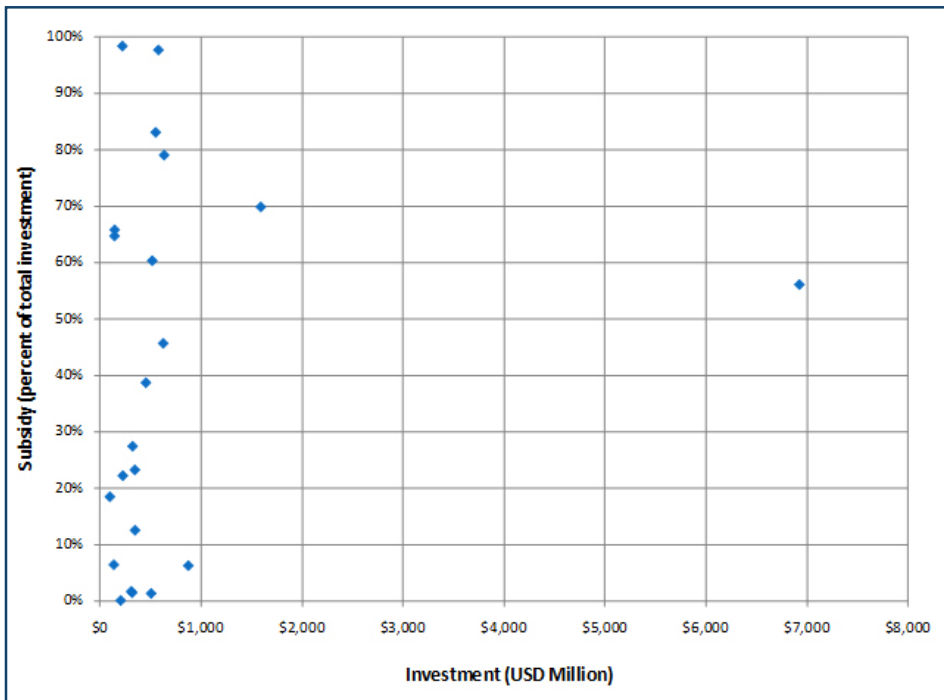
- Economic benefits worth of 1.5 percent of GDP (or approximately US\$5 billion)
- 60,000 new jobs—reducing unemployment rate by 0.33 percent

23. "Vigencias Futuras", Dirección de Inversión y Finanzas Públicas, Departamento Nacional de Planeación, Mayo 2010.

- A positive impact on the competitiveness of the country, which in turn had other positive effects on the economy.

However, there are reasons to think that Colombia could have reaped more benefits from the money spent on the subsidies to toll roads. Figure 3.8 plots the subsidy as a percentage of investment against the investment per toll road.

Figure 3.8: Subsidy as a Percentage of Investment by Project in Colombia



SOURCE: CASTALIA WITH DATA PROVIDED BY INCO

This graph shows the range of subsidies that have been provided to toll roads. There are two roads that received a subsidy of close to 98 percent. Furthermore, eleven of the twenty-four concession contracts received a subsidy of more 40 percent. These eleven

roads had a total investment of US\$12.6 billion and a subsidy of US\$8.1 billion—or an average subsidy of 65 percent.

India and Mexico established a policy that limits subsidies to PPP projects (including toll roads) as a certain percentage of the capital costs of the project. The threshold is set to prioritize projects that are more financially viable and exclude those projects that are not economically viable. By applying this policy they allocate the limited government funds to those projects that require the least subsidy.

The outcomes observed for Colombia can be partly explained by reasons outside the government's control. First, the cost per kilometer of road in Colombia is likely higher than in less mountainous countries. Many of the key corridors in the country have to cross high elevations and rough terrain—this requires building tunnels or other costly facilities. For example, the 131 km road between Bogota and Villavicencio require building tunnels which significantly increased the costs of the road. The total cost of the road was US\$ 1.5 billion of which US\$1.1 were paid as subsidies. The tunnel and the road reduced travel time significantly.

Colombia also does not have clear policies for selecting and prioritizing projects based on their economic returns. The comparison with India is interesting. In India if a project requires a subsidy of more than 20 percent, the project is rejected and has to be restructured to find a better design that would improve the financial viability by reducing costs or increasing traffic. In Colombia if a project requires more than 20 percent subsidy, INCO will simply need to demonstrate that it has the fiscal space to pay for the projects, without seriously considering if the project is least cost or if there other higher priority projects.

Several of the Colombian experts that were interviewed for this study agreed with the notion that Colombia could have done better in terms of prioritizing projects. In particular, individuals commented that of the 25 concession roads—particularly those that are local roads (for example, the roads around Cucuta or Bucaramanga)—some were developed as a result of political motivations. If economic returns were a priority, some of the roads connecting major production, consumption, import or export centers (for example, Ruta del Sol) would have been done before the local roads. This highlights the importance of having clear criteria for prioritizing good projects, and ensuring that these criteria are consistently applied.

With that said, the subsidy program for toll road concessions in Colombia has gone through an evolution that is improving the quality of the transaction and the value for money that these transactions bring. Some of the areas that have evolved for the better and are worth highlighting include:

- Subsidies and guarantees to a project are combined into a single decision. Unlike other countries in this study, Colombia considers the fiscal impact of both subsidies and guarantees when making the decision to support or not a PPP project. This is a practice that other countries should consider following because, in effect, government guarantees are an implicit form subsidy that has a fiscal impact and should also be economically justified
- Subsidies are disbursed based on outputs. While initial concessions were not effective at providing incentives to the concessionaires to achieve outputs, the latest generation of concessions has fixed this by linking the payment of subsidies to independently verified outputs

3.2.6. Further information

This case study was developed through research and interviews with current and former government officials in Colombia's Ministry of Finance, National Planning Department, Ministry of Transport, INCO and Infrastructure Chamber of Commerce. Further information is available at the following locations:

- INCO's website: www.inco.gov.co
- National Planning Department: www.dnp.gov.co
- Ministry of Finance: www.minhacienda.gov.co
- Camara Colombiana de la Infraestructura: www.infraestructura.org.co

3.3. Mexico's National Infrastructure Fund (FONADIN)

After his election in 2006, President Calderón made strong push to increase infrastructure investment by implementing US\$200 billion National Infrastructure Plan. A major part of this effort was the creation of FONADIN (*Fondo Nacional de Infraestructura* or National Infrastructure Fund). FONADIN was established, under the management of Banobras (the national development bank of Mexico), to procure new contracts for highway concessions

purchased by FARAC and mobilize private sector investment in other sectors by providing grants to make PPPs in other sectors financially viable. FONADIN has not yet closed any PPP transactions and disbursed subsidies yet, but Mexico is in the process of adopting legal reforms to make it easier for FONADIN to develop projects. This section of the study describes FONADIN and identifies some key lessons.

Box 3.7: Snapshot of Mexico’s National Infrastructure Fund (FONADIN)

Country: Mexico

Subsidy funding mechanism: FONADIN (*Fondo Nacional de Infraestructura* or National Infrastructure Fund)

Year established: 2008

Objective: To attract more private investments in infrastructure by supporting private sector involvement through investments, guarantees, and subsidies; and participating in the evaluation, structuring and implementation of infrastructure projects

Projects funded: No projects have received subsidies to date.

FONADIN is administered by the Investment Banking Division of Banobras, Mexico’s state-owned development bank. FONADIN’s Technical Committee is composed of representatives from national ministries and has the decision-making authority to approve the amount available for subsidies each year and subsidy requests for individual projects.

In its first two years, FONADIN has approved U\$1.3 billion in subsidies for projects with a total cost of U\$3.4 billion. Most investments have been in urban transport. While FONADIN has seen some early success, there are a number of challenges it still faces. Many implementing agencies and state and local government are still reluctant to do infrastructure projects as PPPs. And FONADIN seems to be struggling with fulfilling its various mandates to prepare good projects and follow a clear and consistent process for providing loans, guarantees, and subsidies to PPPs. Mexico is currently in the process of streamlining its legal framework for PPPs to address existing challenges. Improvements to the PPP law complement FONADIN’s efforts to make projects financially viable and help it close more deals in the future.

The case study for Mexico is presented in six sub-sections:

- Section 3.3.1 presents the background leading to the creation of FONADIN
- Section 3.3.2 states the objectives of FONADIN

- Section 3.3.3 presents the key features of FONADIN, focusing on the allocation of subsidies
- Section 3.3.4 summarize the impact on private investment in infrastructure in Mexico
- Section 3.3.5 discusses the effectiveness of FONADIN and ongoing efforts to improve PPP policies
- Section 3.3.6 explains how the case was developed and provides links to further information.

3.3.1. Background

In 2006 Felipe Calderón was elected President of Mexico in large part on a platform to improve the country's infrastructure. Two of his key campaign promises were for his six-year term to be "the six years of infrastructure" and to bring Mexico into the top quartile in infrastructure quality and competitiveness by 2030.²⁴ To that end, the newly elected government drafted a National Infrastructure Program that estimated Mexico needed 2.5 trillion pesos (US\$200 billion) of infrastructure investment from 2007 to 2012—over US\$30 billion per year. The government was committed to using PPPs to develop the National Infrastructure Plan, but lacked an effective policy and institutional mechanisms for developing financially viable PPPs.

The government adopted two key reforms to address this situation: (i) establish a national infrastructure fund, and (ii) pass a new PPP law that would strengthen policies and lower barriers preventing private sector involvement in infrastructure PPPs.

When the Calderón administration came to power Mexico had two infrastructure funds. FARAC (*Fondo de Apoyo para el Rescate de Autopistas Concesionadas* or Fund for the Support of the Rescue of Highway Concessions) had been created to purchase many of the highways concessions established in the 1990s that were now failing due to poor contract terms that led to poor maintenance and prohibitively high tolls. By the time Calderón came to power, the troubled highway concessions had already been bought back by FARAC.

The second fund, FINFRA (*Fondo de Inversión en Infraestructura* or Infrastructure Investment Fund), was created to provide grants to public agencies for developing

24. 2010-2011 World Economic Forum Report ranks Mexico 75th (out of 135 countries) in infrastructure competitiveness and 79th in infrastructure quality.

infrastructure. When Calderón came to power, FINFRA had not been successful at disbursing the expected amount of funds due to a lack of projects in core infrastructure sectors and resistance from local governments. Highway, electricity, and hydrocarbon projects were managed by separate agencies and not eligible for FINFRA grants. Local governments were reluctant to pursue PPPs in other sectors because, for example, urban transport was not a high priority and there was a risk of losing control and public rents by opening sectors like solid waste to private investment. As a result, FINFRA's ended up funding almost exclusively water projects.

Through a Presidential Decree signed on 7 February 2008, President Calderón transferred the financial resources and assets controlled by FARAC and FINFRA to FONADIN (*Fondo Nacional de Infraestructura* or National Infrastructure Fund). FONADIN was established, under the management of Banobras (the national development bank of Mexico), to procure new contracts for highway concessions purchased by FARAC and mobilize private sector investment in other sectors by providing grants to make PPPs in other sectors financially viable.

FONADIN's initial capitalization was US\$3.3 billion. This is a small fraction of the US\$126 billion contemplated in the National Infrastructure Program for FONADIN's sectors. However, 63 percent of the total planned investments are in two sectors that are not covered by FONADIN's mandate: electricity and hydrocarbons. These sectors are managed by two large national monopolies: PEMEX (*Petróleos Mexicanos* or Mexican Petroleums), and CFE (*Comisión Federal de Electricidad* or Federal Electricity Commission).

FONADIN offers two types of financial services: reimbursable services—that is, financial services that generate returns (such as risk capital, subordinated debt, and guarantees)—and non-reimbursable support (such as subsidies for project studies and subsidies). The returns from the reimbursable part of the portfolio determine the amount that is available for the non-reimbursable part. Therefore, FONADIN does not require yearly disbursements from the Secretary of Finance to fund PPP subsidies.

3.3.2. Objective

The primary objective of FONADIN is to attract more private investments in infrastructure. The Presidential Decree establishing the fund states its specific objectives are to:

- Support private sector investment by providing financing, guarantees, and subsidies to infrastructure
- Participate in the evaluation, structuring and implementation of infrastructure projects
- Collaborate with public, private, and social sectors in the design, construction, financing, operation and transfer of infrastructure, and in granting universal access.²⁵

FONADIN was established to support the goals set forth in the National Infrastructure Program, including reaching a level of investment in infrastructure of five percent of GDP, and having at least 58 percent of total investment come from the private sector.²⁶

FONADIN's mandate focuses on telecommunications, transport, water and sanitation, environment, and tourism. However, the Decree states that FONADIN may support other sectors if approved by the Technical Committee—the decision-making authority at FONADIN.

3.3.3. Key features

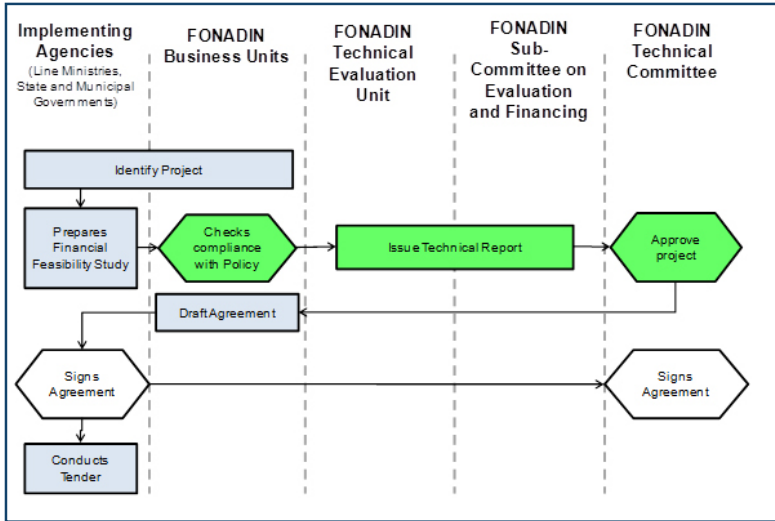
FONADIN is administered by the Investment Banking Division of Banobras, Mexico's state-owned development bank. FONADIN's Technical Committee is composed of representatives from national ministries and has the decision-making authority to approve the amount available for subsidies each year and subsidy requests for individual projects. Figure 3.9 shows the role of the various units within FONADIN, its relationship with other public agencies, and the general process for reviewing and approving subsidies to PPP projects.

Below Figure 3.9 we describe the process in more detail to illustrate the key features of the program. The focus is on describing: where funds come from; how responsibilities are allocated; what projects are eligible to receive subsidies and how the amount is determined; and, what incentives are in place to monitor and ensure good outcomes.

25. Presidential Decree establishing FONADIN, February 2008, article 3.

26. FONADIN Presentation received from Ricardo de Vecchi, slide 2.

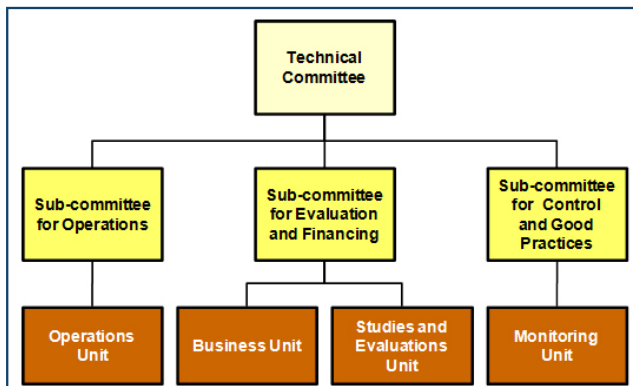
Figure 3.9: Diagram of FONADIN Subsidy Process in Mexico



SOURCE: CASTALIA

To further clarify the roles and relationships within FONADIN, the funds internal organizational structure is presented in Figure 3.10.

Figure 3.10: Organizational Structure of FONADIN



Source: Castalia

How are funds appropriated in the budget?

Subsidies disbursed through FONADIN are off-budget. They are not appropriated in the National Budget. Instead, they were originally appropriated through an initial capitalization of US\$3.3 billion from the dissolution and transfer of assets from FINFRA and FARAC. FONADIN does not receive annual funding from the National Treasury.

The primary way that FONADIN subsidizes projects is by providing grants to make proposed PPP projects financially viable. However, FONADIN provides financial support to projects through a number of other mechanisms, including risk capital, subordinated debt, guarantees, and funds for infrastructure studies. The total amount that is available for direct subsidies to PPPs in a given year is set in FONADIN's annual financial plan and approved by FONADIN's Technical Committee.

Who identifies, prepares, and procures projects?

Identifying, preparing, and procuring projects is the responsibility of **implementing agencies** with the support of **FONADIN Business Units**. The process is divided into four phases laid out in FONADIN's Rules of Operation.

The first phase is 'project promotion' and involves all activities related to identifying projects and conducting the studies required for evaluation and approval by the Technical Committee. The FONADIN Business Units, in collaboration with the implementing agency, conduct the first phase. FONADIN's Rules of Operation state that the Business Units must proactively search for projects. However, due to high demand, in practice, the Business Units receive proposals from implementing agencies. The Business Unit evaluates the project's compliance with the eligibility criteria, and requests a feasibility study from the implementing agency. Based on the feasibility study, the Business Unit prepares a financing proposal that includes the amount of subsidy required, and submits it to the Studies and Technical Evaluations Unit.

Who reviews requests for subsidies?

The **Studies and Technical Evaluations Unit** reviews the financing proposals prepared by Business Units, requests changes, makes adjustments, and issues a technical report

that it submits to FONADIN's **Sub-Committee for Evaluation and Financing**. Based on an assessment of the the feasibility study, technical evaluation report, and financing proposal, the Sub-Committee for Evaluation and Financing forwards the project to the Technical Committee or returns it to the Implementing Agency for changes.

The Sub-Committee for Evaluation and Financing of FONADIN is an inter-departmental committee chaired by the Ministry of Finance and composed of the following members of government:

- Director of the Public Credit Unit in the Ministry of Finance
- One representative of the Investments Unit at the Ministry of Finance
- Three representatives of the private sector that specialize in infrastructure (two must come from academic institutions, and one from a civil society organization)
- One representative of Banobras
- One representative of the Ministry of Public Administration with no voting rights
- One representative of the division of Banobras that manages the FONADIN trust fund.

Who approves subsidies?

The **Technical Committee** reviews the technical and financial aspects of the project, considers the observations and recommendations by the Sub-Committee for Evaluation and Financing and approves or rejects the project. In many cases, the Technical Committee will approve a project only after certain changes are made to restructure the project.

Any changes or adjustments to subsidy amounts and disbursement mechanisms during project implementation must be reviewed by the Monitoring Unit and the Sub-Committee on Evaluation and Financing before reaching the Technical Committee for a final decision.

- The Technical Committee of FONADIN is an inter-departmental committee chaired by the Ministry of Finance and composed of the following members of government:
- Three representatives of the Ministry of Finance (one of which presides over the Technical Committee)
- Two representatives of the Ministry of Transport and Communications
- One representative of the Ministry of the Environment and Natural Resources
- One representative of the Ministry of Tourism

- Three rotating members of the Executive Branch of three State governments selected by for one-year terms
- One representative of the Ministry of Public Administration with no voting rights.

What projects are eligible for subsidies?

To be eligible to receive subsidies from FONADIN, a project must meet the following technical, procedural, and sector eligibility criteria:²⁷

- **Technical criteria:**
 - Generate revenues through user fees
 - Involve private sector participation—that is, it must be a genuine PPP involving a private investor and operator. Types of eligible contracts are not specified
 - Submit a feasibility study showing its technical, social and financial viability, once the subsidy is included
 - Require a subsidy that does not exceed 50 percent of the total investment—except for cases when the Technical Committee grants an exception
 - Ensure that the private investor’s equity contribution is at least 20 percent of the total investment.
- **Procedural criteria:**
 - Be approved by the Investments Unit at the Ministry of Finance (*Secretaría de Hacienda y Crédito Público*), which is represented in the Sub-Committee for Evaluation and Financing, and registered in the portfolio of government-sponsored projects in the country by the time the tender begins
 - Be approved by FONADIN’s Evaluation and Financing Sub-Committee
- **Sector criteria:**
 - Be in the following sectors: telecommunications, transport, water and sanitation, environment, and tourism
 - Receive an exception from the Technical Committee.

27. FONADIN Rules of Operation, Rule 8, p. 13.

How is the amount of subsidy determined?

The maximum amount of subsidy is determined through financial studies conducted by the Business Units and the Sub-Committee on Financing and Evaluation, and approved by the Technical Committee. This amount is stated in documents made available to potential bidders. The actual amount of subsidy a project receives is determined through the competitive bidding process, with the subsidy amount as one of the financial bid variables.

Any changes or adjustments to the subsidy amount, the disbursement mechanisms, or any other term in the agreement between FONADIN and the implementing agency must be reviewed by the Monitoring Unit and the Sub-Committee on Evaluation and Financing before reaching the Technical Committee for approval.

When is the subsidy paid?

The subsidy is paid according to the payment schedule in the contract signed between the implementing agency and the private investor. That is, subsidy payments are primarily time-based. FONADIN's Monitoring Unit requests the subsidy disbursement and checks that the project is in compliance with the contract.

What are related policies?

FONADIN support PPP projects with a number of financial mechanisms besides direct subsidies. FONADIN's mandate includes reimbursable (or partially-reimbursable) support, such as risk capital, subordinated debt, and guarantees. The complete package of fiscal support is evaluated in the financial proposal prepared by FONADIN's Business Unit.

It is generally good practice to consider the total fiscal impact of a proposed PPP project. For example, Colombia's has adopted the practice of evaluating subsidies and the contingent liabilities associated with guarantees. However, requiring that a single agency fulfill multiple mandates may distract from its efforts to make sure subsidies are transparent and well spent. It may bias the agency toward creatively structuring projects with more implicit subsidies, such as concessional loans and guarantees, to expand its portfolio. This could be part of the reason why few projects have reached financial closure

in Mexico. FONADIN's multiple mandates may be spreading its efforts thin and preventing it from pursuing a clear, consistent approach to managing subsidies.

How does the government monitor outcomes?

The government monitors outcomes in two ways. First, the implementing agency oversees the implementation of the project and the compliance with the performance criteria set in the contract. Secondly, FONADIN's Monitoring Unit actively manages the subsidy funds and has the authority to request reports and external audits on the performance of the project.

To monitor the project and the disbursement of subsidies, the Monitoring Unit can request reports from the private company implementing the project regarding its progress and the use of the subsidy funds. The Monitoring Unit can also conduct external audits and other studies to evaluate projects, and actively consults with the fiduciary agent that manages the subsidy at the project level. The Monitoring Unit also ensures that any unused funds are returned to FONADIN.

How is information publicly disclosed?

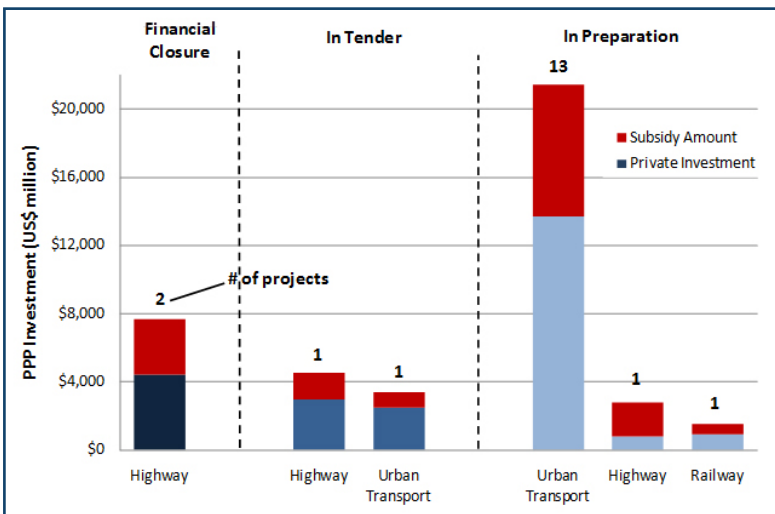
FONADIN follows both internal and external transparency rules to ensure information is available to the general public, government oversight agencies, and Banobras' internal oversight department. The four main sets of transparency and anti-corruption rules that FONADIN must follow are:

- Like all public agencies in Mexico, FONADIN must respond to any information request from the public coming through the Federal Institute for Information Access (*Instituto Federal de Acceso a la Información*). FONADIN receives about 50 inquiries per month, which must be responded to within 45 days
- FONADIN is subject to oversight from the Ministry of Public Administration (*Secretaría de la Función Pública*), and the Federal Fiscal Audit Administration (*Administración General de la Auditoría Fiscal Federal*). This involves submitting information, and making their staff available to respond to any requests
- FONADIN is monitored by an oversight department within Banobras
- FONADIN publishes all projects in the pipeline, and all current legislation and policy guidelines on its website. The website is updated on a monthly basis.

3.3.4. Investment impact

In its first two years, FONADIN has approved U\$1.3 billion in subsidies for projects with a total cost of U\$3.4 billion. Figure 3.11 presents the sectors, amount of total investment, and stage in the PPP development process for projects that have received direct subsidies. The complete portfolio of projects receiving fiscal support from FONADIN (including loans and guarantees) is U\$13.9 billion²⁸.

Figure 3.11: Projects Receiving or Requesting Subsidies from FONADIN



SOURCE: FONADIN

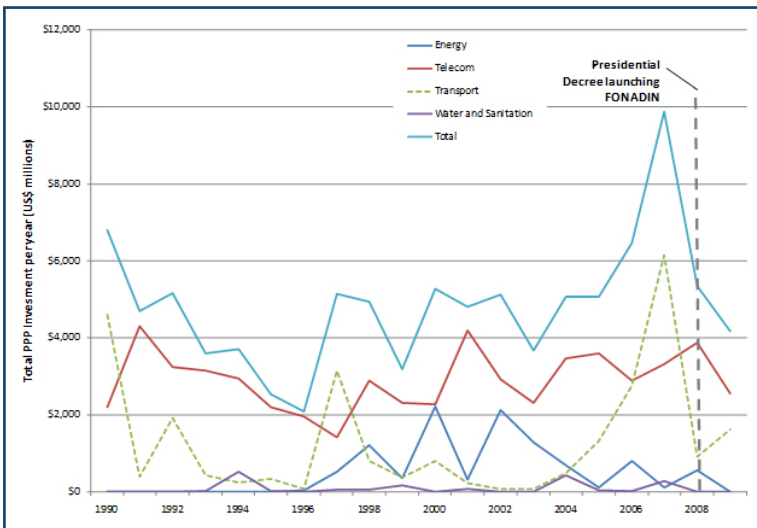
All of the projects that have been approved for direct subsidies by FONADIN are in the transport sector. Of the 19 total projects approved for direct subsidies, the majority is in urban transport—bus rapid transit and light rail. Interestingly, urban transport is not covered by the Presidential Decree establishing FONADIN and was subsequently added by the Technical Committee. Of the 13 urban transport projects in preparation, ten are bus rapid transit projects, and three are rail projects (one tramway, one light rail, and one suburban train). Total investment is US\$1.8 billion, and total subsidies are US\$ 643 million.

28. FONADIN 2010 Presentation.

Of the projects that have received direct subsidies, roughly 60 percent of the total capital costs have come from private sector investment—exceeding the 58 percent target set in the National Infrastructure Program.²⁹

The creation of FONADIN coincided with the 2008 financial crisis. GDP shrank by 6.5 percent in 2009 and private investments in infrastructure decreased by 22 percent. This slowdown is likely to have had a direct impact on FONADIN’s capacity to mobilize private investment. The only sector that saw an increase in investment over this period is transport. Since the projects that have received subsidies are in the transport sector, it is likely that FONADIN fiscal support contribute to the increased investment.

Figure 3.12: Time Series of Total PPP Investment in Mexico



SOURCE: WORLD BANK PPI DATABASE. www.ppi.worldbank.org

From 2008 onward, total investment in projects receiving direct subsidies has been about US\$3.4 billion. This is just over one-third of total investment in PPP projects in all sectors

29. National Infrastructure Program 2007-2012, p. 166.

(US\$9.5 billion). The mobilization effect of subsidies has been about seven in the past two years—meaning every dollar of subsidies is associated with 7 dollars of private finance.

Table 3.4 presents a summary of these statistics.

Table 3.4: FONADIN Investment Impact in Mexico (2008 – 2009)

Indicator	Mexico
US\$ value of PPP projects receiving subsidy	\$3.4 billion
Average subsidy to project value	39%
US\$ value of all PPP projects	\$9.5 billion (\$4.8)
Total annual investment in PPP project/GDP	0.4%
Subsidy/PPI (inverse = mobilization effect)	14% (7.0)

SOURCE: FONADIN. WORLD BANK PPI DATABASE. www.ppi.worldbank.org

3.3.5. Effectiveness

While FONADIN has seen some success in its initial two years, there are a number of challenges it still faces. Two broad challenges have emerged at the political and financial level. These challenges relate to Mexico’s PPP policy in general, but have direct implication for disbursing and managing subsidies.

At a political level, there has been resistance from local government officials to developing infrastructure as PPPs with financial support from FONADIN. Local politicians and government officials prefer to maintain control over publicly-funded solid waste management and water project, despite the improvement in services that could result from PPPs.

The PPP projects that do come to FONADIN for financial support often have strong political pressure to get approved fast. Despite the process for identifying, evaluating, and approving projects, many have been poorly prepared. As a result, feasibility studies and tenders have been poorly designed and conducted, which can lead to failed projects, burdensome renegotiation, and legal disputes. This has generated some uncertainty among the private sector and weakened the reputation of FONADIN and implementing agencies.

At a financial level, because of the diverse tools available to FONADIN to support projects, private investors and commercial lenders put pressure on FONADIN to assume more risk through subordinated debt and guarantees. The greater use of subordinated debt and guarantees was a direct response to the 2008-2009 financial crisis. The Technical Committee revised its Rules of Operation in 2009 to expand the financial products it offers and make projects more attractive to the private sector. When FONADIN is working with implementing agencies to structure the financing proposal for a project, it approaches private banks to test whether the project design they are considering would be acceptable at commercial rates. In many cases, banks have determined that projects have unusually high credit risk and require that FONADIN assume greater risk or provide additional subsidies. In other cases, lenders have rejected projects at the tender stage despite the initial market testing done by FONADIN. This has led to failed tenders and difficulty bringing projects to financial close.

In addition to these broad political and financial challenges, FONADIN staff reported struggling with the existing PPP legal framework in three significant ways:

- There are too many laws applicable to PPPs. This adds complexity to the process, deterring implementing agencies from initiating PPPs and deterring the private sector from pursuing projects
- Project preparation is too burdensome and there is a shortage of technical capacity. The required studies, environmental impact assessments³⁰, and tender process are costly, lengthy, and require considerable experience and technical understanding, which can also deter implementing agencies from sponsoring projects. However, in some sectors FONADIN has programs that provide funding for project studies and preparation.³¹
- The private sector is wary of high pre-construction risks, such as obtaining right-of-way and challenges from competing bidders.

Proposed PPP Bill

Mexico is currently in the process of streamlining its legal framework for PPPs to address some of the challenges mentioned above. The Mexican Federal House of Representatives

30. The Ministry of the Environmental and Natural Resources (SEMARNAT) sets the environmental standards for each infrastructure sector.

31. These programs are: PRORESOL (solid waste), PROMAGUA (water sector), and PROTRAN (urban transport).

is reviewing a proposed PPP Bill that has already been passed by the Senate. In its current draft, the law seeks to increase the number of infrastructure PPP in Mexico by clarifying policy, standardizing the PPP process, and encouraging more unsolicited bids.

The proposed PPP Bill consists of seven key reforms:

1. Provides funding for project preparation studies of up to 4 percent of the total value of a project. This aims to reduce the burden of the project evaluation and approval process
2. Encourages unsolicited bids. During the competitive evaluation of bids, the new law gives a 10 percent advantage to the firm that initially proposes a project
3. Authorizes the Federal Public Administration to provide a 50 percent advance of the total cost of the property for land acquisition and right-of-way, and increases the number of agencies and organizations that can conduct the valuation of the property
4. Standardizes the length of the contracts and possible extensions. For most projects, the initial length of the project is 40 years, with a possible extension of 20 years. For airports and railways projects, the length of the project is 50 years and the extensions are also 50 years
5. Allows for changes to contracts during implementation only if the changes will improve the characteristics of the infrastructure, increase the quality of the service or performance, address to environmental matters, or improve the economic balance of the project
6. Requires a party challenging a tender decision to pay 10 and 30 percent of the total financial proposal to be authorized to challenge. If the challenge is unsuccessful, the money will not be returned. The challenge can also not delay the beginning of the project
7. Establishes mechanisms for settling disputes among bidders. If a dispute is technical or financial, an expert committee will analyze the matter and make a ruling. If the controversy regards the fulfillment of contractual obligations, the case will be resolved through arbitration.

3.3.6. Further information

This case study was developed through research and interviews with staff and consultants of FONADIN. Further information is available at the following locations:

- FONADIN's website: www.fonadin.gob.mx
- Banobras's website: www.banobras.gob.mx
- Mexico's website for the National Infrastructure Program www.infraestructura.gob.mx

3.4. India's Viability Gap Fund

In July 2005, India's Cabinet Committee on Economic Affairs established the country's Viability Gap Fund (VGF) program through its approval of the *Scheme for Financial Support to Public Private Partnerships in Infrastructure*. India's VGF program became operational in 2006 and made its first disbursement in 2008. Since 2006, India's VGF program has proven very successful. Twenty-three PPP projects with a total investment of US\$3.5 billion have received subsidies or 'viability gap funds'. An additional 43 projects are under review or have received in principle approval. The majority of projects have been in the transport sectors, primarily highway concessions. Much of India's general VGF program follows policies first used to implement India's National Highway Development Program (NHDP), which allocated VGF to national highway projects funded the Central Road Fund. While the source of funds for the general VGF program and NHDP are separate, the policies are largely the same. This section of the study describes India's VGF program and identifies some key lessons.

Box 3.8: Snapshot of India's Viability Gap Fund

Country: India

Subsidy funding mechanism: Viability Gap Fund (VGF) for providing subsidies to national, state, and local level PPPs—*Scheme for Financial Support to Public Private Partnerships in Infrastructure*

Year established: The current PPP program and policy framework for providing subsidies to PPPs was passed in 2005.

Objective: To attract more private investment in infrastructure by making PPP projects financially viable.

Projects funded: 23 PPPs, primarily in the transport sector, with a total capital investment cost of US\$3.5 billion have received subsidies.

The funds are administered by the PPP Cell in the Ministry of Finance, Department of Economic Affairs. The underlying objectives of the program are to: (i) attract more private investment to mobilize additional finance and more rapidly meet India's infrastructure

needs, (ii) prioritize PPP projects to improve efficiencies, control timing and cost, and attract private sector expertise, and (iii) develop projects through an 'inclusive' approach that does not neglect geographically or economically disadvantaged regions.

To achieve these objectives, the national PPP Cell has developed several unique policies that have helped attract interest from private investors and ensure India maximizes the value it gets for each dollar of public subsidies. Other countries may wish to learn and attempt to replicate some of India's successes. The key features of India's VGF program that emerge as lessons include:

- The revolving fund and the limits on the Government's annual commitments have provided security to investors by effectively demonstrating available funding for disbursements. As 2010, the US\$44 million revolving fund is enough to cover all disbursements approved under the program. The limit on annual approvals ensures that the Government's commitments do not exceed the expected budgetary allocation, making it more likely for the government to honor the obligations of the program.
- The decision rule used to determine how to structure and tender PPP projects has reduced the bias for doing publicly-funded projects, prioritized the use of PPPs, and helped to maximize the benefits from doing well-structured PPPs
- Competitive pressures and the use of VGF as the primary bid variable has kept VGF low, with the Government earning a premium on PPP contracts in many cases
- It was initially difficult to market the PPP program to state governments, as there was a general opposition to PPPs. A couple early PPP successes at the state level and the use of federally-funded VGF as an incentive mechanism help to reduce the resistance at the state level. Additionally, standardization (drafting, publishing, and using standardized policies, guidelines, and documents—such as Model Contract Agreements) has helped to build capacity and 'mainstream' the PPP program at the state level.

The case study for India is presented in six sub-sections:

- Section 3.4.1 presents the background of the India's VGF program
- Section 3.4.2 states the objectives that the government is seeking to achieve by providing VGF funds to PPP projects
- Section 3.4.3 presents the key features of the program
- Section 3.4.4 summarize the impact India's VGF program has had on private investment in infrastructure

- Section 3.4.5 discusses the effectiveness of the VGF program
- Section 3.4.6 explains how the case was developed and provides links to further information.

3.4.1. Background

In July 2005, the Cabinet Committee on Economic Affairs established India's Viability Gap Fund program through its approval of the *Scheme for Financial Support to Public Private Partnerships in Infrastructure*. The VGF program was established to:

*Provide financial support in the form of grants, one time or deferred, to infrastructure projects undertaken through public private partnerships to make them commercially viable.*³²

Two key factors motivated India to establish its PPP policy in general, and the VGF program specifically. The first factor was India's infrastructure deficiency and the need to expand access to finance. The Planning Commission estimated the total infrastructure investment needed to meet economic growth targets at over US\$100 billion per year through 2012. The availability of more finance by mobilizing the private sector investment would allow India to implement the country's investment plan more quickly and, therefore, build the quality infrastructure needed to grow the overall economy.

The second motivating factor was a shift in India's public investment policy to strongly favor PPPs as the preferred mode for financing, developing, and operating infrastructure. The preference for PPPs was driven by a recognition that PPPs can offer advantages over conventional public procurement by transferring risk, bringing in private sector expertise, and improving the whole-of-life efficiency of construction, operations, and maintenance.

The policy reforms motivated by these factors were specifically aimed at:

- Improving the PPP enabling policy and regulatory framework
- Facilitating long-term equity and debt financing
- Building capacity in public institutions and officials

32. No. 1/4/2005-PPP.

- Bringing credible, bankable infrastructure projects to private investors
- Attracting and building capacity in the private sector, and
- Enhancing public perceptions of PPPs.

A PPP Cell was established in the Ministry of Finance, Department of Economic Affairs to lead India's PPP program, and the *Scheme for Financial Support to Public Private Partnerships in Infrastructure* was set up to address the financing constraints and provide viability gap funding to PPP projects.

While India's PPP reform efforts targeted all major infrastructure sectors—including, road, rail, air and water transport, electricity, telecommunications, water supply, sanitation, and irrigation—the interstate highway network quickly emerged as the 'ripest' sector for developing PPPs and allocating VGF. Just prior to the establishment of the VGF program in 2005, the Committee on Infrastructure had approved the National Highway Development Program (NHDP). At the time, the NHDP included over 45,000 kilometers of planned highway investment by 2012 for an estimated cost of US\$50 billion. While NHDP is managed by the National Highways Authority of India (NHAI) and VGF is funded separately from the Central Road Fund, the broader VGF policies were largely introduced in India through the national highway sector. There are several reasons why the transport sector is particularly well-suited to receive VGF support and introduce the VGF policies in India.

The NHDP was established under three principles that were considered critical to successfully implementing the ambitious interstate highway network in India:

- To help recover some of the total investment cost of NHDP, some segments would need to be tolled
- Toll rates should be set according to an "inclusive approach" that maintained socially acceptable prices even if this meant toll revenues would not cover all costs for some projects
- PPPs should be the preferred mode for developing the network.

Combined, these principles meant that a significant portion of the NHDP would be implemented as PPPs, but that many segments would not be financially viable. Therefore, allocating VGF subsidies to projects would allow the interstate highway network to be developed on a geographically or demographically neutral (or 'inclusive') basis. This would allow economically disadvantaged, remote regions that were otherwise plagued

with poor infrastructure, a lower ability to pay cost recovery tolls, and higher construction costs, to access subsidies to make local road investment financially viable.

In other words, national highways have been the chief recipient of subsidies to date and were effectively the trial case for India's general VGF program. In the past five years the VGF program has funded other sectors, including state roads and highways, water, electricity, ports, and urban infrastructure.

The VGF program has also encouraged state and municipal governments to do more PPPs. India's PPP program has standardized contracts to make the process easier for state and local authorities and used VGF as a 'carrot' to pursue more infrastructure investment, mobilize private finance at the state and local level, and implement projects as well-structured PPPs.

The remainder of this case study focuses on the national VGF policies set out in the *Scheme for Financial Support to Public Private Partnerships in Infrastructure* and the VGF projects managed by the Ministry of Finance, Department of Economic Affairs. While the policies are applicable across sectors, it is important to note that NHDP is distinct from India's general Viability Gap Funding program and the source of funds is separate.

3.4.2. Objective

The primary objective of India's VGF program is to attract more private investment in infrastructure by making PPP projects financially viable. Dissecting this primary objective reveals three underlying objectives:

- Attracting more private investment to mobilize additional finance and more rapidly meet India's infrastructure needs
- Prioritizing PPP projects to improve efficiencies, control timing and cost, and attract private sector expertise
- Developing projects through an 'inclusive' approach that does not neglect geographically or economically disadvantaged regions.

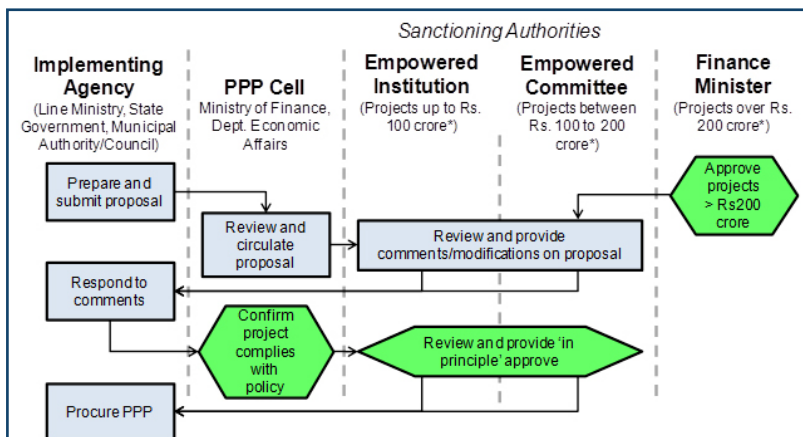
3.4.3. Key features

India's VGF program is administered by the PPP Cell in the Ministry of Finance, Department of Economic Affairs. Figure 3.13 shows the role of the PPP Cell, its relationship with other

agencies, and the general process for reviewing and approving subsidies to PPP projects.

Below Figure 3.13 the process is described in more detail to illustrate the key features of the program. The focus is on: where funds come from; how responsibilities are allocated; what projects are eligible to receive subsidy and how the amount is determined; and, what incentives are in place to monitor and ensure good outcomes.

Figure 3.13: Diagram of India’s Viability Gap Fund Process



SOURCE: CASTALIA, BASED ON SCHEME AND GUIDELINES FOR FINANCIAL SUPPORT TO PPP IN INFRASTRUCTURE. MINISTRY OF FINANCE, DEPARTMENT OF ECONOMIC AFFAIRS, 2008.

*Rs. 100 CRORE IS EQUAL TO ROUGHLY US\$22 MILLION. Rs. 200 CRORE IS EQUAL TO ROUGHLY US\$44 MILLION.

How are funds appropriated in the budget?

Funds for India’s VGF are appropriated on an annual basis in the national budget. Each year, the Empowered Institution has the right to approve projects with cumulative project values of up to ten times its annual appropriations for the VGF. In addition, the Ministry of Finance provides the Empowered Institution with US\$44 million for a revolving fund to make disbursements to projects, which is later replenished by the Ministry of Finance.

In practice, the revolving fund and the policy that limits the value of approvals to ten times the annual appropriations provides security to investors on the commitments under

the VGF program. While not as effective as capitalizing the fund upfront, the amount allocated to the revolving fund is enough to cover the disbursements approved under the program so far. As of 2010, the VGF has disbursed about US\$20 million, or about half of the amount committed to the revolving fund. The policy limiting annual approvals also ensures the commitments of the VGF program do not exceed MOF expectations, and therefore making it more likely that the government will honor the VGF obligations³³.

VGF for projects in India's National Highway Development Program is appropriated separately. Starting in 2006 a portion of road user tax revenue in the Central Road Fund has been earmarked for viability gap funding. The amount of funds earmarked for VGF is determined annually by the Planning Commission with input from the Ministry of Finance and the Ministry of Shipping, Road Transport, and Highways.

Who identifies, prepares, and procures projects?

In India, **implementing agencies**—or 'authorized authorities'—are responsible for identifying and preparing PPP projects. Once a PPP project has been prepared, a proposal is submitted to the PPP Cell in the Ministry of Finance (see below) for review and approved by an inter-ministerial committee. Implementing agencies that are eligible to receive VGF include central government line ministries, state government agencies, and municipal councils and authorities that own the relevant PPP project or associated asset. Once a project has received final approval, the implementing agency conducts the procurement process and must certify it conforms to the procurement rules set in India's PPP policy.

Initially, state and local governments resisted developing VGF-supported PPP projects due to the lack of capacity, burden of preparing projects for approval, and the loss of control over conventional publicly-funded projects. India's made a strong effort to strengthen the capacity and incentives to do PPPs at the state level by standardizing and simplifying the process for requesting VGF and offering technical assistance. For example, the PPP Cell issued a template memorandum to sanctioning authorities and Model Concession Agreements that implementing agencies can use when submitting project proposal. This makes it easier and more attractive for implementing agencies to request VGF, improves the consistency of proposals, and makes the approval process more efficient.

33. The "ten times" policy is based on a rough calculation on an estimated amount of commitments from the VGF. Since most disbursements are made over two years and the VGF funding is limited to 20 percent of the project value, it is reasonable to assume that annual appropriations for that year will cover the required disbursements under the VGF for a particular year.

Who reviews requests for subsidies?

The **PPP Cell** established within the Ministry of Finance, Department of Economic Affairs manages India's PPP program, including the VGF program. The PPP Cell is responsible for reviewing proposals for VGF and circulating the proposals for approval by sanctioning authorities (see below).

Who approves subsidies?

VGF proposals must be approved by inter-ministerial committees composed of representatives from the Ministry of Finance, the Planning Commission, and the relevant implementing agency. In India the committees are called 'sanctioning authorities'. The exact membership of the sanctioning authority depends on the size of a project:

- The **Empowered Institution** provides approval of projects up to Rupees 100 crore (about US\$22 million). Depending on the project, the Empowered Institution includes the following members:
 - Additional Secretary of Economic Affairs, Ministry of Finance
 - Additional Secretary of Expenditures, Ministry of Finance
 - Representative of the Planning Commission (Joint Secretary or above)
 - Joint Secretary or above of the relevant line ministry
 - Joint Secretary of Department of Economic Affairs, Ministry of Finance
- The **Empowered Committee** provides approval of projects between Rupees 100 and 200 crore (between about US\$22 and US\$44 million). Depending on the project, the Empowered Committee includes the following members:
 - Secretary of Economic Affairs, Ministry of Finance
 - Secretary of Expenditures, Ministry of Finance
 - Secretary of the Planning Commission
 - Secretary of the relevant line ministry.
- For projects greater than Rupees 200 crore (about US\$44 million), the Empowered Committee must *first* receive approval from the **Finance Minister** before reviewing and approving a project itself.

Projects that are financial viable must also receive 'in principle' approval from the relevant sanctioning authority to be eligible for VGF.

What projects are eligible for subsidies?

To receive funding from India's VGF program, a project must meet the following eligibility criteria:

- Fall within the following infrastructure sectors:
 - Roads, bridges, railways, seaports, airports, and inland waterways
 - Electricity
 - Urban transport, water supply, sewerage, solid waste management, and other physical urban infrastructure
 - Physical infrastructure in Special Economic Zones
 - International convention centers and other tourism infrastructure projects
 - Other sectors, subject to approval from the Finance Minister
- Be implemented (i.e. developed, financed, constructed, maintained, and operated) by a private company selected through an open and transparent competitive tender, with the amount of VGF as the primary bid variable
- Go through the approval process outlined above, with a proposal prepared and submitted by an implementing agency and approved by the appropriate sanctioning authority.

In addition to the eligibility criteria listed above, VGF cannot exceed 20 percent of the total project cost, with the possibility of an additional 20 percent of matching VGF coming from another government entity. Hence, a project cannot receive more than 40 percent VGF in total.

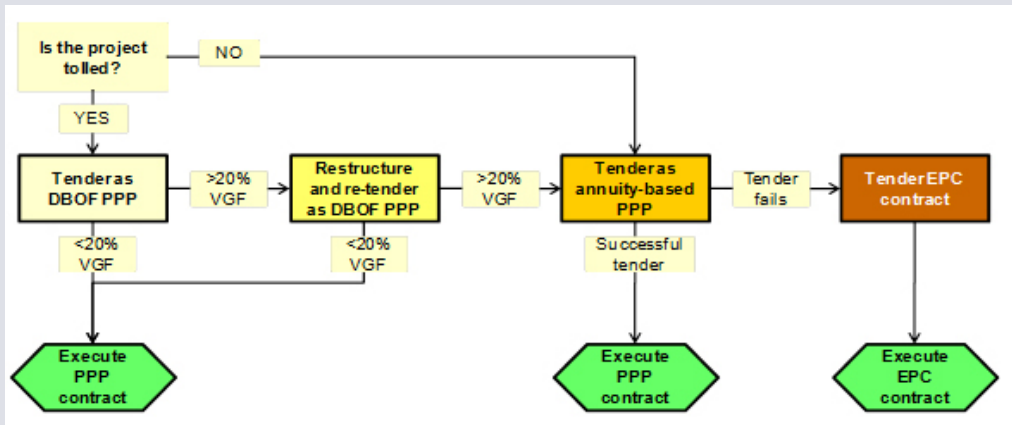
India has also developed a unique decision rule when it evaluates and approves VGF for PPPs in the NHDP. The rule is explicit, concretely defined, and deliberately designed to achieve the objectives of the VGF program by using the amount of subsidy a project needs to determine the mode by which a project must be implemented. The decision rule has primarily been used for NHDP projects, and while it technically applies in other sectors

also, it has not been implemented in practice. In essence, PPP have to be structured and bid out with the private company accepting all core functions. This approach has the effect of prioritizing privately financed projects and maximizing the benefits of doing PPPs. Box 3.9 describes the decision rule in more detail.

Importantly, because the decision rule requires PPPs to be structured and tendered so that the private company is responsible for designing and building the project, the technical design of a project is part of a private bidder’s proposal. This means that detailed feasibility studies are not required when requesting VGF.

Box 3.9: Decision Rule for Approving VGF and PPP Projects

The figure below illustrates the decision rule used when evaluating and approving VGF for PPP projects. This systematic decision rule achieves three things: (i) counteracts the bias toward doing publicly-funded projects, (ii) prioritizes the use of PPPs to mobilize the maximum amount of private finance, and (iii) maximizes the benefits of doing PPP, like risk transfer, efficiency, and private sector expertise.



The decision rule is implemented in the following way:

- Revenue-generating (e.g. tolled) infrastructure projects must be structured as PPPs with the private company responsible for designing, building, operating and financing (as a DBOF structure), and tendered with the amount of VGF as the primary variable for selecting winning bidders
- If the first tender is successful and less than 20 percent VGF and 20 percent funding from another government entity (a total of 40 percent) is required then a contract is executed. If the first tender fails, then the project must be restructured (but still as a DBOF PPP) and retendered

- If the tender for a restructured project is successful, then a contract is executed. If the project cannot be successfully retendered with less than 40 percent VGF (or if the project is not revenue-generating—e.g. non-tolled), then the project is instead structured as an ‘annuity-based’ PPP with the private investor receiving availability payments to repay the financing
- If for some reason the tender for an annuity-based project fails (for example, due to lack of investor interest), then the project is tendered as a conventional publicly financed EPC (engineering, procurement, and construction) contract.

SOURCE: CASTALIA

There is also no economic cost-benefit analysis included in the request for VGF to justify the net economic benefits of the project. Officials in India’s PPP Cell believe that the combination of competitive tenders, regulated user charges, and careful screening during the infrastructure planning process helps to ensure projects are economically justified. However, it is not clear whether this same reasoning applies to other sectors, making the need for additional economic analysis extraneous.

The rule highlighted above has similarities with Brazil’s policy for distinguishing between financially viable concessions and financially unviable PPPs. While there is theoretically justification for applying systematic rules such as these, one concern is the cost of re-tendering projects multiple times. However, in India and in Brazil, the policy has worked in practice to inform how projects are structured and there has been limited examples of projects being rejected and having to be re-cycled through the structuring and procurement process. Nevertheless, a rigid rule may prove too burdensome and costly for projects outside of the transport sector.

A rigid decision rule for structuring PPPs may also lead to sub-optimal project design. For example, projects that require more than 40 percent VGF could be restructured to add unrelated land developments to increase revenues. Or, a project could be restructured by eliminating costly, but economically justified sections of a project. If the rule leads to sub-optimal project designs, then the net economic benefits of some projects may fall.

Another concern is whether the 40 percent limit is the right limit. The amount is set somewhat arbitrarily and may prevent projects in less financially viable sectors (water, sanitation, and urban transport, for example) from being developed as VGF-funded PPPs. This and the other concerns listed above create risks that could reduce the value-for-money achieved through a country’s VGF program. There are two policy options for mitigating these risks. First, countries could adopt separate limits for different sectors to avoid the ‘one size fits all’ approach. Second, countries could increase the limit over time

to prioritize more financially viable projects first and reduce the possibility of restructuring sub-optimal projects later on.

As a final note on project eligibility in India, project proposals that use approved Model Concession Agreements issued by the Ministry of Finance are also fast-tracked for VGF approval. This policy was intended to standardize PPPs in India and build capacity among implementing agencies. While it is not a strict requirement, model contracts have been widely adopted by implementing agencies.

How is the amount of subsidy determined?

The amount of subsidy a project receives is determined through the competitive bidding process, with the VGF amount as the single financial bid variable. Private bidders develop their own financial models forecasting the discounted present value of cash flows over the lifetime of a project. Based on their forecast, bidder's present a single value in their financial proposal for the amount of subsidy that they require to repay debt and provide equity investors with a reasonable rate of return, if discounted future revenue from the project is not sufficient.

Using VGF as the competitive bid variable minimizes the amount of subsidies the government will pay to any one project. With sufficient competition, private bidders have an incentive to make their best possible offer and request the least amount of VGF to make the project financeable.

As mentioned above, however, VGF cannot exceed 20 percent of the total project cost, with the possibility of an additional 20 percent of matching VGF coming from another government entity—a total of 40 percent VGF. If the project requires more subsidies to be financially viable then, following the decision rule in **Box 3.9**, it will instead be developed so that the government collects revenue and repays the private investor with annuity payments. The cap on the amount of VGF has two benefits. First, it means that the most financially viable projects will be developed first. This increases the amount of infrastructure that will be developed and the amount private finance that is mobilized for a given amount of subsidy funds. Second, to the extent that financial viability is a proxy for economically viable projects, it prioritizes projects that will generate more economic and social benefits. Financial viability is often imperfectly correlated with economic viability, because demand and the amount that users are willing to pay will increase project revenues and also reflect the benefits that users will gain from the infrastructure.

An additional unique feature of India's VGF program is that bidders are allowed to submit proposals for a negative VGF amount—a 'premium'. That is, if the discounted cashflow projects show that a project is independently financially viable without subsidies, then the private bidder will pay a premium to the government for the PPP. Allowing for VGF premiums creates an additional source of revenue and ensures the government maximizes the value it receives from contracting a private company to deliver public infrastructure.

VGF premiums have proven very successful in India. The initial procurement practice at the beginning of India's VGF program was to run a two-stage tender and shortlist five qualified firms to submit full proposals. However, the National Highway Development Plan—the main focus of the VGF in India initially—was so large and ambitious that the same top five companies could not keep up with the project flow. As a result, one-stage open bidding is now allowed. This has opened the PPP market to more players and significantly increased competition among bidders. The outcome has been a fall in the average amount of VGF for projects, with many projects coming in as VGF premiums.

When is the subsidy paid?

In almost every case in India, VGF funds have been paid as cash to cover part of upfront capital costs. In some limited cases the subsidies have been paid later during the construction period or during initial years of operation to meet debt service when initial revenues are low.

It is a requirement of India's program that VGF be disbursed to projects in parallel to senior debt, and only after equity has been invested. In other words, equity must be paid first and then subsidies are disbursed on the same schedule as and proportion to senior debt. This policy helps to provide insurance against default by ensuring that the private sector is committed and invested in the project. The sanctioning authority provides approval for funds to be disbursed directly to the lead private financial institution investing in the project.

What are related policies?

One important feature of India's VGF program is that other variables that could impact the financial viability of a project are not discretionary. That is, the amount of VGF is the single variable that can be adjusted to impact the total fiscal contribution the government provides to a PPP project.

For example, tolls on interstate highways are independently regulated and set in the concession agreement for the life of the contract. India also has a simple and consistent policy for providing guarantees. Aside from guaranteeing protection from the construction of competing roads and changes to the toll rate, the government also guarantees the debt in the case of termination of the PPP, known as termination payments. The Model Concession Agreement for national highways includes the following language:

*The project debt will be fully protected by the Authority in the event of termination, except for two situations, namely: (a) when termination occurs as a result of default by the Concessionaire, 90 percent of the debt will be protected, and (b) in the event of a non-political force majeure such as an Act of God, 90 percent of the debt not covered by insurance will be protected.*³⁴

India's policy for setting user fees helps to achieve its goal of 'inclusiveness' by ensuring PPPs also benefit economically disadvantaged regions and demographics. However, both the user fee and guarantee policy reduce uncertainty and help to eliminate variation in how the amount of VGF is determined. This gives private investors more confidence, limits the government's exposure to risk, and makes the total fiscal contribution more transparent.

How does the government monitor outcomes?

Above we described how VGF is disbursed in parallel to debt. In effect, the subsidy is tied to senior debt. To take advantage of this India requires that senior lenders act as the proxy monitoring agent for the VGF contribution, and throughout the life of the project, on behalf of the government. A tripartite agreement signed between the lead private financial institution investing in the project, the project company, and the Ministry of Finance states:

The Lead Institution [designated senior project lender] shall undertake regular monitoring and periodic evaluation of Project compliance with the agreed milestones and performance levels set forth in the Concession Agreement and it shall, through periodic reports, advise and keep informed the Empowered Institution about the slippages or non-compliance...

34. Model Concession Agreement for PPP in National Highways in India.

In practice, this means that the financial institution must submit quarterly progress reports to the PPP Cell to be circulated and reviewed by the sanctioning authority. Tying the VGF to senior debt and using the senior lender as a proxy monitor has several benefits. It helps to ensure that money is actually being invested in a project before the government makes a payment. With all equity invested first and then debt being invested proportionally to VGF, the government is never the most financially exposed party. And, the burden of monitoring a project is delegated to the third-party investor who has a strong financial incentive themselves to check that construction is completed on time and to adequate quality, and that performance standards are being met.

How is information publicly disclosed?

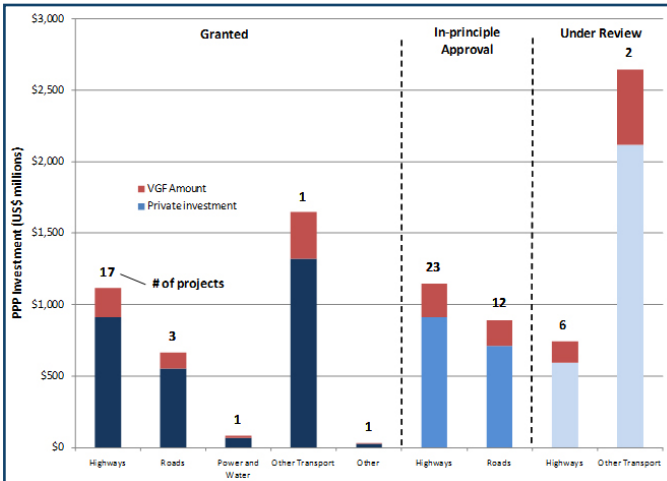
In implementing its PPP program, India has made real efforts to be open and transparent, and make information readily available to the public. The PPP Cell in the Ministry of Finance has published clear and complete guidance materials on the policies and processes followed to administer PPPs, including the VGF program. Additionally, India has created a website that is a one-stop shop for PPP-related information.

India's PPP website (www.pppindia.com) hosts all PPP reports and policy documents; guidance material; model contracts; information for project developers, investors, and advisors; economic and sector-specific data; and PPP news and events. Additionally, the website contains an up-to-date database containing detailed information on all PPP projects at stages of the preparation and implementation process.

3.4.4. Investment impact

Since India's PPP program was launched in 2005 a total of 23 PPPs with a total capital investment cost of US\$3.5 billion have received VGF. An additional 43 PPPs with a total capital investment cost of US\$5.4 billion have been approved or are under review. A large number of these projects have been state highways and road projects. The remaining projects have been in other transport sectors—including large ports and urban rail, with one tourism project and one power transmission project. Figure 3.14 shows the number of projects and total size of investment in India's VGF pipeline by sector. The figure only includes projects that have requested and been granted subsidies through the general VGF program—projects from India's National Highway Development Program are not included.

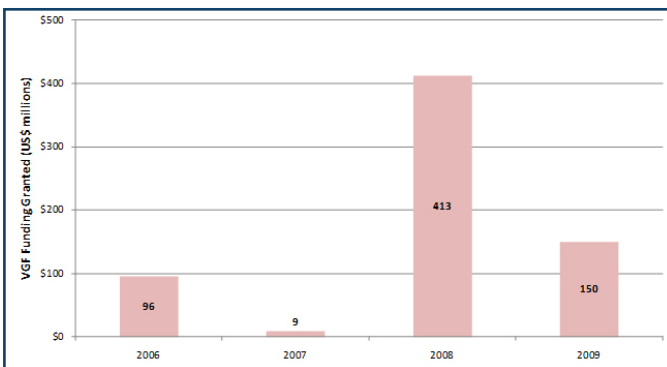
Figure 3.14: VGF Projects in India



SOURCE: INDIA PPP DATABASE www.ppinindia.com

Figure 3.15 below shows the years when the VGF amounts in the figure above were approved. The majority were approved in 2008, a couple years after the VGF program had been approved and launched.

Figure 3.15: VGF Funds Granted in India by Year



SOURCE: INDIA PPP DATABASE www.ppinindia.com

The average amount of VGF granted to PPP projects requesting subsidies has been close

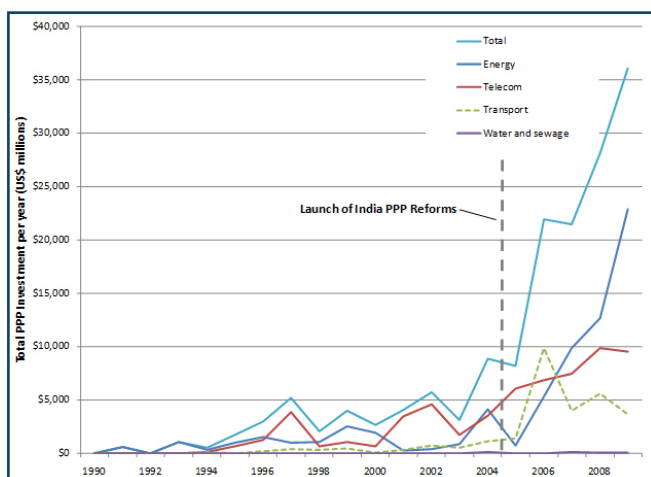
to the 20 percent cap. However, the majority of projects have been financially viable and did not require subsidies. From 2005 to 2009, over 200 PPP projects have reached financial closure in the following sectors:

- 72 in electricity
- Two in telecom
- 126 in transportation
- Nine in water and sewerage.³⁵

In the transport sector, for instance, over 80 percent of projects received no VGF or paid a premium (a negative VGF) to the government.

Private investment in India has been steadily increasing since the mid-1990's. However, the adoption of India's current PPP policies, including the VGF program, has been associated with a large upswing in private investment. Figure 3.16 shows a time series of the total investment in PPPs, by sector, from 1990 to 2009. From 2005 to 2009, annual investment increased by more than 400 percent. In the transport sector, investment increased significantly and then appears to have leveled off at roughly US\$3 to US\$5 billion per year—more than 250 percent of the pre-2005 average.

Figure 3.16: Time Series of Total PPP Investment in India



Source: World Bank PPI Database. www.ppi.worldbank.org

35. World Bank PPI Database. www.ppi.worldbank.org

Over the same five-year period (2005 to 2009), total investment in projects receiving VGF (US\$3.5 billion) has been just three percent of total private investment in core infrastructure (US\$115.8 billion). To the extent that the total investment can be attributed to the PPP reforms, the private finance to VGF mobilization is over 170—meaning every dollar of subsidies is associated with 170 dollars of private finance. These only accounts for subsidies through the VGF program, however, and does not include for other aid or fiscal support at the state and local level. Table 3.5 presents a summary of these statistics.

Table 3.5: Investment Impact in India (2005 – 2009)

Indicator	India (2005-2009)
US\$ investments in PPP projects receiving VGF	\$3.5 billion
Average VGF to project value	20%
US\$ value of all PPP projects	\$115.8 billion (\$23.1 billion/year)
Total annual investment in PPP project/GDP	1.6%
VGF/PPI (inverse = mobilization effect)	0.6% (170 X)

SOURCE: INDIA PPP DATABASE www.pppinindia.com WORLD BANK PPI DATABASE www.ppi.worldbank.org
 (*) DATA FOR 2005 TO 2009

3.4.5. Effectiveness

In the five years since its inception, India’s VGF program has proven to be very effective. This is particularly true in the transport sector, where VGF has been integral to making large strides in developing the National Highway Development Plan and other state highway and road projects. It is no surprise that road and highway projects have attracted interest and received a significant amount VGF. Of the 450 PPP projects contracted in India to date, over 60 percent have been in land transport.

However, there are four major reasons why the VGF program and India’s road and highway sector have made a particularly good marriage initially:

- India had (and, despite large gains, continues to have) a huge demand for a better road network and there is a strong economic justification the NHDP
- Roads were a good candidate for PPPs partially funded by VGF due to the high demand for better road infrastructure and the natural ability to charge users through tolls.

In addition, there are some key features of India's VGF program—which we have highlighted in the previous section—that has helped it achieve its initial successes:

- The revolving fund and the limits on the Government's annual commitments have provided security to investors by effectively demonstrating available funding for disbursements. As 2010, the US\$44 million revolving fund is enough to cover all disbursements approved under the program. The limit on annual approvals ensures that the Government's commitments do not exceed the expected budgetary allocation, making it more likely for the government to honor the obligations of the program.
- The decision rule used to determine how to structure and tender PPP projects has reduced the bias for doing publicly-funded projects, prioritized the use of PPPs, and helped to maximize the benefits from doing well-structured PPPs. While this rule has appeared to work well for the National Highways, the rigid policy may prove too burdensome and costly to implement for projects outside of the transport sector
- Competitive pressures and the use of VGF as the primary bid variable has kept VGF low, with the Government earning a premium on PPP contracts in many cases
- It was initially difficult to market the PPP program to state governments, as there was a general opposition to PPPs. A couple early PPP successes at the state level and the use of federally-funded VGF as an incentive mechanism help to reduce the resistance at the state level. Additionally, standardization (drafting, publishing, and using standardized policies, guidelines, and documents—such as Model Contract Agreements) has helped to build capacity and 'mainstream' the PPP program at the state level.

Despite these effective features, there are a couple areas where India's VGF program has room to grow. While many road and highway projects have been successfully financed as PPPs with VGF funding, few projects have used VGF in other sectors. This is, in part, the hesitancy of implementing agencies, particularly at the local and state level, to do infrastructure projects as PPPs. Implementing agencies simply do not have the capacity to pursue complex projects, are concerned about the cost of developing a project that won't reach financial closure, and often do not want to give up control over traditionally publicly -financed sectors. It may require adjustments to the VGF program to bring attention or provide stronger incentives to develop non-transport PPPs. Or, India may require a concerted effort and funding to build capacity or improve project preparation in other sectors.

In some areas, the VGF program is competing with other generous, 'no strings attached' programs to channel funds to infrastructure projects. For example, Jawaharlal Nehru National Urban Renewal Mission (JNNURM) provides financing support, including capital grants, to water supply, sewerage, transit, and other urban infrastructure projects in eligible cities. Since there are fewer restrictions on how projects receiving funds from JNNURM are structured and implemented, the program competes with and attracts projects away from India's PPP program. In the future, India may want to consider how to better integrate competing programs to achieve its infrastructure investment priorities.

3.4.6. Further information

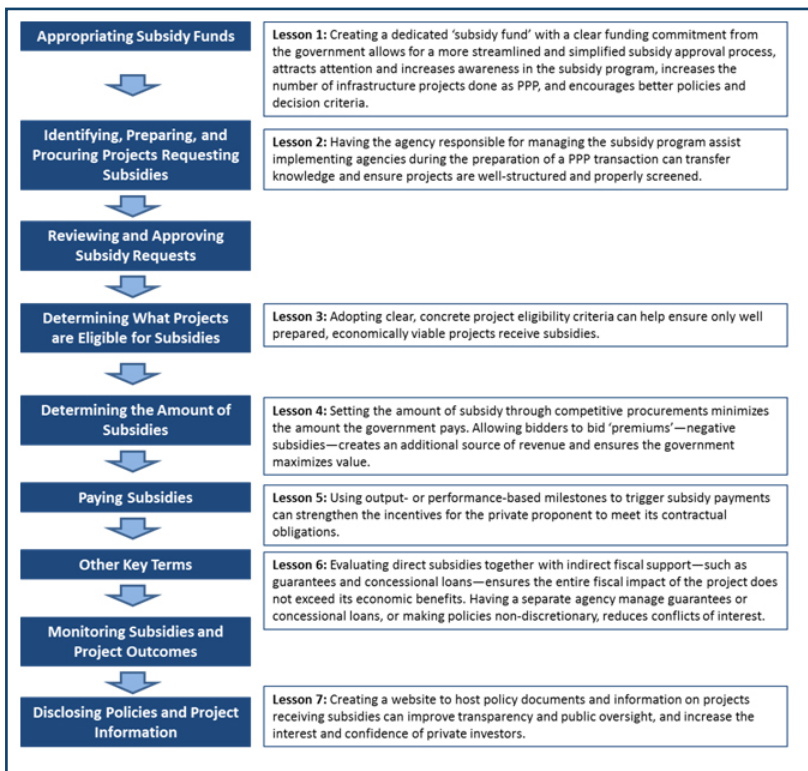
This case study was developed through research and interviews with administrators of the VGF program within India's PPP Cell in the Department of Economic Affairs, Ministry of Finance. Further information is available at the following locations:

- India's PPP website, sponsored by the Ministry of Finance: www.pppinindia.com
- India's database of PPP projects: www.pppindiadatabase.com
- India's Guidelines for Financial Support to PPPs in Infrastructure: http://www.pppinindia.com/pdf/scheme_Guidelines_Financial_Support_PPP_Infrastructure-english.pdf

IV. LESSONS LEARNED

Brazil, Colombia, Mexico and India have developed unique approaches to providing subsidies to PPPs that other countries can learn from. In this section, the experiences in these four countries are used to identify lessons for officials to consider when they design and implement new, or strengthen existing, policies for delivering subsidies to infrastructure PPPs.

For a subsidy funding mechanism to be effective, it must **maximize public benefits per dollar of public subsidy**. Public benefits are maximized when the most economically justified projects receive subsidies, the amount of subsidy any individual project receives is minimized and managed well, and subsidy policies help to mobilize more private finance. To help governments achieve this objective, seven lessons have been identified. Each of the lessons is listed below alongside key steps in the process for managing subsidies to PPPs.



The remainder of this section contrasts the experiences of Brazil, Colombia, Mexico, and India and presents the analysis behind the seven lessons.

Table 4.1: Matrix Analysis of Subsidy Funding Mechanisms in Brazil, Colombia, India, and Mexico

	Brazil (Federal PPP Law and related state-level policies)	Colombia (Budget policy allowing future appropriations)	India (Viability Gap Fund)	Mexico (FONADIN—Fondo Nacional de Infraestructura)
Key Features				
How are funds appropriated in the budget?	Subsidies are appropriated through the annual budget of implementing agencies. At the federal level, subsidies are classified as 'interest payments' to avoid annual legislative approval	Appropriated from the federal budget using a special process for future appropriations	<ul style="list-style-type: none"> Appropriated annually from national budget based on the amount approved VGF for national highways are earmarked annually from road user revenues 	Appropriated from state budget as capitalization of infrastructure funds (FINFRA and FARAC). Later transferred (US\$3.3 billion) to capitalize FONADIN
Who identifies, prepares, and procures projects?	Implementing agency (national or state level) with support from PPP Unit (and/or CPP – PPP Company in São Paulo)	Implementing agency (INCO – National Institute of Concessions, Ministry of Transportation)	Implementing agency (local, state, or national government body and statutory entities)	Implementing agency (national or state level) with support from FONADIN Business Units
Who reviews requests for subsidies?	PPP Unit, Ministry of Planning, (also CPP and Executive Secretary of São Paulo's CGP)	Investment Banking Unit, MOF and Infrastructure Unit, National Planning Department	PPP Unit, Ministry of Finance	FONADIN Studies and Technical Evaluations Unit and Sub-Committee for Evaluation and Financing
Who approves subsidies?	Inter-departmental committee (federal and state CGPI)	Inter-departmental committee (National Council on Fiscal Policy (CONFIS) and National Council on Economic and Social Policy (CONPES))	Inter-departmental committee (Empowered Institution/Committee and Minister of Finance)	Inter-departmental committee (FONADIN Technical Committee)
What projects are eligible for subsidies?	<ul style="list-style-type: none"> Be greater than US\$12 million Have a contract length from five to 35 years Other less well-defined criteria 	<ul style="list-style-type: none"> All toll road concessions Subsidy consistent with medium-term fiscal plan Other less well-defined criteria 	<ul style="list-style-type: none"> Follow open, transparent, competitive procurement Maximum 20 percent subsidy from VGF Maximum 20 percent matching subsidy by government entity Projects is with a private sector company (minimum 51% owned by private entity) Projects in transport, urban infrastructure, power, special economic zones, and tourism infrastructure 	<ul style="list-style-type: none"> Maximum 50 percent subsidy Minimum 20 percent equity investment Other less well-defined criteria
How is the amount of subsidy determined?	<ul style="list-style-type: none"> Through competitive bidding. Subsidy amount is main bid variable. Maximum total subsidy amount of three percent of state revenues 	Through competitive bidding. Subsidy amount is one variable in the calculation of 'net present value of revenue'	Through competitive bidding. Subsidy amount is single bid variable (allows for VGF 'premium')	Through competitive bidding. Subsidy amount is main bid variable.
When is the subsidy paid?	Paid during operations after output/performance-based level of services defined in contract are reached	Paid after construction and operations output/performance-based milestones defined in contract are reached	<ul style="list-style-type: none"> Paid after equity is fully contributed to the project, and then matched in proportion to debt disbursements VGF can be paid after construction with approval of Empowered Committee and Minister of Finance 	Paid at dates defined in contract
What are related policies? <ul style="list-style-type: none"> Tariffs (user charges) Contract lengths Other fiscal support 	<ul style="list-style-type: none"> Tariffs and contract length fixed in advance Total fiscal impact of subsidy and guarantees evaluated but managed separately (National Guarantee Fund or CPP in São Paulo) 	<ul style="list-style-type: none"> Tolls set by Ministry of Transport Variable length contracts used to guarantee revenue Total fiscal impact of subsidy and guarantees evaluated 	<ul style="list-style-type: none"> Tariffs and contract length fixed in advance Maximum 20% matching subsidy from government entity Termination payments to cover debt 	<ul style="list-style-type: none"> Tariffs and contract length fixed in advance Entire package of fiscal support considered and adjusted in 'financial proposal'
Who monitors project outcomes?	<ul style="list-style-type: none"> Implementing agency monitors project performance PPP Unit (and CPP in São Paulo) monitors subsidy disbursement and project performance Audit agencies have authority to oversee and audit projects Commission for monitoring the fiscal impact of PPPs and checks subsidy limit 	<ul style="list-style-type: none"> Implementing agency monitors project performance General Comptroller's Office authority to oversee and audit projects 	<ul style="list-style-type: none"> The lead financial institution (e.g., bank) is responsible for monitoring and evaluation of compliance and performance related to disbursement of VGF Lead financial institution submits quarterly progress report to the Empowered Institution/Committee 	<ul style="list-style-type: none"> Implementing agency monitors project performance FONADIN Monitoring Unit monitors subsidy disbursement and project performance
How is information publicly disclosed?	<ul style="list-style-type: none"> National PPP Unit publishes report on PPPs at the national, state, and local level PPP Unit presents biannually at the Legislative Assembly CPP publishes annual reports 	Project information and contracts published on INCO website	<ul style="list-style-type: none"> Policies are provided on India's PPP website Basic project information, including bidding process and financing, are provided on the online PPP project database 	All policies and project information available FONADIN website

	Brazil (Federal PPP Law and related state-level policies)	Colombia (Budget policy allowing future appropriations)	India (Viability Gap Fund)	Mexico (FONADIN—Fondo Nacional de Infraestructura)
Investment impact				
Years	2004 to 2009	1994 to 2009	2005 to 2009	2008 to 2009
US\$ value of PPP projects receiving subsidy	US\$12.4	\$19.2 billion	\$3.5 billion	\$3.4 billion
Average subsidy to project value	N/A	54%	20%	39%
US\$ value of all PPP projects	US\$118.3 (US\$19.7 billion/year)	\$19.2 billion (\$0.5 billion/year)	\$115.8 billion (\$23.1 billion/year)	\$9.5 billion (\$4.8 billion/year)
Total annual investment in PPP project/GDP	0.9%	0.7%	1.6%	0.4%
Subsidy/PPP (inverse = mobilization effect)	N/A	54% (1.8 X)	0.6% (170 X)	14% (7.0)

SOURCE: MULTIPLE, INCLUDING: WORLD BANK PPI DATABASE. www.ppi.worldbank.org

How are funds appropriated in the budget? – Lessons

Lesson 1: Creating a dedicated ‘subsidy fund’ with a clear funding commitment from the government allows for a more streamlined and simplified subsidy approval process, attracts attention and increases awareness in the subsidy program, increases the number of infrastructure projects done as PPPs, and encourages better policies and decision criteria.

Based on the experiences of the four countries in this study, like India and Mexico, creating a dedicated subsidy fund and demonstrating financial commitment has four important benefits:

- It allows for a more streamlined and simplified subsidy approval process
- It attracts attention and increases awareness in the subsidy program
- It strengthens incentives to do infrastructure projects as PPPs
- It encourages more rational, transparent policies and decision making criteria.

First, *it allows for a more streamlined and simplified subsidy approval process*. A dedicated subsidy fund like India’s Viability Gap Fund has a clearer and more straightforward process for approving subsidies. In India, policies and guidelines for approving and disbursing subsidies are managed by the PPP Unit in the Ministry of Finance following a relatively simple process and clearly defined criteria. In contrast, the appropriations process that must be followed to approve and disburse subsidies to PPPs in Colombia and Brazil are relatively more complex.

In Colombia—where subsidies are funded by future appropriations in the budget of the implementing agency—the decision to provide subsidies is made by two ministerial-level

committees that consider the findings and recommendations made by the Ministry of Finance and National Planning Department. This level of review and scrutiny makes the approval process in Colombia more complex and more difficult to follow. The decision process in Colombia is complex because each project requires a specific allocation in the budget of the implementing agency and therefore has to be reviewed and/or approved by multiple agencies or committees with oversight on economic, fiscal, and budget matters. A similar process is followed in Brazil where subsidies are funded by annual appropriations in the budget of the implementing agency. The subsidy programs in both countries could be streamlined by creating a dedicated fund, capitalizing the fund through a one-time appropriation, and removing subsidies from the routine budgetary process.

Second, *it attracts attention and increases awareness in the subsidy program*. In Mexico, where dedicated subsidy funds exist, the upfront capitalization of the subsidy fund—US\$3.3 billion—attracts attention by showing investors that there is ‘money on the table’ that the government has already committed to PPP subsidies. Similarly, to fulfill the responsibilities of their jobs the staff employed by these funds have an interest in creating awareness among implementing agencies and investors about the existence of the fund. Greater awareness can increase the number of PPP projects that are implemented. In India for instance, the Viability Gap Fund has an aggressive program to ‘mainstream’ PPPs and raise awareness of state governments on PPPs and the viability gap program. After the creation of the Viability Gap Fund in India the number of PPP projects increased by four fold. There are many factors that could explain this increase, but increased attention and awareness is likely one important reason.

Third, *it strengthens incentives to do infrastructure projects as PPPs*. In Colombia and Brazil where the subsidies are funded by appropriations in the budget of the implementing agencies, there are less incentives for the implementing agencies to do PPPs than in Mexico where the subsidies are funded by funds outside of the implementing agency’s budget. The access to an additional source of funds in countries like Mexico creates a ‘carrot’ that incentivizes state and local governments and implementing agencies to implement projects as PPPs.

Fourth, *it encourages more rational, transparent policies and decision making criteria*. Signaling that the government was dedicated to provide funds for subsidies to PPPs in India has generated constructive scrutiny and pressured the government, through the PPP Unit, to develop rational policies that ensure India’s Viability Gap Fund

is managed well. FONADIN was created through a one-time injection of capital, which demonstrated the availability of funds for the program. However, Mexico is still working to overcome the previous weak policy framework, which has been a barrier to closing deals and disbursing subsidies. The creation and capitalization of FONADIN is likely a strong impetus to improve the policy framework in that country.

Other countries besides Mexico are already beginning to follow this lesson. Colombia, for example, is now considering the option of creating a fund that would be capitalized through the sale of a 10 percent share of the national oil company.

Finally, it is important to recognize that, regardless of how subsidies are appropriated, subsidy payments have a fiscal cost. Whether subsidies are appropriated once to capitalize a dedicated fund, appropriated from the budget on a regular basis, or used to repay sovereign debt, they reduce the fiscal budget available for other expenditures. In other words, subsidies are public funds that crowd out other expenditures, and therefore should be budgeted and spent in an economically rational way.

Who identifies, prepares, and procures projects? – Lessons

Lesson 2: Having the agency responsible for managing the subsidy program assist implementing agencies during the preparation of a PPP transaction can transfer knowledge and ensure projects are well-structured and properly screened.

Having the agency responsible for managing the subsidy program assist implementing agencies during the preparation of a PPP transaction has two important benefits:

- It transfers knowledge of PPPs to implementing agencies
- It ensures projects are well-structured and properly screened from the outset.

In the four countries in this study, implementing agencies receive various levels of support from staff managing the subsidy program:

- In Brazil, the national PPP Unit in the Ministry of Planning plays an active advisory role to assist implementing agencies with screening, structuring and procuring PPPs, including the approval and disbursement of subsidies. The PPP Company (CPP) in Sao Paulo does the same

- In Colombia, projects are identified, structured, and procured by the implementing agency. However, the implementing agency for highway PPPs is the National Institute of Concessions, whose mandate is to do PPPs
- In Mexico, FONADIN business units assist implementing agencies throughout the project preparation and procurement process
- In India, the PPP Unit in the Ministry of Finance provides assistance to implementing agencies and implements an aggressive program to 'mainstream' PPPs to make it easier for state and local governments and implementing agencies to prepare and procure projects.

As these countries illustrate, the exact level of assistance provided by staff in charge of the subsidy program varies depending on the specific institutional arrangement in each country and the amount of experience with PPPs. In all cases, however, some amount of collaboration is good for two reasons.

First, *it transfers knowledge of PPPs to implementing agencies*. It is good practice for implementing agencies to be involved in, and accountable for, identifying, preparing, and procuring projects. This is the case in the four countries in this study and makes good sense because implementing agencies, supported by technical advisors, have the technical and sector-specific expertise needed to evaluate and develop good projects. For example, planning agencies rarely have the same level of traffic modeling or engineering expertise to evaluate a potential toll road concession. However, implementing agencies often have limited experience and expertise specific to PPPs. This is true for PPPs that include subsidies, as implementing agencies are often unfamiliar with the kind of financial and risk analysis necessary to assess the fiscal impact of a proposal during the PPP development process. When implementing agencies have support from a PPP unit and/or the staff managing the subsidy program it helps to transfer knowledge and build capacity among implementing agencies for doing PPPs in the future.

Second, *it ensures projects are well-structured and properly screened from the outset*. For projects requesting subsidies, collaboration between an implementing agency and staff in managing the subsidy program helps ensure that projects are structured to meet eligibility criteria, or are rejected, early on. This can save valuable time and resources. It also creates an additional level of 'quality assurance' that provides more confidence that good projects are receiving subsidies.

The exact balance of responsibilities and the role of the staff in the agency administering the subsidy should depend on the capabilities and familiarity with PPPs in each country or implementing agency. Implementing agencies with limited experience preparing PPP transactions that need subsidies will benefit from working closely with the staff at the agency administering the subsidy.

Finally, there is some risk that conflicts of interest may arise when the same staff that manage the subsidy program and advise on preparing PPP transactions are also responsible for policy-making and project screening functions within the central PPP unit or agency. We have not seen any evidence of this in practice, but it is a valid concern. The risk can be avoided by staffing the divisions separately and creating clear and exclusive mandates. For example, Mexico's FONADIN may wish to consider creating a division in Banobras for managing subsidies independent from FONADIN's other functions. Making sure policies and rules for allocating subsidies to projects are well-defined will also reduce the likelihood of gaming or conflicting objectives. The latter of these solutions has worked well in India.

Who reviews requests for subsidies? – Lessons

There is no clear best practice for who should review requests for subsidies. Each country reviewed in this study uses a slightly different approach, and who reviews requests for subsidies appears to be less important than making sure staff managing subsidies are involved in the PPP structuring process (Lesson 2) and creating clear eligibility criteria (Lesson 3).

The four countries evaluated for this study have unique processes for reviewing requests for subsidies:

- In Brazil the national PPP Unit, the PPP Company (CPP), and the Executive Secretary of the PPP Management Council (CGPPP) are all involved in review requests for subsidies
- In Colombia, requests for subsidies are reviewed by the Investment Banking Unit in the Ministry of Finance and the Infrastructure Unit in the National Planning Department
- FONADIN's Technical Evaluation Unit and the Sub-Committee for Evaluation and Financing review requests for subsidies in Mexico
- India's PPP Unit in the Ministry of Finance, which also manages the Viability Gap Fund, reviews requests for subsidies.

There is not a clear lesson to draw from these examples. The review process depends on the institutional arrangement in the particular country. Having staff managing the subsidy fund assist in the project structuring process, as highlighted in Lesson 2, will make the review process easier and ensure projects are consistent with the underlying legal and policy framework. Following the next lesson, Lesson 3, and establishing clear, concrete eligibility criteria will also make the review process more seamless.

Who approves subsidies? – Lessons

There is no clear best practice for who should approve subsidies to PPPs. It is common for officials from finance and economic planning agencies to be involved in the subsidy approval process, which should help ensure subsidies are consistent with the countries broader fiscal and economic priorities. However, each country evaluated in this study uses a slightly different approach. Who exactly approves subsidies appears to be less important than making sure staff managing subsidies are involved in the PPP structuring process (Lesson 2) and creating clear eligibility criteria (Lesson 3).

In all four countries in this study subsidies are approved by inter-departmental committees who have senior representatives from finance or economic planning ministries:

- The PPP Management Council (CGPPP) in Brazil
- The National Council on Fiscal Policy (CONFIS) and the National Council on Economic and Social Policy (CONPES) in Colombia
- The inter-departmental Technical Committee of FONADIN in Mexico
- The Empowered Institution, the Empowered Committee, or the Minister Finance in India, depending on the size of the subsidies.

The exact composition of the inter-departmental committee can vary slightly depending on the size or significance of the project. In India the membership of the Empowered Institution and Empowered Committee approving subsidies changes based on the size of the project. For example, the Minister of Finance must endorse projects above a certain level, but that authority is delegated to other officials in the Ministry of Finance, along with other committee members, for smaller projects. This helps to make the approval process more efficient. Requiring that all projects, regardless of size, must be reviewed and approved by senior officials can create a bottleneck that prevents projects from going forward. Similarly, in Colombia, CONFIS approves prior appropriations to pay for

subsidies, but CONPES must declare a project of 'strategic importance' for exceptional future appropriation outside of the term of the current administration.

As with the observations on who should review requests for subsidies, there is not a clear lesson to draw from the examples of who should approve subsidies. The appropriate authority depends on the institutional arrangement in the particular country, and the significance of the project. Again, though, having staff managing the subsidy fund assist in the project structuring process, as highlighted in Lesson 2, should improve how transactions are prepared and make it easier to approve subsidies. Establishing clear, concrete eligibility criteria will also make the approval process more transparent and easy to follow, as highlighted in Lesson 3 below.

What projects are eligible for subsidies? – Lessons

Lesson 3: Adopting clear, concrete project eligibility criteria can help ensure only well prepared, economically viable projects receive subsidies.

The countries evaluated in this study demonstrate the value of having clear, concrete eligibility criteria. Establishing and enforcing ***clear criteria is important to ensure well prepared, economically viable projects receive subsidies***. This is particularly true when measurable criteria are used to cap the amount of subsidy a project can receive or ensure sufficient equity is invested.

When criteria are unclear, projects can be pushed through based on political pressures, and projects tend to be prioritized on a more *ad hoc* basis. Brazil and Colombia are examples of countries with criteria for deciding which projects receive subsidies that are unclear. Brazil PPP law includes eligibility criteria that are vague and difficult to follow, such as: promote efficiency, allocate risks objectively, and be fiscally sound. In practice it is difficult to interpret and consistently apply these criteria. Similarly, the decisions on which projects can receive exceptional future appropriations in Colombia are based on projects being declared of 'strategic importance', which has no clear definition. The outcome of this lack of clarity is that projects are approved more on the basis of political pressures than on rational, economically justified criteria.

In contrast, India, and to some extent Mexico, have adopted clear criteria for deciding which projects are eligible to receive subsidies. For example, both countries cap the

percentage of total project costs that can be paid by subsidies. Having clear, concrete criteria increases the amount of private investment India mobilizes per dollar of subsidy and has contributed to India achieving a nearly four-fold increase in the private investment in PPPs since establishing its Viability Gap Fund.

Good eligibility criteria should ensure that only well-structured, economically viable projects receive subsidies. In well-developed, sophisticated PPP programs it is good practice to set guidelines for evaluating and selecting projects based on rigorous value-for-money analysis and criteria. However, there are some downsides to this approach. Analyzing value-for-money can be difficult, time-consuming, and subject to manipulation. None of the countries in this study currently require that PPP projects meet rigorous cost-benefit economic or value-for-money criteria. Over time countries should move in the direction of more rigorously assessing projects before approving subsidies. In early stages of a country's PPP program, however, it is likely to be more efficient to rely on sector master plans to create a project pipeline and then setting objective, measurable eligibility criteria to help prioritize projects to receive subsidies.

India and Mexico both prioritize projects in part on the basis of caps on the percentage of the total project costs that can be paid by subsidies. In India, for example there is a strict cap of 20 percent with an additional 20 percent from the implementing government agency (40 percent in total). In Mexico, the cap is 50 percent, but exceptions can be made for high priority projects. To the extent that financial viability is an imperfect proxy for economic viability—that is, economic benefits are correlated with demand and willingness to pay, and therefore correlated with the revenue potential of a project—then the cap on the amount of subsidy helps to prioritize more economically viable projects. Limiting the amount of subsidies also creates a stronger mobilization effect, as a given amount of fiscal resources is combined with a larger amount of private finance. As a result, more infrastructure projects get developed.

There is a risk, however, that caps on the amount of subsidy could lead to sub-optimal project design—if, for example, projects are creatively restructured to require less subsidy while reducing economic benefits. Another concern is whether a 40 or 50 percent limit is the right limit. The amount is set somewhat arbitrarily and may prevent projects in less financially viable sectors (water, sanitation, and urban transport, for example) from being developed as subsidy-funded PPPs. Fortunately, there are two good policy options for mitigating these risks. First, countries could adopt separate limits for different sectors to

avoid the 'one size fits all' approach. Second, countries could increase the limit over time to prioritize more financially viable projects first and reduce the possibility of restructuring sub-optimal projects later on. With these mitigating policies, caps are likely to create more benefits than costs.

How is the amount of subsidy determined? – Lessons

Lesson 4: Setting the amount of subsidy through competitive procurements minimizes the amount the government pays. Allowing bidders to bid 'premiums'—negative subsidies—creates an additional source of revenue and ensures the government maximizes value.

Determining the amount of subsidy a project will receive through a competitive bidding process helps minimize the amount of subsidy the government will pay to make a project financially viable. The government can capture further value by allowing bid 'premiums' or negative subsidies. This allows the government to collect excess revenues beyond what is needed for commercial rates of return required by private investors.

All countries in this study use the amount of subsidy as one of the main variables—or the single bid variable—in financial bids during competitive tenders:

- The amount of subsidy is the main bid variable in Brazil, but other technical criteria are also factored into bid evaluations depending on how the transaction has been structured
- Colombia uses a more complex financial bid formula that includes the amount of capital and operating subsidies and toll revenue to calculate the net present value of project revenues
- Mexico's FONADIN considers the entire financial package when evaluating bids, depending on the transaction, with the amount of subsidy as one of the main variables
- The amount of Viability Gap Funds is the single bid variable in PPP tenders in India. India also allows bidders to bid 'premiums' or negative VGF, which they then pay to the government for the right to the concession or PPP contract.

The common policy of ***setting the amount of subsidies through competitive procurements minimizes the amount the government pays***. When PPP contracts are openly and competitively tendered, the government can expect to get the best deal by encouraging private companies to offer their best technical and financial proposal. When the amount of subsidy is the main—or the only—financial bid variable, competition will

drive private companies to request the minimum amount of subsidy to make a project financially viable.

In general, simpler bid formulas make procurements more transparent and less vulnerable to manipulation, and encourage more direct competition. In Mexico, for example, several financial factors are considered, depending on how the transaction is structured, when evaluating projects. Combining the amount of subsidy with other variables that affect the financial viability of a project can lead to gaming and a bias toward more implicit subsidies—for example if implementing agencies or bidders want to creatively structure the project with more revenue or demand guarantees. India’s policy, in contrast, has been successful at using VGF as the only bid variable and setting user fees, guarantees, and other variables in advance. Colombia’s fourth generation of concessions also only allows adjustments in the amount of subsidies during the construction period when calculating the net present value of project revenues to award contracts. Both of these approaches increase transparency, reduce the risk of manipulation, and encourage more direct competition among bidders.

Finally, India’s policy of allowing ‘premiums’—negative subsidies paid by the private investor to the government—has also been successful at capturing additional value. ***Allowing for subsidy premiums creates an additional source of revenue and ensures the government maximizes value*** it receives from contracting a private company to develop and operate public infrastructure.

When is the subsidy paid? – Lessons

Lesson 5: Using output- or performance-based milestones to trigger subsidy payments can strengthen the incentives for the private proponent to meet its contractual obligations.

Three of the four countries evaluated in this study use output- or performance-based milestones to trigger subsidy payments. Performance-based milestones can create strong incentives to make sure projects are completed on time and the service standards defined in the PPP contract are met.

Of the four countries we evaluated, only Mexico—who has not yet implemented many PPP contracts and is in the process of issuing a new PPP law—uses time-based milestones for disbursing subsidies. Brazil, Colombia, and India all use performance-based milestones:

- Brazil pays subsidies, which are categorized as interest payments, during the operation of a PPP project. Subsidies are only paid after levels of service defined in the contract have been met
- Colombia has also recently adopted a policy of paying subsidies based on performance. In Colombia, subsidies are paid based both on construction and operations milestones defined in the contract
- In India subsidies are mostly paid as capital during construction. A few projects have received VGF funding during the first few operations years based on performance standards defined in the contract. India also has a unique policy of tying subsidies to senior debt and only disbursing subsidies after equity has been invested.

While there is not good counterfactual evidence to prove the case in these three countries, ***using performance-based milestones tends to strengthen incentives for the private operator to meet its contractual obligations.*** This can reduce construction cost overruns and costly delays, and increase service quality. There is a cost associated with monitoring and supervising a project to determine if milestones that would trigger a subsidy payment have been met, but we have not seen evidence of monitoring costs exceeding the benefits of performance-based contracts.

Finally, it is worth highlighting India's policy of tying subsidies to senior debt and only disbursing funds after equity has been paid. This approach helps to ensure that capital is actually disbursed and private investors have a financial stake in the project. It also guarantees that the government is never the most exposed party. Under this policy, the senior lender then acts as the proxy monitor of the project to check, for example, that construction has been completed and is adequate. Other countries should consider replicating the approach in India to reduce the cost of monitoring and supervision.

What are related policies? – Lessons

Lesson 6: Evaluating direct subsidies together with indirect fiscal support—such as guarantees and concessional loans—ensures the entire fiscal impact of the project does not exceed its economic benefits. Having a separate agency manage guarantees or concessional loans, or making policies non-discretionary, reduces conflicts of interest.

This study has emphasized that direct subsidies are usually just one of many instruments used by governments to make PPPs financially viable. Other, more indirect forms of fiscal

support include guarantees and concessional loans. There are two important lessons in setting policies to deal with indirect fiscal support:

- Evaluating direct subsidies together with indirect fiscal support—such as guarantees and concessional loans—ensures the entire fiscal impact of the project does not exceed its economic benefits
- Having a separate agency manage guarantees or concessional loans, or making policies non-discretionary, reduces conflicts of interest.

First, ***evaluating direct subsidies together with indirect fiscal support ensures the entire fiscal impact of the project does not exceed its economic benefits.*** When evaluating projects governments should consider the full package of fiscal support, including direct subsidies, contingent liabilities arising from guarantees, and concessional loans. Colombia, for example, has been a leader in assessing the contingent liabilities associated with guarantees when it approves PPP projects. This practice helps avoid situations where a project is approved that appears to be economically viable, but has been creatively structured with implicit subsidies that are larger than the economic benefits. It also helps to identify and manage fiscal risk. Many countries are following suit by developing policies to systematically assess and manage contingent liabilities. Assessing guarantees can be technically complex and burdensome, however, particularly in developing countries with limited capacity and experience with PPPs.

An alternative to rigorously evaluating indirect forms of fiscal support is to use fixed policy rules for determining, for example, what kind and amount of guarantees a PPP can receive. Consistent, well-defined policies for providing guarantees will help to manage fiscal risk and make it easier to evaluate the fiscal impact of PPP projects. India has adopted a clear policy for providing security for lenders. In the case that the PPP project is terminated, the lender receives a payment equal to at least 90% of the outstanding debt. This eliminates discretion, makes it easier to compare projects, and reduces the need to evaluate the total fiscal impact on a project-by-project basis.

Second, ***having a separate agency manage guarantees or concessional loans, or making policies non-discretionary, reduces conflicts of interest.*** Conflicts of interest can emerge when the same agency manages and approves subsidies along with other indirect forms of fiscal support. Staff of Mexico's FONADIN review the entire financial package when evaluating a project and helping to prepare a transaction. Therefore, FONADIN is

simultaneously responsible for providing subsidies, guarantees, and concessional loans. This discretion over how different forms of fiscal support are structured may create an incentive to approve projects with more favorable lending terms or guarantees. And, projects can be more easily gamed by investors and implementing agencies during the structuring process. This, in turn, could lead to more implicit subsidies and reduce the transparency of the total fiscal impact of a PPP project. Hence, while all forms of fiscal support should be taken into consideration when evaluating subsidies, it is a good idea to manage them separately or set non-discretionary policy rules like those adopted by India.

Finally, in addition to indirect fiscal support, policies for setting user fees also impact the financial viability of a PPP project and therefore have an effect on how subsidies are determined and allocated. It is good practice to set clear, concrete policies for determining user fees, such as toll rates, to provide investors with more certainty about the source of revenue and make it easier evaluate projects on the basis of the amount of subsidy requests. Part of the success of India's program can be attributed to its consistent, sector-wide policy for setting charges on toll roads. This has also helped to ensure PPPs benefit economically disadvantaged regions and demographics, but it has also reduced uncertainty and helped to eliminate variation in how the amount of subsidy is determined. One downside, however, is it has eliminated the flexibility of setting profit maximizing tolls based on users' willingness to pay.

How does the government monitor outcomes? – Lessons

There is no clear best practice for monitoring outcomes associated with subsidy payments. The countries in this study use a combination of three approaches to monitoring outcomes in their PPP programs generally, and for subsidies specifically.

- The first approach—used by Brazil, Colombia, Mexico, and India—is for staff of the subsidy fund or PPP unit to monitor subsidy disbursements and project performance. Staff managing the subsidy program typically have a strong interest in making sure subsidy funds are spent well and have the PPP knowledge to monitor projects effectively
- The second approach is to have an independent monitoring agency or audit agency, such as Brazil's Fiscal Commission and Colombia's General Comptroller's office. Having an independent, third-party monitor can help provide an additional check.

However, a third party can also create more inefficiencies and, to the extent the agency is exposed to its own political pressures or lacks the capacity to evaluate PPPs, can risk politicizing the process and stalling good PPP projects

- The third approach, which India has adopted, is to use the lead private financial institution as a proxy monitor. The lead financial institution signs an agreement with the Ministry of Finance and the private company developing the project. The terms of the agreement require that the financial institution submit performance reports to the Empowered Committee and Empowered Institution of the VGF Ministry of Finance on a regular basis. This reduces the burden on the PPP Cell, and the lender has a strong financial incentive to monitor the project and accurately report on the progress of its own investment. Ongoing monitoring of the outputs and performance of the PPP is done by the implementing agency.

There is not a clear lesson to draw from these examples. Each of these approaches has different advantages and typically at least two approaches are combined. The optimal monitoring policy will depend on the institutional arrangement in the particular country. Regardless of the institutional arrangement, governments should ensure that the responsible agency has the capacity to monitor, report, and enforce the terms of the contract effectively.

How is information publicly disclosed? – Lessons

Lesson 7: Creating a website to host policy documents and information on projects receiving subsidies can improve transparency and public oversight, and increase the interest and confidence of private investors.

Increasing transparency can often strengthen a PPP program by giving investors more confidence, attracting greater interest, and increasing participation and competition in a country's PPP program. Following open and competitive procurement processes when allocating subsidies increases transparency, and is widely accepted as best practice. Another important way to improve transparency is by publicly and regularly disclosing information. This can include:

- Creating and publishing clear and concrete policy rules and implementing guidelines
- Making information on the projects publicly available throughout the development process.

Most countries, including the four evaluated in this study, are using the internet as a low-cost, accessible medium to make information on the PPP programs publicly available to citizens, private investors, and implementing agencies. ***Making information on PPPs and the subsidy program available on a website can improve transparency and public oversight, and increase the interest and confidence of private investors.*** India has an especially complete and user-friendly website that includes a database of all PPP projects in the country. Brazil has also started routinely publishing reports on PPP projects at the national, state, and local level.

While the countries in this study are moving in the right direction and making information more available, it is important to note that complete transparency is not necessarily optimal. Publicly disclosing information can be burdensome and not all information should be disclosed—for example, publishing details of bidder’s proposals can facilitate collusion and reduce competition. Countries should strive for the right amount of transparency at a reasonable cost, and not transparency for its own sake.

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