Version 3

PUBLIC-PRIVATE PARTNERSHIPS

Reference Guide

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This version of the PPP Reference Guide is available in its entirety, including referenced documents, in the PPP Knowledge Lab.

The PPP Knowledge Lab brings together the most relevant and authoritative resources on public-private partnerships in one location to empower governments and their advisors to decide whether a PPP is the best option to deliver infrastructure services and, if so, help them design and deliver best in class infrastructure projects. Whether you are just learning how and when to use PPPs or need more specific information on a country or sector, the PPP Lab has the resources to support you.

Launched in 2015 by the African Development Bank (AFDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IADB), the Islamic Development Bank (IsDB), and the World Bank Group, with the support of the Public-Private Infrastructure Advisory Facility (PPIAF), the PPP Knowledge Lab serves the needs of governments and practitioners alike, filling the gap in reliable, trustworthy knowledge about public-private partnerships. Since launch, five new partners have joined the Lab: the European Investment Bank (EIB), the Global Partnership on Output-Based Aid (GPOBA), the Organisation for Economic Co-operation and Development (OECD), the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), and the United Nations Economic Commission for Europe (UNECE).

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Foreword

We are delighted to present the third edition of the PPP Reference Guide. The two previous editions were jointly developed by the World Bank Group, the Asian Development Bank (ADB) and the Inter-American Development Bank (IADB). For this version, in addition to the ADB and IADB, we have had the pleasure of collaborating with the European Bank for Reconstruction and Development (EBRD), Global Infrastructure Hub (GI Hub), Islamic Development Bank (IsDB), Organisation for Economic Co-operation and Development (OECD), United Nations Economic Commission for Europe (UNECE), and United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

Since the last edition of the Guide, governments have endorsed the Sustainable Development Goals (SDGs), and have reached agreement at the International Conference on Financing for Development (FfD) that public finance alone will not suffice to deliver the infrastructure necessary to eliminate extreme poverty, and meet the SDGs and COP21 objectives. Government officials and multilateral institutions are increasingly looking for innovative ways to mobilize private sector contributions, blend public and private finance to scale up infrastructure investments, and enhance the efficiency and quality of public service delivery. PPPs are at the very core of this endeavor. A major objective of the World Bank Group and the other multilateral organizations that have contributed to this product is to help governments make well-informed decisions regarding their infrastructure programs, based on sound analysis, and commensurate with their macroeconomic objectives and institutional capabilities. To this end, we are generating global knowledge and diagnostic tools, offering advisory services, and technical assistance.

This book is part of this effort to help decision makers and PPP practitioners. It aims to disseminate good practices on infrastructure and PPP policies and implementation. The third edition of the Guide is particularly interested in the development of efficient legal and institutional frameworks that help governments identify and select PPP projects, and structure and procure affordable, sustainable PPP contracts that deliver needed services to populations. We are also pleased to witness the expansion of this Reference Guide into new subject areas, particularly Stakeholder Communication and Engagement, Environmental & Social Studies and climate change. Additional relevant sections also now address municipal PPPs, climate change issues, and private participation in fragile and conflict-affected states.

This Reference Guide now has an online version, allowing for regular updates, on the PPP Knowledge Lab, the online PPP knowledge dissemination platform that the World Bank Group shares with other multilateral organizations.

On behalf of the World Bank Group and its partner institutions, we hope that you will find the information in this Reference Guide interesting, pragmatic and useful.

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Numerous individuals contributed to the development of this Guide but the team would particularly like to thank the following for their significant contributions: James Ballingall, Pedro Barros, David Baxter, Philippe Burger, David Ehrhardt, Karineh Grigorian, Andrés Rebollo, Andrew Sprott, James Stewart, Stephane Straub, and Ned Yescombe.

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pub·lic-pri·vate part·ner·ship

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a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to performance

Introduction

There is no single, internationally accepted definition of *Public-Private Partnership*. This *Reference Guide* takes a broad view of what a PPP is, defining it as:

> *A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.*

This definition

- Encompasses PPPs that provide for both new and existing assets and related services;
- Includes PPPs in which the private party is paid entirely by service users, and those in which a government agency makes some or all payments;
- Encompasses contracts in many sectors and for many services, provided there is a public interest in the provision of these services and the project involves long-life assets linked to the long term nature of the PPP contract.

The project functions transferred to the private party—such as design, construction, financing, operations, and maintenance—may vary from contract to contract, but in all cases the private party is accountable for project performance and bears significant risk and management responsibility. PPP contracts typically allocate each risk to the party that can best manage and handle it—risk transfer to the private party is not a goal, but is instrumental for full transfer of management responsibility and for the alignment of private interests with the public interest. *Section 1.1 - What is a PPP: Defining 'Public-Private Partnership'* provides more information on the range of contract types that constitute PPPs under this definition and the different nomenclature used to describe them.

Throughout this *Reference Guide*, the term "infrastructure" is used to cover the range of sectors and services for which PPPs are used. In this context, "infrastructure" encompasses economic, social, and government infrastructure—that is, the "basic physical and organizational structures" needed to make economic, social, and government activity possible (using the Oxford English Dictionary definition). *Section 1.1.3 - How PPPs Are Used: Sectors and Services* further describes the range of sectors and services for which PPPs are used.

At a minimum, a PPP will include a long-term commitment to provide infrastructure services—this implies the design and construction of infrastructure, or the renewal of existing assets, and the provision of long-term asset-maintenance. Most PPPs include additional services, including the full operation of the infrastructure when the private operator is able to commit to service quality and performance, and the procuring authority is able to define that same quality and performance. These additional services should also take place over the long term.

Practitioners can, if their projects are well-selected and their PPPs carefully structured, design and implement projects that optimize cost effectiveness and social well-being by aligning private partner profit objectives with public sector service objectives that support the public interest.

A substantial body of knowledge on Public-Private Partnerships (PPPs) has been generated across the world by a broad spectrum of practitioners from government, the private sector, international development institutions, academia, and expert advisors. This *Reference Guide* helps readers navigate this body of knowledge. It introduces key topics on PPP, sets out options, and directs readers to examples and references where they can learn more.

A growing number of governments are interested in partnering with the private sector to provide public infrastructure assets and services. This *Reference Guide* is meant to assist them. It aims to help government officials and other interested parties in answering these questions:

- What are PPPs, and why use them?
- What kind of policy, legal, and institutional framework is need to ensure PPPs achieve their stated objectives efficiently and effectively?
- What is the process for developing and implementing a PPP project?

The *Reference Guide* attempts to provide the most relevant examples, references and resources to help readers inform themselves on key PPP topics. It is not a toolkit or a step-by-step guidebook; nor should readers expect to find a presentation of the status of PPPs in any given country or sector here. Those who wish to educate themselves on PPPs more thoroughly will find the **APMG PPP Certification Guide** (APMG 2016) a useful resource. Examples of well-formulated PPP manuals and toolkits are the **South Africa PPP Manual** (ZA 2004a), the **Caribbean PPP Toolkit** (Caribbean 2017), and the World Bank sectoral toolkits (WB 2016f)—for instance, the toolkit on roadways (WB 2009a).

What is in the Reference Guide

The *Reference Guide* is divided into three modules:

- **Module 1: PPP Basics—What and Why?** Provides an overview of Public-Private Partnerships (PPPs)—what they are, how they are used to provide infrastructure assets and services, their benefits, and their pitfalls
- **Module 2: Establishing the PPP Framework.** Describes the elements of a sound legal and institutional PPP framework—that is, the policy, processes, institutions, and rules that together define how PPPs will be identified and implemented, and that promote good governance of PPP programs
- **Module 3: Implementing PPP Projects.** Provides guidance on each stage of developing and implementing a PPP project—from initially identifying candidate projects to managing PPP contracts through the project lifetime

Each module begins with an introduction, providing an overall framework for the module's content, and listing any helpful overview references. The modules are divided into sections, each covering a different topic.

Who should use the Reference Guide

This *Reference Guide* targets government officials who wish to improve their knowledge of PPPs. Other parties, including civil society organizations, private sector participants, universities, or other readers will find different parts of this *Reference Guide* useful at different times. As noted previously, the *Reference Guide* is part synthesis and part bibliography. As such, it may be useful for both the newcomer to the PPP area looking for a structured introduction to key PPP topics, and the expert who may find additional references in some specific area.

Using references

These references are **highlighted in bold type**, and followed, in parenthesis, by an author and a year, for example: '(Delmon 2016)' or '(OECD 2015b)', where 'b' differentiates between different works published in the same year by the same author. When convenient, a location within the reference will be added after a comma, such as (Delmon 2016, chapter 15). All references can be found in the

Reference List at the end of this book. The number in square brackets following the reference indicates the unique ID number of the document on the PPP Knowledge Lab library.

The *PPP Reference Guide* is also available online at the PPP Knowledge Lab, a fully curated, comprehensive site for PPPs developed by the world's leading multilateral development agencies, with funding from the Public-Private Infrastructure Advisory Facility. The PPP Knowledge Lab allows users to read and search the content of the Reference Guide online, and download the latest version of the book in PDF format which includes hyperlinks to all references.

Key references for each section will be written out with their complete citation at the end of the section. An example of a "key references" table is provided below. In some cases, the key references are organized by subject area, within the overall topic. Readers who just want to quickly get a sense of the most important references on the topic can refer directly to these key references.

PPP Reference Guide Modules and Who Should Read Them

Module	Who Should Read It?
Module 1: PPP Basics: What and Why	• Anyone who wants to learn more about what PPPs are, and how they can be used to provide infrastructure assets and services • PPP practitioners looking for material to help articulate the benefits and risks of a PPP program to stakeholders within and outside governments
Module 2: Establishing the PPP Framework	• Government officials in the process of, or considering, developing or refining the policy, legal, and institutional framework that governs how PPPs are implemented • Finance ministry officials or other stakeholders concerned about public financial management for PPP programs
Module 3: PPP Cycle	• Government officials responsible for developing or refining PPP processes • Those responsible for developing, assessing, or implementing PPP projects, or for engaging advisors to support the PPP process—including PPP practitioners looking for tips from global experience • Other stakeholders interested in learning more about how PPPs work

Key References: Example

Reference	Description
Yescombe, E.R. 2007. *Public-Private Partnerships: Principles of Policy and Finance*. Oxford: Butterworth-Heinemann.	This book provides a comprehensive review of PPPs, including guidance to practitioners about key aspects of designing and implementing PPP policy and projects. Chapter 5 provides guidelines for public-sector appraisal of PPP projects.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	This guide for public sector practitioners describes how to develop and implement a PPP successfully, by developing a marketable project and attracting the right private partners. Chapter 4 provides guidelines for PPP project selection.

Module 1

PPP Basics
What and Why

The module provides an overview of PPPs, and discusses projects and contracts where there is a public interest in the provision of services and where the project involves long-life assets linked to the long-term nature of the PPP contract. *Section 1.1 - What is a PPP: Defining "Public-Private Partnership"* outlines the variety of contract types, and the terminology used to describe them. This section also presents types of partnerships to which the definition and guidance material in this Reference Guide would generally not apply. Some of them present similitudes to PPPs, others are significantly different.

Section 1.2 - Infrastructure Challenges and How PPPs Can Help discusses opportunities brought by PPP procurement, and the pitfalls practitioners may experience. PPPs are presented not only as a way of bringing needed additional investment to public infrastructure but also as a mechanism for improving infrastructure planning and project selection. It is also a mechanism for enhancing project management and guaranteeing adequate maintenance, avoiding cycles of construction followed by persistent neglect and then high-cost reconstruction. Well-structured PPPs bring private capital for investment, private-sector expertise, and commercial management incentives needed for enhancing service provision to users.

Therefore, private sector financing provides two key functions in a PPP. First, it complements public sector financing and allows projects to go forward that otherwise would have been discarded due to fiscal constraints. Second, it creates an incentive mechanism aligning private and public interests. *Section 1.3 - How PPPs are Financed* describes the various finance structures utilized for PPPs, and how governments can adjust contractual provisions to the financial environment, help develop markets, mitigate risks, and enhance credit.

1.1 What is a PPP: Defining "Public-Private Partnership"

The introduction to this *Reference Guide* provided a broad definition of a PPP:

> *A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.*

This section fleshes out this definition with more detail, describing PPP contract types (*Section 1.1.1 - PPP Contract Types and Terminology*), the terminology used to describe them; and clarifying related types of partnership between public and private sector parties to which the definition and guidance material in this *Reference Guide* would generally not apply (*Section 1.1.2 - What PPP is Not: Other Types of Private Involvement*).

1.1.1 PPP Contract Types and Terminology

This section describes in more detail the range of PPP contract types under the definition of PPP used in this *Reference Guide*; and some of the common terminology used globally to describe PPPs.

Most PPP projects present a contractual term between 20 and 30 years; others have shorter terms; and a few last longer than 30 years. The term should always be long enough for the private party to have an incentive to integrate service delivery costs considerations into the design phase of the project. This includes maintenance considerations as well, in order for the trade-offs between initial investment cost and future maintenance and operation costs to be optimized. The "whole-life" approach, considering whole-life costs and whole-life benefits, maximizes the efficiency of service delivery. It is at the core of the rationale for using PPPs for the delivery of public services. The precise length of the contract depends on the type of project and policy considerations. Policy makers need to satisfy themselves that the demand for the services delivered by the project will be sustained over the whole life of the contract; the private party should be able to accept responsibility for service delivery over its term; and the procuring authority should be able to commit to the project for its term. The availability of finance, and its conditions, may also influence the term of the PPP contract.

PPP contract types

Throughout the *Reference Guide*, PPPs are described in terms of three broad parameters: first, the type of asset involved; second, what functions the private party is responsible for; and third, how the private party is paid.

Many PPPs involve new **assets**—often called *greenfield* projects. For example, the United Kingdom's PPP program—the Private Finance Initiative (PFI)—involved private companies in financing, building, and managing new public assets, from schools and hospitals to defense facilities. PPPs can also be used to transfer responsibility for upgrading and managing existing assets to a private company—or *brownfield* projects. In either case, a key feature of a PPP is that the assets or services provided are specified in terms of outputs rather than inputs—that is, defining what is required, rather than how it is to be done.

A central characteristic of a PPP contract is that it bundles together multiple project phases or functions. Nonetheless, the **functions** for which the private party is responsible vary and depend on the type of asset and service involved. Typical functions include:

- **Design** (also called *engineering work*)—involves developing the project from initial concept and output requirements to construction-ready design specifications.

- **Build, or Rehabilitate**—when PPPs are used for new infrastructure assets, they typically require the private party to construct the asset and install all equipment. Where PPPs involve existing assets, the private party may be responsible for rehabilitating or extending the asset.

- **Finance**—when a PPP includes building or rehabilitating the asset, the private party is typically also required to finance all or part of the necessary capital expenditure, as described further in *Section 1.3 - How PPPs Are Financed.*

- **Maintain**—PPPs assign responsibility to the private party for maintaining an infrastructure asset to a specified standard over the life of the contract. This is a fundamental feature of PPP contracts.

- **Operate**—the operating responsibilities of the private party to a PPP can vary widely, depending on the nature of the underlying asset and associated service. For example, the private party could be responsible for:

  - Technical operation of an asset, and providing a bulk service to a government off-taker—for example, a bulk water treatment plant

  - Technical operation of an asset, and providing services directly to users—for example, a PPP for a water distribution system

Table 1.1 Infrastructure Contract Nomenclature

Contract Nomenclature	Overview Description and Reference	Type of Asset	Functions Transferred	Payment Source
Design-Build-Finance-Operate-Maintain (**DBFOM**); Design-Build-Finance-Operate (**DBFO**); Design-Construct-Manage-Finance (**DCMF**)	Under this nomenclature, the range of PPP contract types is described by the functions transferred to the private sector. The *maintain* function may be left out of the description (so instead of DBFOM, a contract transferring all those functions may simply be described as DBFO, with responsibility for maintenance implied as part of operations). An alternative description along similar lines is Design-Construct-Manage-Finance (DCMF), which is equivalent to a DBFOM contract.	New infrastructure	As captured by contract name	Can be either government or user pays
Build-Operate-Transfer (**BOT**), Build-Own-Operate-Transfer (**BOOT**), Build-Transfer-Operate (**BTO**)	This approach to describing PPPs for new assets captures legal ownership and control of the project assets. Under a BOT project, the private company owns the project assets until they are transferred at the end of the contract. BOOT is often used interchangeably with BOT, as **Yescombe** (Yescombe 2007) describes. In contrast, a Build-Transfer-Operate (BTO) contract, asset ownership is transferred once construction is complete. As **Delmon** (Delmon 2015, 20–21) describes, ownership rights mainly affect how handover of assets is managed at the end of the contract.	New infrastructure	Typically, design, build, finance, maintain, and some or all operations Under some definitions, BOT or BTO may not include private finance, whereas BOOT always includes private finance	Can be either government or user pays
Rehabilitate-Operate-Transfer **(ROT)**	In either of the naming conventions described above, *Rehabilitate* may take the place of *Build* where the private party is responsible for rehabilitating, upgrading, or extending existing assets.	Existing infrastructure	As above, but *rehabilitate* instead of *build*	As above
Concession	*Concession* is used for a range of types of contract, as described in **Delmon** (Delmon 2010, Box 1 on page 9). In some jurisdictions, concession may imply a specific type of contract; while in others it is used more widely. In the PPP context, a concession is mostly used to describe a user-pays PPP. For example, in Brazil, the Concession Law applies only to user-pays contracts; a distinct PPP Law regulates contracts that require some payment from government. On the other hand, *concession* is sometimes used as a catch-all term to describe a wide range of PPP types—for example, all recent PPPs in Chile have been implemented under the Concession Law, including fully government-pays contracts.	New or existing infrastructure	Design, rehabilitate, extend or build, finance, maintain, and operate—typically providing services to users	Usually user pays—in some countries, depending on the financial viability of the concession, the private party might pay a fee to government or might receive a subsidy
Private Finance Initiative (**PFI**)	The United Kingdom was one of the first countries to introduce the PPP concept under the term *Private Finance Initiative*, or *PFI*. It is typically used to describe a PPP as a way to finance, build and manage new infrastructure.	New infrastructure	Design, build, finance, maintain— may include some operations, but often not providing services directly to users	Government pays
Operations and Maintenance (**O&M**)	O&M contracts for existing assets may come under the definition of PPP where these are performance-based, long-term, and involve significant private investment (sometimes also called performance-based maintenance contracts).	Existing infrastructure	Operations and maintenance	Government pays
Affermage	An *affermage* contract is similar to a concession, but with the government typically remaining responsible for capital expenditures. *Affermage* in particular may have a specific meaning in some jurisdictions. The **World Bank's explanatory notes on water regulation** (Groom et al. 2006, 36–42) describe lease contracts, as well as concessions. Such contracts may or may not come under the definition of PPP, depending on the duration of the contract.	Existing	Maintain and operate, providing services to users	User pays—private party typically remits part of user fees to government to cover capital expenditures

Contract Nomenclature	Overview Description and Reference	Type of Asset	Functions Transferred	Payment Source
Management Contract	The state retains asset ownership, and capital expenditure is the responsibility of the public sector, whereas operation and maintenance is the handled by the private sector. These types of contracts are 3-5 years in duration.	Existing	Operations and maintenance	Management fees extended to the contractor
Franchise	*Franchise* is sometimes used to describe an arrangement similar to either a concession or a lease or affermage contract, as described in **Yescombe** (Yescombe 2007).	Existing or new	May include design, build, and finance, or may be limited to maintaining and operating an asset	User or government pays

- Providing support services, with the government agency remaining responsible for delivering the public service to users—for example, a PPP for a school building that includes janitorial service

For the provision of these services, the private party typically creates a PPP company, a **Special Purpose Vehicle (SPV)**. A dedicated SPV allows for the segregation of all assets and liabilities linked to the private provision of services.

The PPP **payment mechanism** is a third defining feature. The private party can be paid by collecting fees from service users, by the government, or by a combination of the two—with the common, defining characteristic that payment is contingent on performance. The options for a payment mechanism can depend on the functions of the private party:

- Under *user-pays* PPPs, such as toll roads, the private party provides a service to users, and generates revenue by charging users for that service. These fees (or tariffs, or tolls) can be supplemented by government payments—for instance, complementary payments for services provided to low-income users when the tariff is capped; or subsidies to investment at the completion of construction or specific construction milestones. The payments may be conditional on the availability of the service at a defined quality level. The social returns generated by user-pays PPPs may benefit the broader population, not only those who directly use the asset. For example, the value of real estate near the PPP project may rise as economic activity increases in the area. Non-users are then free-riding unless property taxes are adjusted.

- In *government-pays* PPPs, the government is the sole source of revenue for the private party. Government payments can depend on the asset or service being available at a contractually-defined quality (availability payments)—for example, a free highway on which the government makes periodic availability payments. They can also be volume-based payments for services delivered to users—for example, payment from hospital care effectively delivered.

These characteristics can be combined in various ways to create a wide range of PPP contracts. These contracts can be thought of as a continuum between public and private provision of infrastructure—transferring increasing responsibilities and risk to the private sector.

The payment mechanism should be structured in such a way that the **net remuneration of the private party is linked to performance**. For the private party to have the right incentives to deliver services at the performance levels intended by the procuring authority, its remuneration, net of costs, should increase when approaching these levels. Additionally, sustained significant deviations from the intended performance levels should lead to contract cancellation, with termination payments designed so that quitting the project is never an easy solution for the private party.

PPPs are not the only way the private sector can be involved in infrastructure. These adjacent arrangements are described further in *Section 1.1.2 - What PPP is Not: Other Types of Private Involvement*.

PPP terminology

This *Reference Guide* uses the term *PPP* to describe the wide range of contract types, regardless of the terminology in any specific country or jurisdiction. While PPP contracts can be categorized using the parameters above, there is no consistent, international standard for naming and describing these different types of contract.

This varying terminology can create confusion when comparing international experience.

Some governments define PPP in their PPP policies or laws to mean a specific range of contract types, as described in *Section 2.1 - PPP Policy*. Other terms are sometimes used as synonyms for PPP, or refer to particular types of PPP—either in law or in common usage. For example:

- Brazilian law distinguishes between user-pays and government-pays projects—the Concessions Law governs PPP projects fully paid for by users; other PPP projects are governed by the PPP Law. Accordingly, only the latter are commonly referred to as PPPs. In France, the term *PPP* is restricted to government-pays contracts implemented under the PPP Law; user-pays contracts are referred to as *concessions*.

- In the United Kingdom, government-pays PPPs for new assets are known as *Private Finance Initiative* or *PFI projects*, while PPPs for existing assets (such as hospitals or railways) are sometimes known as *franchises*.

- In some jurisdictions, the term *concession* is used to refer to specific types of PPPs. For example, in Brazil, a concession is a fully user-pays PPP. In Chile, all PPPs are called *concessions* and implemented under the country's Concessions Law.

- The process of entering into a PPP is sometimes referred to as *privatization*, or for the resulting assets to be termed *private*—although this *Reference Guide* makes a distinction between PPP and privatization, as described further in the following section.

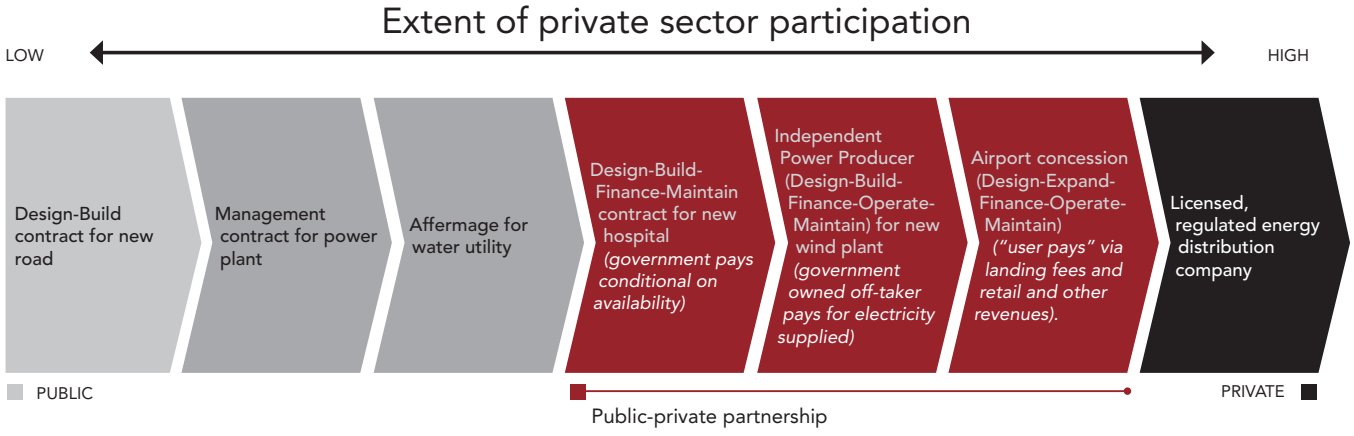
In some cases, PPPs are described by the functions transferred to the private party. For example, a Design-Build-Finance-Operate-Maintain, or DBFOM contract would allocate all those functions to the private party. Other nomenclatures such as Build-Operate-Transfer (BOT) focus instead on the legal ownership and control of assets.

The asset may be property of the public or private partner—usually decided by the legal constraints in place in any given country. The relevant factor for PPPs is not who the legal owner of an asset is, but who holds the economic rights to exploit that asset. The SPV may use an asset as collateral or simply use the flow of funds generated by the operation of the asset. Therefore, a BOT may not be significantly different from a BTO, in which transfer occurs immediately after construction. For example:

- In France, the roles governing the *domanialité* (defining the public domain) stipulate that the public domain can never be sold, seized by a tribunal, or subject to statutes of limitation. Consequently, the assets built on public land belong to the public authority, although the private partner in a PPP can be granted specific economic rights to those assets.

- In other countries, public land can be leased to private operators who built and own the asset on that land until its ownership is transferred to government at the end of the contract. The ownership is not significant for accounting and statistical

Figure 1.1 Examples of PPP Contract Types



purposes—IPSAS, the International Public Sector Accounting Standards, focuses on who controls the use of the infrastructure instead of who owns it to determine whether the asset should be consolidated on the government's balance sheet.

- The **2016 Eurostat Guide to the Statistical Treatment of PPPs** (EPEC 2016) states that asset ownership does not influence statistical classification—but ownership of the asset following the expiration of the PPP contract may.

Table 1.1 - Infrastructure Contract Nomenclature explains common PPP terminology, and how each relates to the description by asset type, functions, and payment mechanisms described above.

The following resources provide more information on PPP contract types and nomenclature:

- **Delmon's paper on understanding options for PPPs in infrastructure** (Delmon 2010) provides the most detailed discussion. Delmon classifies PPPs by five factors similar to the characteristics described above: (1) whether the PPP is a new or existing business or asset; (2) the responsibility of the private party for construction; (3) the level of private finance involved; (4) the nature of the project company's service delivery obligations (bulk supply or retail level); and (5) the source of revenue stream.

- **Yescombe chapter "What are Public-Private Partnerships"** (Yescombe 2007) also describes the range of PPP structures and how these are classified.

- **Farquharson et al chapter "Defining Public-Private Partnerships"** (Farquharson et al. 2011, 9–14) focuses on how PPPs differ from privatization and management contracts; and describes user-fee and availability-based PPPs.

- **The World Bank explanatory notes on key topics in water sector regulation** (Groom et al. 2006, Note 4) describe common contract types for managing existing assets in the water sector: concession, lease or affermage, and management contracts.

- **The World Bank's PPP in Infrastructure Resource Center website** (PPPIRC) describes a spectrum of PPP types based on the extent of private sector's participation.

Section 3.3 - Structuring PPP Projects provides guidance and hyperlinks on PPP contract structures, and how governments can decide which to use for a particular project.

1.1.2 What PPP is Not: Other Types of Private Involvement

Besides defining the essence and the main features of PPPs, it is also helpful to clarify what they are *not*. This is useful to help us understand why the various features of the PPP model all contribute to generating efficient, affordable, and sustainable projects, and why deviation from the standard PPP model can cause project failure. This does not mean that projects and contracts developed as variants of the PPP model are not useful. On the contrary, they may be very useful in certain circumstances; however, often, when projects and contracts that are structured as a PPP fail, the cause(s) can be tracked to deviations from the defining characteristics of a PPP. This can be seen in the **UK Audit Office's report on the failure of a PPP to upgrade London's underground transportation infrastructure** (NAO 2009a).

Other types of contract for providing public assets and services

Governments enter into a wide range of contracts with private companies. Some of these contract types share some of the typical PPP characteristics—such as being long-term, output based, or performance-related—but they are not PPPs as defined above. For example, these include:

- **Management contracts** do not share the long-term characteristic of PPPs, the significant private capital investment, and the high level of responsibility for long-term performance brought by investment in infrastructure assets. However, they typically include similar performance indicators and requirements to PPPs. Performance incentives are created primarily through payment and penalties schemes. Being performance-based, they have a role to play where the private sector is not willing to invest, or where government is not willing to make a long-term commitment. The **World Bank's explanatory notes on water regulation** (Groom et al. 2006, 36–42), for example, describe how management contracts are used in the water sector. Operations and Maintenance (O&M) and performance-based maintenance contracts may also fall outside the definition of PPP

where they are of short duration and lack substantial investment by the private operator.

- **Affermage contracts** are contracts under which a government delegates management of a public service to a private company in return for a specified fee. For example, in an affermage contract in the water sector, the remuneration of the operator is a fixed amount per cubic meter of water sold, although this amount can be adjusted over the years based on inflation and the operator's performance. Affermage contracts also have no infrastructure investment by the private operator—again, they have been the solution when appetite for investment is low, or when government is able to invest and does not wish to transfer so much management responsibility to a private party.

- **Design-build or turnkey contracts** include similar output-based specifications; however, as shorter-term contracts that do not include maintenance or operation, they do not create the same long-term performance incentives as PPPs. For complex infrastructure, these contractual requirements in a design-build contract may not result in optimal design, allowing contractors to cut corners, leading to additional maintenance and operational costs. Design-build contracts are short-term contracts, with no long-term responsibilities allocated to the private party. They are commonly used for simple projects, or for projects where the performance is credibly expected to keep at the same level with proper maintenance, and therefore corner-cutting is not relevant.

- **Financial lease contracts** are long-term contracts for providing public assets. However, these contracts transfer significantly less risk to the private party than PPPs because government maintains a larger proportion of risk than it normally would in a PPP. Financial lease contracts do not transfer significant responsibility for management and performance to the private party. They are not expected to produce significant improvements in service performance, or to reach efficiency savings.

While the material in this *Reference Guide* focuses on PPP arrangements, the references provided in this *Guide* may also be useful for governments considering these related contractual arrangements; conversely, some references concerning these contract types may provide applicable lessons for PPPs. However, practitioners should bear in mind that differences in risk allocation will likely trigger differences in bidding and operational behavior from the private party.

Other concepts of "public-private partnerships"

The expression *public-private partnership* is commonly used for several other types of arrangements between public and private entities—all of which differ significantly from the contracts we discuss in this *Reference Guide.*

A few examples of arrangements not covered in this *Guide*:

- Public-private partnerships for innovation—the U.S. Food and Drug Administration (FDA) and the University of Rochester initiated a so-called public-private partnership to improve pain treatment called Analgesic Clinical Trial Innovations, Opportunities, and Networks (ACTION) in 2011—this multiyear initiative aims to promote and accelerate the development of novel analgesics by identifying faults in the design of clinical trials.

- Public-private partnerships for environment protection—the petroleum industry has a long history of so-called public-private partnerships aimed at finding cooperative solutions to environmental, educational, and community issues—these partnerships are voluntary activities aimed at ensuring that oil and natural gas companies are perceived as an integral and contributing part of society and the communities in which the industry operates.

- Public-private partnerships for public health or against neglected diseases—in 2010, COTCO, the oil firm that operates the Chad-Cameroon pipeline in Cameroonian territory, initiated a so-called public-private partnership project to control malaria (a major public health problem in the area) along the pipeline corridor.

- Public-private partnerships for terrorism insurance—in the aftermath of the 9/11 attack, the Terrorism Risk Insurance Act, also known as TRIA, was approved, creating a so-called public-private partnership with the purpose of stabilizing the insurance market, ensuring that private terrorism coverage would be widely available and providing for an orderly recovery in the event of future catastrophic losses. Under the program, insurers would have to absorb significant losses—approximately $30

billion in industry-wide deductibles—before the government would step in to provide additional coverage.

- Public-private partnerships against health care fraud—a voluntary, collaborative partnership between U.S. federal and state governments, private health insurance organizations, and health care anti-fraud groups designed to share information and best practices to improve fraud detection, prevent payment of fraudulent health care billings, and find and stop scams.

- Public-private partnership against terrorism—the United Nations Global Counter-Terrorism Strategy encourages "public-private partnerships"; the G8 launched a Global Forum for Partnerships between States and Businesses to Counter Terrorism (Moscow 2006) which resulted in the G8 Strategy for Partnerships between States and Businesses to Counter Terrorism.

This *Reference Guide* does not address these types of contracts. Their characteristics and properties are too different from the PPPs referred to in the *Guide*. In particular, they do not exhibit the link between high capital investment and strong performance commitments that we witness in the PPPs we are addressing—some of those agreements do not have significant capital investment, others do not have any kind of credible commitment on performance, but simply a commitment to apply an entity's best efforts towards a certain goal.

1.1.3 How PPPs Are Used: Sectors and Services

PPPs have been used in a wide range of sectors to procure different kinds of assets and services. In all cases, the PPP project constitutesor contributes to the provision of public assets or services; and it involves long-life assets.

The definition of *public services* may vary across countries, and over time. The material presented in this *Reference Guide* is neutral to this definition; considering as a *public service* any service that the government considers its responsibility to provide or ensure is provided. The focus on long-term assets highlights the long-term nature of a PPP contract. PPPs generally involve fixed assets but projects may also include related long-life assets that are purpose or site-specific, such as train rolling stock. *Table 1.2 - PPPs by Sector—Examples and Resources* provides a few examples of the types of assets and services that can be procured by PPPs together with some references providing more in-depth analysis on the range of worldwide experiences with PPPs.

Some countries focus their use of PPPs on certain sectors only, as described in *Section 2.1 - PPP Policy*. The rationale for such narrow focus can include the desire to support the government's investment priorities; to improve service delivery; or give precedence to sectors in which PPPs are expected to be most successful.

Conversely, some countries define certain sectors or services within sectors, for which PPPs may not be used. These are sometimes called *core services*—that is, services that should be provided exclusively by government. The definition of core services varies across countries, depending on local preferences and perceptions. For example, in the healthcare sector in the United Kingdom, PPPs have been used to construct hospitals and provide ancillary services such as maintenance, but the core medical services remain publicly-run (McKee et al. 2006). On the other hand, in a PPP hospital project in Lesotho, the private operator provided the full range of healthcare services ().

Useful resources providing cross-sector overviews of PPP experience in developing countries include:

- **Farquharson et al's** book on PPPs in emerging markets (Farquharson et al. 2011) provides a broad range of case studies. These include a greenfield hospital in Mexico, an upgraded hospital in South Africa, a water concession in the Philippines, a water and electricity services concession in Gabon, a new metro line in Sao Paulo, Brazil, an airport expansion in Jordan, and a review of the PPP program in national highways in India.

- The **Uongozi Institute's** case studies on PPPs in Sub-Saharan Africa (Yescombe 2017) present projects in the water, road, rail, energy, health, and accommodation sectors.

- The **Caribbean PPP Toolkit** (Caribbean 2017) includes references to projects in a broad range of sectors, utilizing various PPP models.

- **Yong's chapter on PPPs in Commonwealth countries** (Yong 2010, 87–104) includes 11 case studies in the water, transport, power, and health sectors in Africa, Asia, and the Caribbean.

Table 1.2 PPPs by Sector—Examples and Resources

Sector	Project Types	Overview Sources
Transport	Roads, tunnels, and bridges Rail Mass transit systems Ports Airports	The **USDOT Case Studies of Transportation PPPs** (US 2007) reviews international PPP experience with PPPs in transport, including case studies on bridges and highways from the United Kingdom, Europe, Australia, China, India, Israel, and Argentina. **Menzies and Mandri-Perrott's publication on private sector participation in light rail** (Menzies and Mandri-Perrott 2010, Annex 1) includes detailed case studies of PPPs for 12 light rail systems in the United Kingdom, Malaysia, the Philippines, Thailand, Canada, and South Africa.
Water and waste	Bulk water treatment Water distribution and sewerage systems Solid waste management services	**Marin** (Marin 2009) reviews in detail experience with PPPs for urban water utilities in developing countries, drawing from over 65 PPPs. **An IFC report on lessons learned** (IFC 2010) presents lessons from several water PPPs.
Power	Generation assets Distribution systems	**Eberhard and Gratwick** (Eberhard and Gratwick 2010) describes the experience with Independent Power Producers (IPP) in Sub-Saharan Africa. **Eberhard et al** (Eberhard et al. 2016) present five country cases in the same region. **Eberhard et al** (Eberhard et al. 2014) focuses on renewable energy IPPs in South Africa. **Maria Vagliasindi** (Vagliasindi 2013) examines power sector reforms that led to PPPs in China, Peru, Brazil, and Mexico. **An IFC report on lessons learned** (IFC 2010) presents lessons from several power PPPs.
Social and government infrastructure	Education—school facilities and services Health—hospitals and other health facilities and services Prisons Urban regeneration and social housing projects	A **Deloitte report on how PPPs can help close the infrastructure gap** (Deloitte 2006, 19–28) provides a helpful overview of PPP experience in a wide range of sectors, particularly social infrastructure. **IFC's Handshake** (WB 2015c) publication presents examples and cases on health care and other economic and social infrastructure PPPs. **LaRocque's paper on contracting for the delivery of education services** (LaRoque 2005) includes examples of PPPs in the education sector.

- A **paper by Farlam on PPP experience in Africa** (Farlam 2005) presents lessons learnt from eight PPP projects in the transport, prisons, telecommunications, water, power, and tourism sectors.
- The **World Bank's review of lessons learned from Output-Based Aid projects** (Mumssen et al. 2010) summarizes the experience accumulated to date from infrastructure projects involving private sector participation and output based aid provisions—including PPPs —in the communications, roads, energy, water, health, and education sectors.
- The **Asian Development Bank's scoping study on irrigation and drainage** (Varma et al. 2013) identifies the areas where private sector participation can be envisaged in consonance with India's policy framework.
- The **World Bank Group's Handshake** series (WB 2015c) comprises quarterly publications, each focusing on the use of PPPs in a different sector or context.
- The **PPIAF website** (PPIAF-Resources) includes reviews of PPP projects in several developing countries. For more information on how PPPs have been used in developed markets, see the **European Investment Bank's European PPP reports** (DLA Piper 2009), which provide a detailed review of country experience and list of PPP projects throughout the region.

Key References: What is a PPP?

Reference	Description
Delmon, Jeffrey. 2010. "Understanding Options for Private-Partnership Partnerships in Infrastructure: Sorting out the forest from the trees: BOT, DBFO, DCMS, Concession, Lease...." Policy Research Working Paper 5173. Washington, DC: World Bank.	Describes in detail the different PPP contract types and nomenclature, and which also introduces a new classification of PPP contracts intended to clarify and facilitate comparison
Yescombe, E.R. 2007. *Public-Private Partnerships: Principles of Policy and Finance*. Oxford: Butterworth-Heinemann.	Chapter 1: "What are Public-Private Partnerships" describes the range of PPP structures and how these are classified.
Farlam, Peter. 2005. *Working Together: Assessing public-private partnerships in Africa*. NEPAD Policy Focus Series. Johannesburg: South African Institute of International Affairs.	Reviews PPP experience in Africa, with detailed case studies of eight projects in the transport, prisons, telecommunications, water, power, and tourism sectors.
Groom, Eric, Jonathan Halpern, and David Ehrhardt. 2006. "Explanatory Notes on Key Topics in the Regulation of Water and Sanitation Services." Water Supply and Sanitation Sector Board Discussion Paper 6. Washington, DC: World Bank.	Note 4: "Regulation and Private Sector Contracts" describes typical features of concession, lease, and management contracts in the water sector.
Yong, H.K., ed. 2010. *Public-Private Partnerships Policy and Practice: A Reference Guide*. London: Commonwealth Secretariat.	Section 7 reviews PPP experience in Commonwealth developing countries. Annex 5 presents case studies of 11 PPP projects, in the water, transport, power, and health sectors in Africa, Asia and the Caribbean.
Dobbs, Richard, Herbert Pohl, Diaan-Yi Lin, Jan Mischke, Nicklas Garemo, Jimmy Hexter, Stefan Matzinger, Robert Palter, and Rushad Nanavatty. 2013. *Infrastructure productivity: How to save $1 trillion a year*. New York: McKinsey Global Institute.	Describes the deficit in infrastructure investments, and makes the case for improved project selection/management as well as more efficient usage of existing infrastructure.
Woetzel, Jonathan, Nicklas Garemo, Jan Mischke, Martin Hjerpe, and Robert Palter. 2016. *Bridging Global Infrastructure Gaps.* New York: McKinsey Global Institute.	Describes state of global infrastructure needs and opportunities to mitigate the spending deficit.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Chapter 2: "Defining Public-Private Partnerships" focuses on how PPPs differ from privatization and management contracts; and describes user-fee and availability-based PPPs. Several case studies throughout the book provide examples of PPPs in developing countries.
Mumssen, Yogita, Lars Johannes, and Geeta Kumar. 2010. *Output-Based Aid: Lessons Learned and Best Practices.* Directions in Development Finance. Washington, DC: World Bank.	Reviews experience with private participation in infrastructure projects supported by output-based aid, in the communications, roads, energy, water, health, and education sectors.
DLA Piper. 2009. *European PPP Report 2009*. London: DLA Piper.	Provides an overview of the status and direction of PPP in Europe, detailed reviews by country, and a list of projects in the pipeline and implementation in the report year.
US. 2007. *Case Studies of Transportation Public-Private Partnerships Around the World*. Washington, DC: United States Government, Department of Transportation, Federal Highway Administration.	Reviews international PPP experience with PPPs in transport, including case studies on bridges and highways from the United Kingdom, Europe, Australia, China, India, Israel, and Argentina.
Menzies, Iain, and Cledan Mandri-Perrott. 2010. "Private Sector Participation in Urban Rail: Getting the structure right." Gridlines Note No. 54. Washington, DC: Public-Private Infrastructure Advisory Facility.	Annex 1 provides case studies of light rail PPP projects from the United Kingdom, Malaysia, the Philippines, Thailand, Canada, and South Africa.
Marin, Philippe. 2009. *Public-Private Partnerships for Urban Water Utilities: A Review of Experience in Developing Countries*. Trends and Policy Options No. 8. Washington, DC: World Bank.	Reviews the experience of 65 PPPs in the water sector in developing countries, finding consistent improvements in efficiency and service quality.

Reference	Description
Eberhard, Anton, and Katharine Nawal Gratwick. 2010. *IPPs in Sub-Saharan Africa: Determinants of success*. Washington, DC: World Bank.	Reviews experiences of Independent Power Producers (IPP) in Sub-Saharan Africa, including a comprehensive list and details of all IPP projects in the region.
Deloitte. 2006. Closing the Infrastructure Gap: The Role of Public-Private Partnerships. New York: Deloitte.	Page 5 provides a succinct description of different PPP contract types. The report also briefly reviews international PPP experience in transport, water and waste, education, housing, hospitals, defense, and prisons.
IFC. 2011. "Health and PPPs." *Handshake, A Journal on Public-Private Partnerships*. Washington, DC: International Finance Corporation.	The issue on Healthcare examines international experience in healthcare PPPs, particularly in developing countries, and draws lessons for how successes can be replicated. Features the Lesotho Hospital PPP, and reviews experience in Ghana, India, and Mexico.
LaRoque, Norman. 2005. "Contracting for the Delivery of Education Services: A Typology and International Examples." Paper presented at the PEPG and World Bank Conference, "Mobilizing the Private Sector for Public Education." Cambridge, MA, October 5-6.	Describes the different ways in which the private sector is engaged in education, including through PPPs. Pages 20–24 focus on international PPP experience in schools.
Yescombe, E.R. 2017. *PPPs in Sub-Saharan Africa: Case Studies for Policymakers*. Dar es Salaam, Tanzania: Uongozi Institute.	Presents ten case project studies examining the practical policy issues and lessons from each case.
Caribbean. 2017. *Caribbean PPP Toolkit*. Washington, DC: World Bank, Inter-American Development Bank and Caribbean Development Bank.	Each module presents several project examples and case studies illustrating best practices in the PPP project cycle.
APMG. 2016. Accessed March 19, 2017. *PPP Certification Program Guide*. In eight chapters. APMG-International. Website.	Chapter 1 Section 2 of the PPP Certification Guide discusses the definition of PPPs and the variety in interpretation that exists.
Reyes-Tagle, Gerardo, and Karl Garbacik. 2016. *Policymakers' Decisions on Public-Private Partnership Use: The Role of Institutions and Fiscal Constraints*. Washington, DC: Inter-American Development Bank.	Evaluates the criteria that governments utilize when deciding to procure a project using a PPP.

1.2 Infrastructure Challenges and How PPPs Can Help

Infrastructure is critical for economic development, reducing poverty and inequality, creating jobs, and ensuring environmental sustainability. Infrastructure generates high social returns and is welfare enhancing. Governments are ultimately responsible for the provision of public services and the infrastructure required for their delivery. Infrastructure investment is often part of the social compact between a government and its citizens.

Inadequate infrastructure is a constraint on growth and impacts quality of life, particularly in developing countries. When the demand for infrastructure services outstrips supply, congestion or service rationing occurs; the quality of service delivery is low or unreliable, and some areas are simply not served. As of 2016, it was estimated that:

- Over 2.4 billion people lacked access to improved sanitation
- At least 663 million people lacked access to safe drinking water
- Over one billion people lived without access to electricity
- At least one-third of the world's rural population was not served by an all-weather road

Degradation of infrastructure also implies that actual economic growth will be lower than forecasts, as forecasting methodologies typically assume stable infrastructure performance.

Infrastructure investment poses pervasive challenges to governments. First, agency problems involving different actors and taking different forms throughout the project cycle require complex governance arrangements. The agency problems are compounded by the fact that infrastructure projects typically involve large sums of money and are therefore susceptible to corruption and bribery. For example, the politicians and public servants who decide on project selection and implementation as agents of taxpayers and users may be tempted to buy votes with the promise of new infrastructure, even if this means following unsustainable fiscal policies. Gains from the announcement of a project are immediate, whereas the pain will only be felt by electors long after they have cast their vote. Flaws in the incentive framework, and more generally, the rules governing agency problems throughout the project cycle, are a major reason why infrastructure projects often fail to meet their timeline, budget, and service delivery.

Second, most countries are not spending enough to provide the infrastructure needed to reach universal access and meet **the Sustainable Development Goals (SDGs)** (UN SDG) as defined by the United Nations. Moreover, the quality of infrastructure delivery is often disappointing—construction of new assets costs more and takes longer than expected, and service delivery is poor. Finally, infrastructure assets are often poorly maintained, increasing costs and reducing benefits. These issues are discussed further in the report on **Barriers to Infrastructure Service Delivery in Sub-Saharan Africa and South America by Castalia** (Castalia 2014).

How PPPs Can Help

PPPs can help overcome some of these pervasive challenges, as illustrated in *Figure 1.2 - The Challenges with Infrastructure and How PPPs Can Help*. For example:

- Under the right circumstances, PPPs can mobilize additional sources of funding and financing for infrastructure.
- By subjecting potential projects to the test of attracting private finance, PPPs can enhance project selection.
- The incentives of the private sector can be aligned with the interests of the contracting authority throughout the entire life cycle of the project, including the implementation phase. This alignment occurs by tying-in the private operator's revenue to a set of pre-agreed performance indicators and by requiring the latter to invest significant, long-term capital.

Thus, the incentive framework embedded in PPP contracts can foster efficiency gains and those gains should outweigh the additional cost of private finance. When the decision to implement a PPP is based on the government's perceived inability to deliver the service by other means, the PPP route will at least ensure that the service is delivered—but at a higher cost than under efficiency conditions (see *Section 3.2.4 - Assessing Value for Money of the PPP*). The PPP may still be effective, though not efficient.

Countries with relatively long PPP histories have found that PPPs manage construction relatively better than traditional public procurement, with projects coming in on time and on budget more often. This is because of the incentives created by the PPP structure, which give the private party more control over project design and implementation while simultaneously preventing the reward of cost overruns.

The long-term investment horizon of PPP contracts can also help ensure that assets are maintained in a good, serviceable condition.

In fragile and conflict-affected states (FCS), PPP-like structures can help attract private investment and increase service delivery. This is discussed in greater detail in *Section 1.2.5 - Infrastructure in Fragile and Conflict-Affected States*.

The mechanisms by which PPPs can improve infrastructure delivery are often called *value drivers*—that is, instruments to maximize value for money. These value drivers—as described in *Box 1.2 - PPP Value Drivers* are often integrated into PPP policies.

PPP limitations, pitfalls, and complementary measures needed

There are problems that PPPs cannot solve, or that PPPs may exacerbate. First, PPPs may appear to relieve funding problems more-than is the case, as government's fiscal commitments to PPPs can be unclear. This can lead to governments accepting higher fiscal commitments and risk under PPPs than would be consistent with prudent public financial management, particularly when PPPs are treated as off-balance sheet. While PPPs can contribute to better project analysis and adoption of innovative solutions that foster

Box 1.1 The Sustainable Development Goals and PPPs

World leaders gathered at the International Conference on Financing for Development in 2015 and adopted the 17 Sustainable Development Goals (SDGs) and related 169 targets. The 2030 Agenda for Sustainable Development and the Addis Ababa Action Agenda on Financing for Development (FfD) provide the framework for the SDGs. They are intended to galvanize policy makers across the world through concrete targets for the 2015–30 period for poverty reduction, food security, human health and education, climate change mitigation, the construction of resilient infrastructure, and a range of other objectives across the economic, social, and environmental spheres. The SDGs are ambitious—they will require a step change in the level of both public and private investment in all countries. Creative solutions are needed to mobilize private sector investment and innovation, and blend commercial financing with public funding.

The IISD blog on infrastructure's role in the SDGs highlights that infrastructure is both an explicit and implicit component of the SDGs' goals and targets. Hence, the SDGs may be useful in articulating and rallying support for infrastructure development policy. Goal 9: 'Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation' is particularly relevant. The Addis Ababa Action Agenda emphasizes in paragraph 44 the role of PPPs in support of the 2030 Agenda. Moreover, the SDGs may help clarify the goals, targets, and indicators around which a country will frame its development priorities, including the delivery of public services through PPPs.

Governments can use the SDGs as a framework to foster an enabling environment for infrastructure investment and set important targets to trigger changes in project selection and design. To meet the SDGs, infrastructure investments must be prioritized based on their environmental, social and economic sustainability. The private sector needs to be incentivized in finding cost-efficient solutions to solve sustainable development challenges. Involving the private sector can help not only to increase the stock of infrastructure assets but also strengthen their resilience, create more sustainable solutions and improve access to infrastructure services. Incorporating sustainability considerations into procurement processes, through project specifications and award criteria, for example, can also enhance the impact of infrastructure investments. The SDGs can also help mobilize high-level political action behind an infrastructure project.

SDG targets often reflect the aims of a specific goal while also reaching across other goals and targets. Thus, a PPP project may address one primary goal and several secondary goals and targets. For example, when considering a potential water PPP, alignment with government strategy to achieve Goal 6 will strengthen the project; at the same time, the project may contribute to reducing the number of deaths and illnesses from hazardous water pollution (Target 3.9), and the proportion of untreated wastewater (Target 6.3). Upgrading an existing wastewater infrastructure should contribute to resource-use efficiency and adoption of environmentally sound technologies and industrial processes (Target 9.4).

Demonstrating infrastructure policy alignment with SDGs may also help governments attract attention and financing from multilateral development banks and funds.

Sources: (UN 2015); (Casier 2015)

efficiency, responsibility for planning and project selection remains primarily with the public sector—moreover, the unclear fiscal costs and contractual inflexibility of PPPs can render these tasks more delicate. The advantages of private sector participation in constructing and managing infrastructure, including improved incentives to carry out regular maintenance, also depend on effective PPP contracting and procurement by the government.

These limitations mean that **PPPs are not a panacea or a remedy for all** infrastructure performance problems. *Figure 1.2 - The Challenges with Infrastructure and How PPPs Can Help* highlights important ingredients for improved infrastructure delivery. Sound public decision-making based on comprehensive analysis and a governance framework fostering transparency and accountability are prerequisites for successful public investment projects. Evidence suggests that improved management can reduce infrastructure shortfalls by making better use of existing infrastructure facilities and more efficient use of public resources on greenfield projects. Ultimately, many governments may need to commit more resources to deliver quality infrastructure projects.

The four problems with infrastructure project implementation shown in *Figure 1.2 - The Challenges with Infrastructure and How PPPs Can Help* will be described in this section as well as whether and how PPPs may be able to help, and PPP limitations or pitfalls that may exacerbate the problem.

Box 1.2 PPP Value Drivers

PPP value drivers are the mechanisms that can be used to improve value for money in infrastructure provision. They include the following:

- Whole-of-life costing—full integration, under the responsibility of one single party, of up-front design and construction with ongoing service delivery, operation, maintenance and refurbishment, can reduce project costs. Full integration incentivizes the responsible party to complete each project phase (design, build, operate, maintain) in a way that minimizes total costs and maximizes efficiency.
- Risk transfer—risk retained by the government in owning and operating infrastructure typically carries substantial, and often, unvalued, hidden cost. Allocating some of the risk to a private party which can better manage it, can reduce the project's overall cost to government and minimize risk to the taxpayer.
- Upfront commitment to maintenance, and predictability and transparency of whole-of-life costs—a PPP requires an upfront commitment by the private operator to the whole-of-life cost of providing adequate maintenance for the asset over its lifetime. This commitment strengthens budgetary predictability over the life of the infrastructure, and reduces the risks of funds not being available for maintenance after the project is constructed.
- Focus on service delivery—allows a contracting agency to enter into a long-term contract for services to be delivered when and as required. The PPP firm can then focus on service delivery without having to consider other objectives or constraints typical in the public sector.
- Innovation—specifying outputs in a contract, rather than prescribing inputs, provides wider opportunity for innovation by the private partner. Competitive procurement of these contracts incentivizes bidders to develop innovative solutions for meeting these specifications.
- Asset utilization—optimizing the utilization of assets for delivery of additional services leading to multiple revenue streams for the project. For example, the utilization of space in bus terminals for private vendors or unused space for advertisements.
- Mobilization of additional funding—charging users for services can bring in more funding, and can sometimes be done better or more easily by private operators than the public sector. Additionally, PPPs can provide alternative sources of financing for infrastructure, where governments face financing constraints.
- Accountability—government payments are conditional on the private party providing the specified outputs at the agreed quality, quantity, and timeframe. If performance requirements are not met, service payments to the private sector party may be abated.

The Partnerships Victoria's Practitioner's Guide (VIC 2001) published in 2001 clearly set value drivers as the basis for the State of Victoria, Australia's PPP program. PricewaterhouseCoopers (PWC)'s paper on the "PPP promise" (PWC 2005, 13–34) and Deloitte's paper on PPPs (Deloitte 2006, 5–9) both succinctly describe these benefits of PPPs.

1.2.1 Insufficient Funds

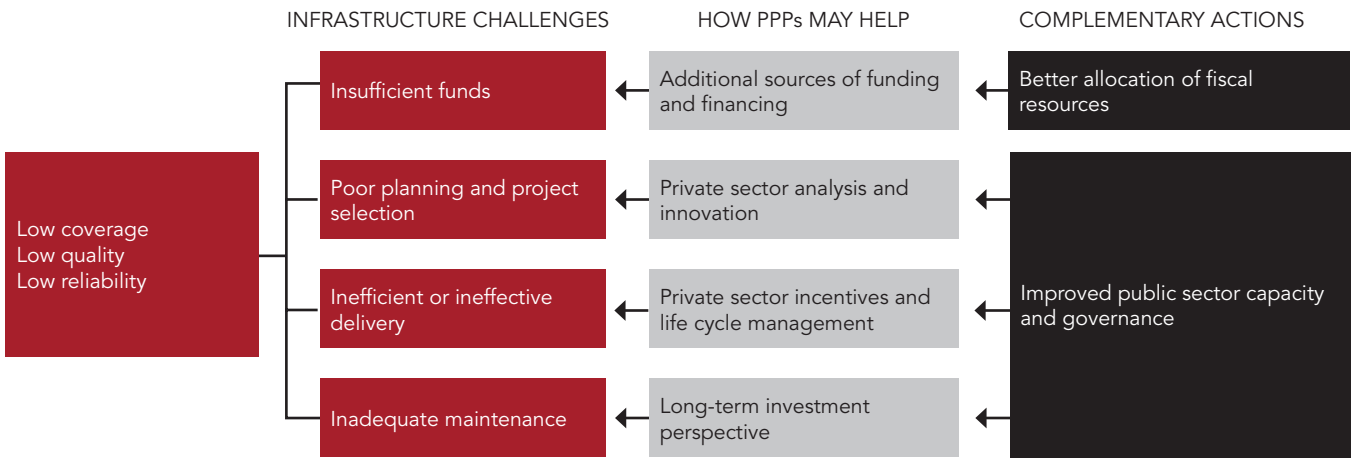
Infrastructure investment is typically under-funded—that is, most countries are not investing enough to meet strategic objectives, such as universal access or poverty eradication. This suggests that many economically beneficial projects are not being implemented.

This problem is particularly prevalent in developing countries, as noted in the **World Bank report: Closing the Infrastructure Gap** (UN 2016).

Various studies have identified and tried to quantify this funding gap, for example:

- In 2010, the **World Bank's diagnostic study of infrastructure in Africa** estimated that Sub-Saharan Africa needed to spend $93 billion a year on infrastructure, of which only $45 billion was already being met through existing sources—such as government spending, user charges, private sector investment, and other external sources—creating a total funding gap of $48 billion (Foster and Briceño-Garmendia 2010, 6–9, and 65–86).

Figure 1.2 The Challenges with Infrastructure and How PPPs Can Help



- According to the **2013 Inter-American Development Bank's infrastructure strategy**, the additional investment needed in infrastructure in Latin America amounted to $100 billion per year—two percent of regional GDP over an extended period (IDB 2014).

- This funding gap is not unique to developing countries—a **2007 OECD report on Infrastructure to 2030** identified a widening gap between the infrastructure investment needed for the future and the capacity of the public sector to meet those requirements from traditional sources (OECD 2007a, Chapter 1).

- **2013 McKinsey Global Institute report on infrastructure productivity** (Dobbs et al. 2013) estimated $57 trillion (updated to $49 trillion in 2016) in infrastructure investment would be globally required until 2030—simply to keep up with projected global GDP growth. The amount required for investment is more than the estimated value of today's worldwide infrastructure stock.

- The **2016 McKinsey Global Institute report: Bridging Global Infrastructure Gaps** (Woetzel et al. 2016) updates data on global infrastructure needs and provides a look at infrastructure investment trends since the global recession. The report also outlines opportunities to alleviate the spending deficit from increased productivity to actions that can help increase public finance despite fiscal constraints.

As noted in the **World Bank Africa infrastructure diagnostic study** (Foster and Briceño-Garmendia 2010, 65–86) referenced above, the funding gap can be a symptom of other problems in infrastructure delivery. The authors found that $17 billion, or 35 percent of the funding gap, could be attributed to inefficiency in existing spending due to poor governance, poor planning of investments, under-investment in maintenance, under-charging for services, and operating inefficiencies.

How PPPs can help—infrastructure funding and finance

Many governments turn to PPPs because they recognize that more investment in infrastructure is needed to meet their strategic objectives, but face fiscal constraints or high gearing ratios that limit their ability to undertake additional projects through traditional public procurement. Although fiscal space is one of the most common motivations for using PPPs, it is also among the most debated. The extent to which PPPs genuinely enable governments to increase spending on infrastructure depends on the nature of the project in question. User-pays contracts create long-term fiscal space for the government, while contracts that include availability payments create fiscal space only in the short-term.

Governments often call for private **financing** for infrastructure projects, ignoring the need for sufficient **funding** (from user fees or government budgets) for serving private operator debts and rewarding equity holders. Some development analysts refer to a funding gap instead of a financing gap for infrastructure—private capital will not flow into projects that do not present adequate potential returns. Obtaining additional private finance will always require increased funding over time, to recover and remunerate that private finance—PPP operators may help generate additional commercial revenue, but user fees and government payments will always be the main source of funding.

In general, there is scope to increase funding streams for public infrastructure projects by modeling user charges where appropriate, capturing property value, or selling existing assets. The proceeds from the sale of assets can also be recycled for financing new infrastructure.

The possibility of collecting user fees should not be, by itself, the reason for establishing a PPP—fees may also by collected in publically-financed projects, as happens in many toll roads around the world. Nevertheless, PPPs can sometimes help **increase the funding available for infrastructure**—that is, bring in more revenue to pay for infrastructure services, including:

- **Increased revenue from better implementation of user fees** by introducing targeted user charges, or reducing leakage in the collection of charges. For example:
    - The N4 Toll Road in Mozambique and South Africa was developed as a toll road under a PPP, since neither government had the funds to invest otherwise. A single cross-border operator allows for cross-subsidization from the South African side to the Mozambican side, making tolls affordable for users; the PPP model has created pressure for operators to maintain the road, serving users, and for governments to prevent overloading (Farlam 2005, 9–10), and (PPIAF 2009).
    - The Fertagus suburban rail service in Lisbon, Portugal provides an example on the role of PPPs in increasing revenues. The PPP contract does not require the operator to charge specific user fees. The operator is simply contractually bound by a cap on the average fee per passenger per kilometer. This means that it is free to use commercial criteria in establishing a range of rates within the cap, such as providing off-peak discounts, passes for frequent users, combinations of train and bus tickets, and even special off-peak passes for unemployed persons. In practice, this freedom, allied to commercial expertise, attracts a larger pool of users, increasing project revenue.
- **New revenue streams from greater asset utilization**—raising revenues from alternative uses for infrastructure assets can reduce the net cost of the infrastructure to government or users. For example, developing a commercial area inside of an airport, or even a bus terminal. Typically, the private partners have a greater ability to identify and utilize assets and increase project affordability.
- **Customizing projects to maximize user utility and increase cost recovery**—Private partners may adapt a project design to improve asset utility to users. As users receive additional value from the asset, they are more willing to contribute toward cost recovery. Fertagus rail service, in Portugal, is a good example of this innovative approach—by combining the rail transportation project with a bus transportation network in the neighborhood of each station, together with parking facilities at each station, the PPP operator was able to convert the project into a profitable commercial venture, eliminating the previous need for government subsidization.

Governments can also implement user charges, collect revenues effectively, or find innovative alternative uses for infrastructure—as described in **Engel, Fischer, and Galetovic's paper** *PPPs: When and How* (Engel et al. 2009, 7–13) and in their book (Engel et al. 2014). PPPs therefore do not increase the resources available for infrastructure over the alternative of traditional government provision if users are charged the same for the service and those charges are collected. However, the authors note that governments can sometimes find it difficult to charge users a cost-reflective tariff for publicly-provided services.

The availability of private funds to invest in PPP projects should not be a reason for implementing a PPP—the decision should involve a cost/benefit, value-for-money assessment of the PPP, as described in *Section 3.2.4 - Assessing Value for Money of the PPP*. The cost of transferring risk and responsibility to a private party may be too high, considering alternative implementation modes. Investors' interest should be directed to those projects where the impact on service delivery and value to society will be the highest.

Box 1.3 Funding versus Financing

The terms **funding** and **financing** are often used synonymously, however, there is a technical distinction that is important to understand:

Financing: Money required at project outset to begin implementation, primarily for asset construction

Funding: Money required to meet repayment obligations and remunerate the project financiers, namely debt and equity holders

In many languages, the same word is used for financing and funding. For example: *financiamento* in Spanish and Portuguese, *financement* in French.

Some governments use PPPs as a financing mechanism to **overcome short-term cash budget constraints** by spreading the capital cost of a project over its lifetime. Governments implementing cash-based accounting systems only recognize an expenditure when it is incurred. Thus, the capital costs of traditionally procured infrastructure are charged as expenditure when the construction payments take place (typically two to three years), even if the asset is financed by borrowing. PPPs, by contrast, create cash outflows over a long period of time. A **PWC paper on PPPs** (PWC 2005, 17–19) illustrates how the payment profile for a PPP differs from that of a traditionally-financed project. This practice can enable governments facing short-term cash budget constraints to undertake infrastructure investment sooner. The accounting advantage for PPPs disappears under a full accrual accounting system, in which capital investments are depreciated over time.

Finally, PPPs may be able to help governments **overcome public sector borrowing constraints**. Governments often face a borrowing constraint which may arise from prudent public financial management policies or contractual obligations with multilateral institutions. This constraint may prevent commercially viable, fully user-pays infrastructure projects to be implemented in the public sector. Under a PPP, the project is financed by private sector rather than public sector borrowing and in some circumstances this may enable a government to overcome its borrowing constraint (although as noted in *Section 2.4 - Public Financial Management Frameworks for PPPs*, such projects typically create contingent liabilities that may also affect the sustainability of the government's debt and fiscal position).

Engel, Fischer, and Galetovic's paper (Engel et al. 2009, 9) suggests the extent to which PPPs can help relieve borrowing constraints depends on the nature of the constraint. PPPs can help relieve short-term liquidity constraints, enabling commercially viable user-pays PPPs to be built. Engel, Fischer, and Galetovic argue, however, that PPPs are less likely to help when a government is considered insolvent—in this case, it may be difficult for the government to credibly enter into a long-term contract giving up a potential source of future revenue. So a PPP may not be considered viable by investors. On the other hand, in a **2011 paper on Chile's PPP Experience** (Fischer 2011, 17–18, and 27–28), Fischer describes how multilaterals' involvement in a PPP can improve the credibility of the government's commitment to the contract—increasing the potential of PPP to help governments overcome debt constraints.

The extent to which using PPP can enable governments to overcome borrowing constraints also depends on how the PPP is accounted for. As described in *Section 2.4.4 - Fiscal Accounting and Reporting for PPPs*, while international norms and standards continue to evolve, PPP assets and liabilities are increasingly recognized in the government's accounts and financial statistics. If this trend is confirmed, financing of PPPs will become subject to the same accounting constraints as public borrowing for infrastructure projects—effectiveness and efficiency will then be the sole reasons for utilizing PPPs.

PPP pitfalls—using PPPs to bypass public financial management controls

While there are some instances in which PPPs can increase the fiscal space available for infrastructure, in practice these are limited. In the case of **government-pays PPP projects**, the cost of the infrastructure is ultimately met from the public purse. For a given project, the stream of availability payments under a PPP is not very different from the repayment schedule of a debt-financed public procurement scheme.

Absent real efficiency gains, this means the apparent fiscal advantages of PPP arise from accounting quirks—the limitations of cash budgeting, or the definition of public sector debt. At best, this can create budgeting issues; at worst, it can enable governments to use

PPP to bypass their own prudent public borrowing and budget limits—creating a temptation to spend more now, in response to political and other pressures to deliver new and improved infrastructure.

Abrantes de Sousa's paper on Portugal's PPP experience (Sousa 2011) describes how inadequate control of the PPP process allowed the Government of Portugal to take on significant fiscal exposure to its PPP contracts, contributing to its 2011 fiscal crisis. Abrantes de Sousa describes how the PPP program has created budget problems, and highlights the incentives faced by agencies to use PPPs simply to loosen budget constraints. The United Kingdom's Private Finance Initiative (PFI—a large British PPP program) has also come under criticism for concealing the cost of the government's obligations. **A United Kingdom House of Lords Select Committee inquiry into PFI** (UK 2009, 16–18) found that many witnesses imputed the choice to use PFI to the fact that the government's commitments under these contracts were often not recognized as part of public debt.

Recognizing these challenges, the treatment of PPP in public sector accounts has evolved over time. The latest public sector accounting standards require most PPP assets and liabilities to be included in government balance sheets, as described in *Section 2.4 - Public Financial Management Frameworks for PPPs*. However, at the time a PPP project is approved, the future payment commitments may still not be included in budgets and expenditure plans, which often do not look more than one to three years ahead. *Section 2.4 - Public Financial Management Frameworks for PPPs* provides guidance on how governments can manage the fiscal implications of PPPs to help avoid these problems.

PPP pitfalls—fiscal risk

Even where a PPP is expected to generate additional resources—for example, by charging users for services—governments typically bear or share certain project risks. For example, governments may provide guarantees on risk factors such as demand, exchange rates, or certain costs; while PPP contracts often contain compensation clauses in case of termination of the agreement for a range of reasons. Even with no guarantees, every PPP contract will present implicit contingent liabilities. For instance, liabilities arising from the need to preserve the project in case of SPV bankruptcy, or resulting from public expectations that must be satisfied. In addition, moral hazard may occur if the private investors perceive that the government cannot afford to let their PPP project fail. They may then force a renegotiation of the PPP contract to obtain a tariff revision or to force the government to shoulder the cost of an unexpected event, even though the general economic equilibrium of the contract is not in jeopardy.

Accepting these risks could be consistent with good risk allocation, as described in *Section 3.3 - Structuring PPP Projects*. However, doing so creates contingent liabilities for government—the cost of which can be harder to assess than the direct liabilities and upfront capital costs created by a traditional government investment project. As a result, governments often take on significantly more fiscal risk under PPP projects than they had expected, or than would be consistent with prudent fiscal management.

Fiscal risk can be compounded by the influence of optimism bias on project decision-making (see *Section 1.2.2 - Poor Planning and Project Selection*). For example, a government may agree to provide a demand guarantee for a project, as optimistic forecasts may suggest it has no cost. Contracting authorities can also have an incentive to overestimate demand to hide the need for subsidies and push through projects that are not viable. The cumulative impact over several PPP projects can create substantial fiscal risk. Moreover, public resources may go into projects that do not provide value for money, as costs turn out to be higher or benefits lower than initially expected.

All this may be exacerbated in contexts of poor fiscal transparency. Partial disclosure on the state of public finances may create distortions—for instance, disclosure of direct commitments, but not of contingent liabilities, may incentivize the adoption of costly projects, with low base-costs and very high contingent commitments.

Irwin's book on government guarantees (Irwin 2007, Chapters 2 and 3) provides examples of how guarantees have been used, in some cases creating large exposure for the government, and describes some of the reasons governments make bad decisions regarding guarantees.

As noted above, in addition to the government's explicit liabilities such as guarantees, PPPs can give rise to implicit liabilities—that is,

non-contractual liabilities that arise from moral obligation or public expectations for government intervention—that create further fiscal risk—see (Polackova 1998). Weak contracts and ineffective enforcement can mean that governments fail to really achieve risk transfer to the private sector. Again, this means that governments end up bearing significantly more risk than they had expected when projects were initially implemented.

Box 1.4 - Excessive Fiscal Risk—Examples from Colombia, Korea, Mexico, United Kingdom provides examples of PPPs for which the government ended up making large, unexpected payments, either as a result of called guarantees (i.e. guarantees which resulted in a claim) or realization of implicit liabilities.

1.2.2 Poor Planning and Project Selection

Scarce resources are too often spent on poorly-selected projects that fail to achieve benefits commensurate with their cost. The result can be under-used assets and poor service delivery at a higher cost than necessary. These systematic problems result from:

- **Poor planning and coordination**—good sector and cross-sector planning and coordination are needed to ensure that the best projects—those that represent good value for money, enable integrated regional development, and provide customers with the services they desire—are consistently selected. Without

Box 1.4 Excessive Fiscal Risk—Examples from Colombia, Korea, Mexico, United Kingdom

Governments often provide guarantees to PPP projects, which often cost more than expected. For example:

- In the 1990s, the Government of Colombia guaranteed revenue on toll roads and an airport, as well as payments by utilities that entered long-term power purchase agreements with independent power producers. Lower-than-expected demand and other problems required the government to make payments of $2 billion by 2005.
- Also in the 1990s, the South Korean government guaranteed 90 percent of forecast revenue for 20 years on a privately financed road linking the capital, Seoul, to a new airport at Incheon. When the road opened, traffic revenue turned out to be less than half the forecast. The government has had to pay tens of millions of dollars every year.

PPP projects can also create substantial implicit liabilities for governments. When PPP projects are financially distressed, governments can be under significant pressure to bail them out to avoid disruptions in service. For example:

- Between 1989 and 1994, Mexico embarked on an ambitious road building program, awarding more than 50 concessions for 5,500 km of toll roads. The concessions were highly leveraged because equity contributions were made in the form of "sweat equity" for the construction instead of in cash. Debt financing for the projects was on a floating-rate basis and provided by local banks—many of them government-owned—which might have faced government pressure to lend. By 1997, a combination of lower-than-forecasted traffic volumes and interest rate rises pushed the government to restructure the entire toll road program and bailout the concessions. In total, the government took over 25 concessions and assumed $7.7 billion in debt.
- The United Kingdom National Air Traffic Services (NATS) was partially privatized, to separate the air traffic control functions from the Civil Aviation Authority. Under a PPP arrangement, NATS was to be paid a fee based on airline traffic volumes. The PPP company took on considerable debt for its investments and operations. After the 9/11 attacks, airline traffic fell below forecasts and the company was in danger of not meeting its debt obligations. To reduce the perceived risk of a disruption in service, the United Kingdom government injected £100 million of equity into the project company.

Sources: (Irwin 2007); (Kim et al. 2011); (Ehrhardt and Irwin 2004)

sound plans, responsible agencies will not have the full view of potential projects that could be implemented, will not know the sequence in which to implement the projects to achieve the best value for money, and cross-sector coordination will be weak. *Box 1.5 - Mumbai Water—Example of Poor Planning in Infrastructure* provides an example of how weak infrastructure planning can mean projects fail to achieve value for money. **The 2016 McKinsey report on infrastructure investmen**t (Woetzel et al. 2016) identifies $49 trillion required globally between 2016 and 2030 to approach fulfilling infrastructure needs. **The 2013 McKinsey Report on infrastructure productivity** (Dobbs et al. 2013) notes that scaling up best practice could save an average of $1 trillion a year in infrastructure costs during that period.

- **Flawed analysis**—the analysis underpinning project selection is often flawed, so projects that appeared to be cost-benefit justified turn out not to be so in practice. Benefits are often overestimated, resulting in projects that are larger or more complex than is justified by demand for services, while costs are often under-estimated. The **United Kingdom Government's Green Book on project assessment** (UK 2011a, 29–30) acknowledges this as a systematic problem and highlights the need to correct for optimism bias in project analysis. **UK Treasury supplementary guidance on optimism bias** (UK 2015a) presented evidence on the extent of optimism bias dating from the early 2000s. A global series of studies of large transport projects by **Flyvbjerg**—(Flyvbjerg et al. 2002); (Flyvbjerg et al. 2003); (Flyvbjerg 2005); (Flyvbjerg et al. 2005)—found that costs are systematically underestimated, and benefits often overestimated:

  - A study of 258 transport projects found that actual costs were on average 28 percent higher than planned costs—and 65 percent higher on average for projects outside Europe and North America.

  - A study of 25 rail projects found traffic was heavily overestimated, at over twice actual traffic, on average. The accuracy of traffic forecasts for 183 road projects was also found to be highly variable, but without a tendency to overestimate.

Additional evidence and analysis on estimation bias is presented in **Australia's report on overbidding for toll roads** (AU 2012).

- **Politics or personal gain** interfering with the project selection process; increasing costs, or diverting funds to less beneficial projects. An **IMF analysis of corruption in public investment in infrastructure** (Tanzi and Davoodi 1998) found corruption tends to create a bias towards capital spending projects, and increase their size and complexity—reducing the productivity of that investment.

The **IMF report on infrastructure efficiency** (IMF 2015a), focusing on the quality of investment, instead of its volume, identified average inefficiencies in public investment processes of around 30 percent across countries, according to their estimates, better public investment management could increase investment expenditure by as much as two-thirds of the estimated additional needs.

These factors often feed into each other. For example, weak analysis or poor planning can enable badly-chosen projects to be pushed through for political or personal gain, as described in the **World Bank's sourcebook on deterring corruption in the water sector** (WB 2008, Chapter 6). **Flyvbjerg's studies** (Flyvbjerg 2005) also emphasize that costs and benefits can be deliberately misrepresented, to push through projects for political or organizational reasons.

How PPPs can help—project assessment and design

Under the right circumstances, PPPs can help improve infrastructure project selection, by harnessing the analysis and ideas of private sector investors, whose financial returns depend on getting cost and revenue forecasts right.

Private investors and lenders undertake their own project analysis based on their experience and strong, profit-driven incentive to assess benefits and costs. Lenders to project finance transactions, in particular, carry out extensive project due diligence, as described in *Section 1.3 - How PPPs Are Financed*. A 2002 **Standard and Poor's study** (Bain and Wilkins 2002) found that traffic forecasts for toll roads commissioned by banks tended to be less optimistic than those commissioned by other agencies, including developers and governments, although still biased on average. Guarantees on the debt of the private party, or lax termination payments, may reduce lenders' due diligence efforts, therefore reducing this relevant source of value for the public sector.

The PPP tender process can therefore act as a filter for non-viable projects. As described by **Engel, Fischer, and Galetovic** (Engel et al. 2009), if the private sector sponsor and lenders are asked to shoulder revenue and cost risks under a PPP, a non-viable project may simply not attract private interest. For example, a **McKinsey report on infrastructure challenges in India** (Gupta et al. 2009, 25–27) notes that several of the National Highways Authority of India (NHAI)'s toll road projects did not attract bidders—in some cases demand forecasts were too high; in others, bidders found NHAI's cost estimates to be low, and the project not viable on more conservative cost assumptions. Conversely, **Engel, Fischer and Galetovic** (Engel et al. 2009) note that if the government is bearing a risk—for example, by providing a demand guarantee—then a non-viable project could still be profitable for the private partner, reducing the filtering ability of PPPs.

Experienced private companies can also be well-placed to identify infrastructure needs, and come up with innovative ideas to meet them. Accepting unsolicited proposals for PPP projects from private companies can be a way to capitalize on these ideas. While unsolicited proposals can be a useful source of ideas to improve project selection, they need to be subject to the same analysis and competitive procurement as other major government investments. *Section 3.7 - Dealing with Unsolicited Proposals* describes how some governments have introduced policies to encourage unsolicited proposals, while subjecting them to rigorous analysis and competition.

PPP limitations and pitfalls—poor planning and project selection

While the PPP process can provide more information and additional analysis to inform project selection, the government remains responsible for choosing which projects to implement and which procurement method to use. This limits the extent to which PPPs can help improve project selection. Indeed, PPPs may even distort investment priorities—low priority projects may go ahead simply because they are easier to do.

Foremost, PPPs do little to improve planning. Where PPP projects initiate from government, private companies can only respond by avoiding projects that do not appear viable, as described above. By then, considerable time and resources have already been invested in the planning phase. Where PPP ideas are generated by private investors, the projects may not be aligned with the government's investment priorities and the unsolicited proposal may exacerbate weaknesses in planning and coordination between sectors or across regional boundaries. Also, in generating project ideas, private firms focus in those that are financially viable, but may not propose economically beneficial projects that would require government contributions.

If a PPP program is not well designed, the inflexibility of resulting PPP contracts may create sector planning challenges. As described in the **United Kingdom House of Lords' review of the PPP program** (UK 2009, 28–29), PPP projects constitute a long-term commitment, which can be expensive to change if needs change (or were misunderstood in the first place). Although changes in traditional public procurement also imply added costs, these are typically lower than under a PPP, since the absence of long-term contractual commitments allows easier recourse to the market and competitive pressure.

There are limtations on the extent to which PPPs can improve project analysis. First, the private sector is not immune to optimism bias. The **Standard & Poor's (S&P's)** (Bain and Wilkins 2002) analysis mentioned above shows lenders make more realistic assumptions

Box 1.5 Mumbai Water—Example of Poor Planning in Infrastructure

The experience of the Municipal Corporation of Greater Mumbai provides an example of weak planning in the water sector. The Corporation was looking for ways to improve the efficiency of its operations. Mumbai is short of water, with supply rationed to around four to six hours a day in most parts of the city. Corporation planners were working on new schemes to transport water from hundreds of kilometers outside the city. Consultants engaged through the World Bank analyzed the cost of achieving a 24-hour water supply in one ward (K-East) entirely with new supply, and compared this with the cost of achieving 24-hour water supply through improving the distribution system to reduce leakage and theft. The consultants estimated that the cost of distribution improvements would be one sixth or less of the cost of bulk supply increments, for the same level of service improvements. The size of the discrepancy suggests that the Municipal Corporations' planning had been biased toward large projects.

Source: (Kulkarni 2008)

Table 1.3 Comparing PPP and Public Procurement in Australia

Source	Comparison	Average Over Budget (% of original cost estimate)		Average Time Overrun (% of original time estimate)	
		PPP	Public	PPP	Public
Infrastructure Partnerships Australia, 2007 (Duffield and Raisbeck 2007)	Original approval to final	12	35	13	26
	Contract to final	1	15	-3	24
Duffield review of PPP performance, 2008 (Duffield 2008)	Original announcement to final	24	52	17	15
	Budget approval to final	8	20	12	18
	Contract to final	4	18	1.4	26

than public agencies—nonetheless they still overestimate traffic forecasts. The more conservative traffic forecasts commissioned by banks still overestimate traffic by almost 20 percent—see (Bain and Polakovic 2005). In **Spain** (Vassallo et al. 2012), traffic estimates by concessionaires that were awarded several PPP toll road contracts have proven to be even more optimistic—revenue generated by the companies could barely cover the interest of the outstanding debt.

Secondly, where the private party to a PPP is not bearing traffic risk, or other project risks, the incentive for rigorous analysis is weaker. PPP structures can even weaken government incentives for rigorous analysis, by obscuring the costs and risks the government bears (see the pitfalls described under *Section 1.2.1 - Insufficient Funds*).

Finally, PPPs can provide an opportunity for corruption, which may bias project selection. Where project selection is not based on analysis but rather influenced by corruption or pursuit of political gain, PPPs are also likely to be affected. Guidance on assessing corruption risk, and mitigating it, is provided in a series of **World Bank sourcebooks on governance in the water** (WB 2008)**, electricity** (WB 2009b)**, and roads** (WB 2009c) **sectors**. Lack of a proper Public Investment Management system, as well as the existence of a parallel selection process exclusively for PPPs, create additional opportunities for mismanagement and corruption—**Anand Rajaram et al's book on the power of Public Investment Management** (Rajaram et al. 2014) presents good practices in this field, and includes a chapter on PPPs (Chapter 7).

The policies and processes presented in *Module 2 - Establishing the PPP Framework* and *Module 3 - PPP Cycle* of this *Reference Guide,* and in the references listed, can help governments avoid the planning and project selection challenges that can undermine the effectiveness of PPP projects.

1.2.3 Weak Management

A common rationale for involving the private sector in infrastructure provision is that the private sector is more efficient and effective at managing infrastructure construction projects, and at managing service delivery once the assets are in place.

The quality of infrastructure service delivery by government entities is often constrained by limited capacity and weak management incentives. Training, retaining, and leading qualified professionals is often harder in the public sector. This increases the cost of infrastructure. For example, the **World Bank's Africa infrastructure diagnostic study** (IMF and WB 2016, 71–74) estimates that inefficiencies in state-owned utilities and infrastructure providers in Sub-Saharan Africa cost around $6 billion a year. It also reduces the benefits users get from the service.

Studies comparing PPPs and publicly-procured or run infrastructure have found that PPPs can achieve better results in both construction of new infrastructure assets, and in infrastructure service delivery. Still, achieving these benefits, and ensuring they translate into lower infrastructure costs for taxpayers and users, depends on the government structuring, procuring, and implementing the PPP effectively; and could be undermined where weak government or private sector capacity results in poorly-run tender processes or poorly drafted contracts, and frequent renegotiation.

How PPPs can help—improved construction of new assets

PPPs have been found to reduce construction time and cost overruns for new infrastructure assets compared to traditional public procurement.

Evidence suggests that the proportion of PPP projects coming in over budget or late is lower than in traditionally-procured projects. In Australia, two studies have broken down the project development process to allow more detailed comparison. As evidenced in *Table 1.3 - Comparing PPP and Public Procurement in Australia*, PPPs consistently performed better in achieving lower project cost over-runs. Comparing the timing of project delivery, both PPPs and traditionally-procured projects both took longer than expected. These studies support the claim that the cost estimates embedded in PPP contracts tend to be more accurate than those prepared for traditional procurement. However, they are inconclusive on whether the PPPs projects are necessarily more economical than traditionally procured projects. The studies suggest delays occur at different stages of the process. The complex contracting process means PPPs can experience delay at an earlier stage in the process, but tend to come in on time once contracted. Publicly-procured projects may be contracted more quickly, but this is more than offset, on average, by delays in implementation.

Some practitioners suggest that government agencies engaging in PPP procurement are improving their overall practices by focusing on whole-life cost and benefits. According to the **House of Lords' review of the PPP program** (UK 2009, 19–20), improvements in public procurement in the United Kingdom may be narrowing the gap with PPPs.

Construction companies interviewed by the United Kingdom National Audit Office indicated that PPPs "impose a greater discipline" on project cost. This is because PPPs usually do not allow for contract modification due to changes in costs, and private financiers have greater scrutiny over the specifications of the project. That is, private companies' returns on a PPP depend on completing the project on time and on budget—creating stronger incentives than under public procurement, where changes to project cost are often at the expense of the contracting authority. In turn, this means private companies make more careful and conservative estimates of costs in the first place, helping reduce the optimism bias described in *Section 1.2.2 - Poor Planning and Project Selection*.

How PPPs can help—improved service delivery and management

There have been relatively few studies on the impact of private sector participation on infrastructure operation. Nonetheless, available evidence suggests that private sector participation can improve service delivery and management efficiency, compared to government-run infrastructure services.

For example, a **comprehensive 2009 World Bank study** (Gassner et al. 2009) analyzed the effect of introducing private sector participation through concessions or full privatization of utilities. The study used econometric analysis to assess performance of over 1,200 water and electricity utilities, in 71 developing and transition countries. The study found significant efficiency gains when private sector participation was introduced—including reduced water losses and increased staff efficiency. These gains came alongside improvements in service delivery, with increased coverage and daily hours of service. A study by **Marin of private participation in urban water utilities** (Marin 2009), also in 2009, analyzed the performance of 65 large water PPPs and similar contracts (including management contracts) in developing countries worldwide. Marin also found that introducing a private operator consistently improved operational efficiency and service quality.

The **Transportation Research Board's report on highway life-cycle costs** (Flannery et al. 2016) discusses life-cycle cost analysis for highways and presents the approaches utilized by government agencies and PPP bidders/operators.

Box 1.6 When PPPs fail—The case of the 1993 water concession in Buenos Aires

In the 1990s Argentina implemented a major concessions program in the water sector. Water and sanitation concession agreements with private operators were signed in 28 percent of the country's municipalities covering 60 percent of the population. The more widely-known contract was the concession for public water and sewerage services for Greater Buenos Aires, signed in 1993 with a consortium led by the French firm Suez. The concession soon showed positive results—labor productivity almost tripled, service coverage increased, reliability and responsiveness improved, and the price of service fell. However, teething problems also appeared—poor availability of information to users and the public, lack of transparency in regulatory decisions, and the ad hoc nature of government interventions. Consumers were not reassured that their welfare was being protected, and the sustainability of the concession was in doubt.

There is evidence that the private operator increased investment, and that it expanded access—Suez claims it extended access to water to two million people, and access to sanitation to one million people. In 1999, it started programs to provide access to slums—but soon the Argentinian economic crisis disrupted the plans.

After the 2001 economic crisis, the Argentinian government froze water tariffs, condemning most concessions to renegotiation, and several of them to early termination—as was the case of the Buenos Aires concession, which was terminated in 2006.

Sources: (Crampes and Estache 1996); (Estache et al. 1999); (Alcazar et al. 2000)

PPP limitations and pitfalls—PPP implementation failures

PPPs can achieve efficiency improvements in the delivery of infrastructure, as described above. However, creating the incentives to achieve efficiency gains, and ensuring the public and users reap the benefit, depends on the government effectively structuring, procuring, and managing the PPP project over its lifetime. This achieves competitive tension, real risk transfer, and ensures anticipated performance improvements materialize in practice. This can be difficult where low public sector capacity means that governments lack the resources and skill to structure and manage PPPs well.

A PPP program may also present a short-term negative impact on public sector capacity—**a NAO audit report on the British prison PPP program** (NAO 2003a) notes that PPP prison directors were generally recruited from the ranks of experienced Prison Service governors, benefiting from the experience and skills of former public sector employees. Other PPP programs experienced the same effect. Implementing a PPP program requires active measures to create or retain enough expertise for managing the PPP contracts themselves.

Implementing a competitive procurement process for PPPs can be difficult. As described in detail in *Module 3 - PPP Cycle* of this *Reference Guide*, governments need to approach the market with a well-structured PPP project under an appropriate tender process. Where this is not the case, bidders may simply not participate; or may make bids that are either incomparable with each other (as based on varying assumptions) or deliberately low, with a view to resolving uncertainties through post-bid negotiation. This can be a challenge even in countries with long PPP experience. For example, the **House of Lords' Review of PPPs** in the United Kingdom (UK 2009, 20–21) describes how negotiations at the preferred bidder stage led to price increases in many PPP projects.

Guasch's comprehensive review of PPP experience in Latin America (Guasch 2004) highlights a further challenge with achieving the benefits of competition—the incidence of renegotiation of PPP contracts. Of a sample of over 1000 concessions granted in the Latin America and Caribbean between 1985 and 2000, Guasch found that 10 percent of electricity concessions, 55 percent of transport concessions, and 75 percent of water concessions were renegotiated. These renegotiations took place an average of 2.2 years after the concessions were awarded.

Guasch suggests this high incidence of renegotiation soon after concession award may reflect flaws in the initial tender processes, weak regulation, or opportunism on the part of the private party or government. Most renegotiations were favorable to the operator—

for example, resulting in increased tariffs, or reduced or delayed investment obligations. In these cases, the efficiency savings from cost discipline may not have been passed on to the public sector.

Abrantes de Sousa's review of the PPP program in Portugal (Sousa 2011, 9–10) describes a similar tendency. Abrantes de Sousa notes that the government's apparent willingness to renegotiate contracts undermines the competitive process, with bidders engaging in strategic bidding to win the contract, to renegotiate it later without competition.

Moreover, effective management of a PPP transaction is only the start of the process. For a PPP to be sustainable over the long term requires a consistent level of commitment and capacity from the government and private parties over time. Where this is not the case, whether due to changing government priorities or external pressures, the PPP may ultimately fail—this is described in *Box 1.6 - When PPPs fail—The case of the 1993 water concession in Buenos Aires*.

1.2.4 Inadequate Maintenance

Infrastructure assets are often under-maintained, either because maintenance is poorly planned or because planned maintenance is deferred. Political consideration or pursuit of personal gain often biases infrastructure expenditure towards new assets over maintenance, as described in an **IMF analysis of corruption in infrastructure** (Tanzi and Davoodi 1998).

Inadequate maintenance increases lifetime costs while also decreasing benefits. Regular maintenance is usually the lower-cost way to keep infrastructure assets at serviceable standards, compared to the alternative of allowing quality to degrade until major rehabilitation work is needed. The **World Bank's Africa infrastructure diagnostic study** (Foster and Briceño-Garmendia 2010, 15) estimates that preventative maintenance for the roads sector in Africa could save $2.6 billion a year in capital expenditures rehabilitation. In South Africa, a **review of road maintenance by the South African National Roads Agency** (ZA 2004b, 36) indicates that delaying road maintenance for three years leads to increased costs of six times the original costs of preventative maintenance. If road maintenance is delayed for five years, costs rise to 18 times the preventive cost.

The poor performance of under-maintained infrastructure can be costly for users. For example, a **U.S. Engineers' Association report** (ASCE 2009, 1–4) estimates that poor road conditions cost motorists $67 billion a year in repairs and increased operating costs, while leaking pipes lose an estimated seven billion gallons of clean drinking water a day. The **Infrastructure Report Card** website (ASCE-IRC) discusses several key criteria regarding infrastructure quality: level of maintenance, capacity, physical condition, funding, public safety, resilience, and innovation. It recommends that all projects greater than $5 million use life cycle cost analysis and develop a plan for funding the project, including its maintenance and operation, until the end of its service life.

The **Pacific Region Infrastructure Facility**, after reviewing maintenance in their region, considered that a Build-Neglect-Rebuild approach was being used for infrastructure (PRIF 2013).

How PPPs can help—improved maintenance

PPPs can improve maintenance of infrastructure assets by improving incentives for both private contractors and governments to make quality maintenance a priority.

PPPs bundle construction or rehabilitation and ongoing maintenance into a single contract. This incentivizes the private company to build the asset to a high quality upfront, reducing the need for maintenance (resulting in a lower *whole of life* cost of the asset), as described in a **2010 United Kingdom National Audit Office report on PPP performance** (NAO 2010a, 8).

The private party then faces a strong incentive to carry out adequate maintenance. In the case where its revenue depends on user fees, the operator has an incentive to make sure the asset meets performance requirements and attracts users. Under government-pays PPPs, the operator's revenue typically depends both on the availability of the asset over time, and the operator's ability to meet specific levels of service quality. In this case, PPP contracting also forces governments to commit upfront to making adequate funding available to maintain an asset over time. This can help overcome the tendency to cut maintenance budgets down the line and thereby delay necessary maintenance and rehabilitation.

PPP operators not only have the incentive to maintain assets, but also the means to do so. A life-cycle approach, combined with private finance, forces bidders to prepare financial models that include allocations for maintenance—whereas government agencies are dependent upon appropriation of budgetary funds.

Box 1.7 Performance Based Road Contracts—Improving Maintenance of Infrastructure

Performance-based road contracts have proved successful in improving the quality of road maintenance—a pervasive problem in many countries. For example:

Chad suffers from poor maintenance of its road network because of poor design of maintenance contracts with private contractors, as well as lack of domestic funding. In 2001, Chad awarded a performance-based maintenance contract for 441 kilometers of unpaved roads (seven percent of the country's road network), which pays a lump-sum fee per kilometer of road maintained to pre-defined standards. The roads have since met and even exceeded performance standards.

Argentina also has experience with private-sector performance contracts on their road networks. The performance-based contracts have improved maintenance and reliability of the roads up to a specified standard agreed with the government, and have saved the Government of Argentina almost 30 percent in additional capital expenditures for rehabilitation.

Sources: (Hartwig et al. 2005); (Liautaud 2001)

Some types of PPP or related contracts reward improved maintenance directly. For example, **Frauendorfer and Liemberger** (Frauendorfer and Liemberger 2010, 34–37) describe performance-based contracts for non-revenue water reduction. Infrastructure provides examples of performance-based maintenance contracts, which share many characteristics of PPP, and which have proved effective at improving maintenance in the road sector.

PPP limitations—need for effective contract design and regulation

In some circumstances, the ability of PPPs to create incentives to improve maintenance will be limited. This may be the case:

- In user-pays PPPs, where the PPP company is a monopoly provider, or for government-pays PPPs, if quality and safety standards are not carefully specified, monitored, and enforced. **Engel, Fischer, and Galetovic** (Engel et al. 2009) note the importance of effective monitoring in achieving the potential benefit of improved maintenance.

- If the contractor does not have much equity or other financial stake in the project, meaning it would rather walk away from a contract than spend on costly maintenance. This risk is described further in *Section 1.3.2 - Considerations for Government*, on the danger of over-leveraged projects.

- Towards the end of the contract, when the contractor knows it will not reap the benefit of further maintenance investments. Well-designed contracts require specific clauses dealing with the handback during the final phase of the concession.

A 2008 OECD paper discusses maintenance in PPP projects and argues that effective transfer of risk and responsibility to the PPP operator will likely not happen in the absence of competitive procurement (OECD 2008a). These limitations can be mitigated through good contract design, as described further in *Section 3.4 - Designing PPP Contracts*.

1.2.5 Infrastructure in Fragile and Conflict-Affected States

Countries are classified as fragile and conflict-affected states (FCS) for diverse reasons. The **OECD Principles for Good International Engagement in Fragile States** (OECD 2007c) describe FCS as facing development challenges "such as weak governance, limited administrative capacity, chronic humanitarian crisis, persistent social tensions, violence or the legacy of civil war." Conflict-affected states differ from post-conflict states, and fragility takes different forms depending on the strength of their institutions and their ability to enforce the rule of law. A legacy of corruption and cronyism, as described in **the Brookings paper on multinational engagement to support economic growth** (Nelson 2014, 10), hinders trust between the public and private sector.

These conditions create uncertain, high-risk business environments that the private sector is reluctant or even unable to engage with. More than 70 percent of FCS rank in the bottom quartile of the **World Bank Group's Doing Business rankings** (DB). In addition, essential infrastructure facilities are usually scarce and in poor condition; access to public services is limited; and the quality of service delivery is poor.

The **OECD report on service delivery in fragile situations** (OECD 2008b, 21) shows that the lack of government capacity to provide services creates a vicious cycle of poverty that reinforces fragility and may exacerbate or renew conflict.

These create challenges for PPPs, where the long pay-back phase for the private sector investor/lenders leaves them exposed to public sector risk over an extended period. This means that classic PPP models are not well suited to such situations and either

- More traditional government-pay models may be needed; or
- The normal PPP models will need to be heavily modified or underpinned; or
- A more limited ambition to create some form of private sector service provision (short of PPP) may be pursued as an interim phase of development.

More likely, a mixture of all three solutions will need to be considered as part of an overall program of reform. Additionally, in those situations in which private finance is obtained at a high-risk premium, it is important to include mechanisms within the contract to trigger refinancing as and when risk within the given FCS country decreases. Refinancing project debt is discussed in greater detail in *Section 1.3.2 - Considerations for Government*.

Private provision of public services can alleviate these sources of fragility and create economic opportunities to spur economic growth. Even where private investment is limited or contracts cannot be long-term, private involvement in the provision of services—managing operations and delivering service—can be critical to creating the conditions for the emergence of a virtuous cycle of peace, stability, growth, poverty alleviation, and shared prosperity.

As countries have varying degrees of institutional development, governance, or capacity already in place, private sector engagement should be tailored to each country's specific context. Various forms of private engagement can be used. Those that have lower capital requirements and short-term horizons, such as management contracts, affermage, lease contracts, and O&M contracts, are particularly appropriate. The affermage, lease contracts, and O&M contracts, are particularly appropriate. The **APMG PPP Certification Guide** (APMG 2016, Section 3.2) discusses each of these solutions. Business opportunities generating foreign currencies such as ports and airports are also more likely to attract quality investors, as are telecommunications and energy projects, particularly in the generation sector.

The most common success factors in attracting the private sector are:

- Open and transparent procurement processes, free of bribery and corruption
- Rights of redress at international courts, especially in case of change in government and/or expropriation of assets or removal of concession rights
- Ability to collect revenues and tariffs
- Ability to ring-fence and expatriate foreign currency revenues
- Affordability of the tariffs for local users and if not, local government and donor support to bridge the gap
- Fairness of local employment laws
- Most importantly, security and the rule of law

Three examples of successful private sector engagement in the provision of services in FCS are set out below:

- Purely private investment – In **Somalia** (Feldman 2007), the collapse of the central government in 1991 resulted in the destruction of the telecommunications sector. Slowly, private operators began providing satellite communication devices to meet the demand. This ultimately culminated in the creation of a network of private operators in 1998. By 2007, despite the lack of a cohesive government in place, the country's telephone coverage reached 87 percent.
- Management contract – The World Bank-financed Power Recovery Project in **Guinea** (IFC 2016) brought in Veolia-Seureca, a private French consortium, to manage the operations of Électricité de Guinée. This management contract is designed to improve EDG's technical, commercial and financial performance and enhance the electricity services for approximately 300,000 households.

- O&M contract - In **Haiti** (Brault et al. 2015), the Rural Water Supply and Sanitation Project significantly increased access and sustainability of water services by utilizing O&M contracts with small, private operators throughout the Sud region.

These types of engagements may allow FCS governments to gain proficiency in negotiating contracts with private sector companies. They can also contribute to building trust and credibility with private sector partners.

Including the private sector in a reform dialogue that supports the implementation of transparent, inclusive, and efficient policies and regulatory practices may enhance the investment climate and incentivize private investment. **Cambodia** has regularly convened the Government-Private Sector Forum since 2001. The resulting reforms generated $69.2 million in cost savings to the private sector as of 2015. **The CIPE article on public-private dialogue** (Bettcher et al. 2015) provides a methodology for conducting this dialogue.

FCS also often suffer from capacity deficits in the public and local private sector, making public-private engagement and collaboration challenging. It may be difficult to select an appropriate partner and design a good agreement—particularly when some firms are willing to pay bribes or when officials request bribes to influence procurement. Governments have benefited from the advice of experienced transaction advisors to design and implement competitive tender processes.

If, however, PPP-like structures as defined in this Guide are to be used, for instance in post-conflict countries, it may be necessary to include multilateral institutions that can provide guarantees and insurance products that reduce the risk for private investors. Likewise, mechanisms can be put in place to ringfence foreign revenues; arbitration can be moved offshore; profit repatriation can be regulated by treaties.

With the support of PPIAF, the World Bank and several academic institutions created the **Body of Knowledge on Infrastructure Regulation** (PURC 2012), a website which provides guidance and links to more than 500 references on regulation. The site helps governments define regulatory standards, and includes a section with specific guidance on infrastructure in FCS.

Several examples of project development organizations that may act as offer such products are:

- **IFC Infraventures** (Infraventures), a global infrastructure project development fund that provides early stage risk capital and experienced project development support (Infraventures 2015)
- **InfraCo,** comprised of (InfraCo Africa) and (InfraCo Asia), project developers in lower-income countries established by the Private Infrastructure Development Group (PIDG)
- **Pacific Region Infrastructure Facility** (PRIF), which supports infrastructure development and maintenance in Pacific Island

Box 1.8 The Pamir Private Power Project

In Tajikistan, the Gorno-Badakhshan Autonomous Region suffered from major energy shortages following independence from the Soviet Union in 1991 and a subsequent five-year civil war. Economic and human development were choked by this lack of energy.

To improve this situation, the Government of Tajikistan signed a 25-year PPP agreement with Pamir Energy to upgrade and operate the region's out-of-date hydroelectric utility with financial and technical assistance from the Aga Khan Fund for Economic Development, the World Bank, the Swiss Economic Cooperation Office and the IFC.

Although the project faced numerous challenges in implementation due to difficulty in securing contractors and materials, it was finished on time and on budget in 2006. It later faced issues with the population's adjustment to higher energy tariffs and a culture of non-payment but these challenges were overcome over time and Pamir was eventually even able to grow energy output enough to export to Afghanistan. As of 2016, the project is providing renewable energy for 226,000 people in Tajikistan and 28,500 in northern Afghanistan with an eye for expansion to a further 170,000 in Afghanistan over the next five years.

Sources: (Jumaev 2016); (WB 2012b)

- Countries through investment coordination, research and technical assistance

Some countries also find it useful to outsource contract enforcement to an independent party in attract quality investors. Although investing in the capacity of the public and private sectors should be the long-term goal, governments may use skilled intermediaries and transaction advisors in the short term to compensate for these deficiencies as recommended in the **Brookings paper on multinational engagement to support economic growth** (Nelson 2014, 11).

The diversity of situations in FCS countries does not allow for generalizations on the proper path for infrastructure delivery. Improving legislation, building capacity, and fostering a good investment climate may not be enough. In some cases, PPPs can survive very difficult conflict situations—as in Cote d'Ivoire where the PPP utility company continued to deliver electricity to its customers during its civil war. And PPP projects may be successful when the investment climate for private sector participation is sufficiently enhanced, as in the Pamir Private Power Project in **Tajikistan** presented in *Box 1.8 - The Pamir Private Power Project*.

1.2.6 Climate Change and Natural Disasters

The risk of natural disasters affects infrastructure projects and must be considered throughout the project cycle. Climate change introduces additional challenges by increasing uncertainty and the probability of extreme weather events. PPPs, as long-term contracts, require particular care in the identification, mitigation and allocation of risk. This section focuses on whether and how PPPs can be utilized when facing climate change and natural disaster-related risks.

Impacts of climate change on infrastructure are expected to worsen in the future. Therefore, climate change considerations should be factored into government decisions regarding infrastructure, irrespective of delivery or financing mechanisms. The scientific community predicts that the intensity and frequency of extreme weather conditions around the globe will increase in the medium term. Thus, the critical infrastructure at the foundation of basic economic activity is at risk. For example, in the energy sector, rising temperatures and extreme weather conditions can lead to unmet energy demand, rising costs for cooling and asset damage.

Traditionally, hazards from weather and disaster-related events were estimated through probability distributions of historic data and trends. However, today's changing climate is posing unpredictable risks. Incidence patterns of tropical storms, floods and heat waves cannot be extrapolated from past records nor can their severity. Many factors contribute to the uncertainty, including the path of future emissions and the sensitivity of the climate system to concentrations of atmospheric greenhouse gas (GHG) emissions. A changing climate not only represents a risk in terms of increased frequency and intensity of extreme weather events, but also through gradual, longer-term incremental changes.

As of 2017, the most sophisticated climate forecasting models are not reliable at the regional level, let alone the project level. For example, there remains a high degree of uncertainty regarding rainfall in western Africa; some models predict a significant increase, others a massive decrease. Faced with such uncertainty, governments need to build their infrastructure facilities to withstand scenarios that could derail their projects, rather than build for one specific scenario. The **World Bank report on Investment Decision-Making under Deep Uncertainty** (Hallegatte et al. 2012) outlines a path for practitioners to build robust infrastructure in the face of these highly uncertain outcomes, keeping the cost of being wrong about future events as low as possible.

A **World Bank study: The Costs of Adapting to Climate Change for Infrastructure** (WB 2010, 10) highlights how climate change poses a dynamic risk factor to multiple infrastructure investments. PPP policy frameworks and procurement processes need to be designed and managed to take account of climate-related uncertainties, especially in the case of large-scale infrastructure investments.

As PPP contracts are long-term and generally inflexible arrangements with lock-in effects, failure to address climate risks exposes stakeholders to long-term vulnerabilities over the life of the asset. If unaddressed at the beginning of the investment decision-making process, the public sector, by default, remains the party of last resort when an infrastructure asset delivering public services stops functioning properly because of a climate event. Private partners will seek redress from the public sector to compensate their losses unless the PPP contract stipulates otherwise.

Climate change and PPP policies

At the national level, good practice consists of incorporating climate change policies and commitments into PPP policy frameworks and/or Public Investment Management (PIM) guidelines. An **OECD policy paper** (OECD 2009) discusses how to mainstream climate change at the national, sectoral, project and local level. This is a critical step towards building a systematic institutional approach to climate change. The lessons from national level efforts in the UK and Australia are summarized in a **World Bank study on alignment of climate change policies in the PPP policy frameworks** (WB-Risk)**.** They may provide guidance to policy makers in middle income and developing countries. Further, policy makers can utilize country-level climate change and disaster risk indices and screening tools to frame their sectoral infrastructure policies in line with the specific potential risks and impacts of their geographic zone.

Governments can seek policy, financial and technical support from multilateral institutions in many areas including screening for climate change and disaster risks. International financing instruments include the **Green Climate Fund** (GCF), which allocates resources to climate-resilient and low emission projects and programs. Also, several **Climate Investment Funds** (CIF) support governments at the development planning and project financing stages. These instruments can be used to finance infrastructure resilience and can potentially absorb the cost of adaptation.

Adaptation and mitigation measures

Mitigation and adaptation measures are needed when addressing climate change. **Adaptation** refers to the impact of climate change on infrastructure assets and what can be done to reduce their vulnerability, and enhance their resilience. **Mitigation** addresses strategies or actions taken to remove or reduce the level of GHG emissions. The **Intergovernmental Panel on Climate Change** (IPCC 2017) sets out strategic considerations for adaptation and global-scale mitigation, and presents near-term response options. **NASA** provides scientific data supporting this two-pronged approach. The **European Climate Adaptation Platform** (CLIMATE-ADAPT 2017) provides tools and methodology for addressing adaptation. Broad policy and institutional reforms integrating both mitigation and adaptation approaches into the PPP framework are critical to ensure that infrastructure projects are designed to consider costs and measures that provide a buffer from the consequences of extreme weather conditions and natural disasters, including the occurrence of stranded assets.

The traditional measures to address climate change risks such as relief and compensation Agreements, *force majeure*, asset insurance, and other contractual provisions that trigger renegotiations are generally enforced at the project level. They are discussed in detail in the **World Bank Report on Recommended Contractual Provisions** (WB 2017e). These measures are mainly ex-post reactive measures. They seek to redress the impacts and damages to the infrastructure after the event. However, parties involved in the PPP contracts may use legal and other contractual loopholes such as uninsurable events and *force majeure* clauses to disclaim responsibility for the cost of repairs/rebuilding and leave the government with the burden of shouldering these costs. Embedding the systematic adoption of some type of insurance in the national infrastructure or PPP policy will increase the cost of infrastructure but reduce the fiscal hardships caused by extreme climate events and natural disasters.

Chile has addressed this issue by stipulating that earthquakes are not considered *force majeure* in the country because of their frequency; indeed, earthquakes are evidently not unexpected events there. The **Chilean PPP law** (CL 2010b) states that catastrophic risk must be covered by insurance—in practice exempting earthquakes from consideration as an event of *force majeure*. In the 1980s, Chile faced significant fiscal costs due to infrastructure damage following frequent earthquakes. However, in recent decades, Chile developed its road network utilizing PPPs, requiring mandatory insurance from private partners. As a result, the 8.8 magnitude earthquake in Chile in 2010, where infrastructure losses totaled $21 billion, had almost no fiscal impact on roads built through PPPs. This is good practice—the Chilean approach should be emulated wherever possible.

Countries where the incidence of natural disasters is high should require insurance protection for major events. For example, as earthquakes are common in Chile, so are hurricanes in the Caribbean. For projects where insurance is not available, governments could consider protecting against disaster-related *force majeure* events by obtaining catastrophic protection through a Catastrophe Deferred *Section 1.3.4 - Third Party Risk Mitigation and Credit Enhancement*.

However, due to the unpredictability of low-probability, high-cost climate change-related events, this approach will not be feasible for such events as sea level rise or changing extreme weather patterns.

The costs of adaptation measures at the early stages of an infrastructure project are small compared to the future costs of rebuilding or repairing infrastructure. Retrofitting infrastructure, i.e. redesigning the asset after construction, is extremely expensive and sometimes impossible. A **World Bank study** (ESMAP, 5) estimates that adaptation measures cost no more than two percent of the total cost of infrastructure assets. This estimate may vary depending on the type of infrastructure, location, and other factors. However, preventive adaptation actions at an early stage of the project cycle can generally help avoid high future costs if climate conditions worsen. Moreover, the probability that an infrastructure asset will continue to provide its services over its intended lifespan is enhanced when it is financed and built with climate risk considerations. An academic study on **Climate Change and Infrastructure Impacts** (Schweikert et al. 2014) on roads shows how pro-active adaptation measures result in lower fiscal costs and higher connectivity rates as early as 2025. Examples of options, recommendations and best practices for adapting to climate change for infrastructure in the PPP context are set out further in this section.

Addressing natural disasters in PPP policy

Commercial insurance provides coverage for most natural disasters. However, some risks cannot be quantified and therefore priced by the private sector. In these circumstances, risks cannot be transferred to third parties and must be faced by governments—PPP operators will not assume those risks. They will be explicitly allocated to government in the contract, or implicitly through *force majeure* provisions. As PPP operators do not bear the consequences of extreme risk events, their incentives to design resilient infrastructure will be limited.

When procuring PPPs, governments usually transfer responsibility for asset design to the private sector, which will obey economic rationality to satisfy the contractually-defined project goals. When significant risks affect government rather than the private sector, the contracting authority needs to play a more active role in defining minimum project characteristics to protect the public sector and the users from extreme risk events, for example, prohibiting project construction in flood or landslide prone areas or defining strict construction standards. More generally, climate change-related risks need to be identified specifically throughout the procurement process. This is described in greater detail in *Section 3.2.1 - Assessing Project Feasibility and Economic Viability*.

Finally, if mitigation is likely to require a costly and uncertain process of adaptation over time, such as evolving specifications or maintenance standards, then a PPP may not be the optimal solution.

Box 1.9 The Uruguay Weather Derivative

Uruguay's state-owned public electric company, Administración Nacional de Usinas y Trasmisiones Eléctricas (UTE) relies on hydropower to generate more than 80 percent of its energy needs. When rainfall and/or accumulated water reserves is low, UTE must purchase alternative fuels (mostly oil and natural gas) as inputs. When the price of oil is high, generation costs become expensive, affecting UTE's bottom line, and creating problems for both consumers and the national budget.

In 2012, water shortages increased UTE production costs to a record $1.4 billion, far exceeding the company's original projections of $953 million. To cover the gap, UTE borrowed funds from the market, drew from the country's $150 million Energy Stabilization Fund, and increased consumer rates. The Government of Uruguay asked the World Bank for technical support to hedge UTE's financial exposure to low rainfall and high oil prices.

On December 18, 2013, the World Bank executed a $450 million weather and oil price insurance transaction for UTE. The transaction insured the energy company for 18 months against drought and high oil prices. To measure the extent of a drought and potential insurance payouts to the company, the transaction measured and collected daily rainfall data at 39 weather stations spread throughout the two river systems on which Uruguay's hydropower is dependent: the Rio Negro and Rio Uruguay. If precipitation fell below the level set up as trigger of the contract, UTE would receive a payout of up to $450 million based on the severity of the drought and oil price levels.

Source: (WB 2014)

Key References: Infrastructure Challenges and How PPPs Can Help - Problems with Infrastructure

Reference	Description
Foster, Vivien, and Cecilia Briceño-Garmendia, eds. 2010a. *Africa's Infrastructure: A time for transformation*. Washington, DC: World Bank.	Presents the results of the Africa Infrastructure Country Diagnostic (AICD) study, a comprehensive review of infrastructure sectors in Africa. Details the challenges facing infrastructure provision in Africa, with information on performance by sector. A French version is also available (Foster and Briceño-Garmendia 2010b).
OECD. 2007a. *Infrastructure to 2030: Volume 2: Mapping Policy for Electricity, Water and Transport.* Paris: Organisation for Economic Co-operation and Development.	Presents the results of a global infrastructure needs study, reviewing trends and challenges in the electricity, water, and transport sectors, and providing policy recommendations. Includes estimates of infrastructure needs in OECD economies, as well as considering the role of PPP in meeting those needs. A French version is also available (OECD 2007d).
Flyvbjerg, Bent, Mette K. Skamris Holm, and Søren L. Buhl. 2002. "Underestimating Costs in Public Works Project: Error or Lie?." *Journal of the American Planning Association* 68(3) 279-295.	This global study of 258 transport projects finds that, on average, actual costs were 28 percent higher than planned costs—65 percent higher for projects outside Europe and North America. The paper describes technical, psychological, and political explanations for this result.
Flyvbjerg, Bent, Mette K. Skamris Holm, and Søren L. Buhl. 2005. "How (In)accurate Are Demand Forecasts in Public Works Projects? The Case of Transportation." *Journal of the American Planning Association* 71(2) 131-146.	This study of 210 transport projects in 14 countries finds that traffic was over-estimated for nine out of ten rail projects, by an average of 106 percent. The accuracy of traffic forecasts also varies for roads, but on average road traffic was found to be under-estimated.
Flyvbjerg, Bent. 2005. "Policy and Planning for Large Infrastructure Projects: Problems, Causes, and Cures." World Bank Policy Research Working Paper 3781. Washington, DC: World Bank.	Summarizes the results and lessons from the above studies, and other similar work—why estimates of costs and benefits are inaccurate for large infrastructure projects.
Tanzi, Vito, and Hamid Davoodi. 1998. "Roads to Nowhere: How corruption in public investment hurts growth." *Economic Issues* 12. Washington, DC: International Monetary Fund.	Drawing on cross-country analysis, argues that corruption reduces growth, by increasing public investment while reducing its productivity—increasing investment expenditure, but with lower expenditure on operations and maintenance.
WB. 2008. "Deterring Corruption and Improving Governance in the Urban Water Supply & Sanitation Sector: A Sourcebook." Water Working Notes, Note No. 18. Washington, DC: World Bank.	Chapter 6 describes the problems of corruption in planning and implementing major capital projects.
ASCE. 2009. *Report Card for America's Infrastructure*. Washington, DC: American Society of Civil Engineers.	Assigns grades and describes the state of different types of infrastructure in the United States. Includes estimates of the cost to users and government of the poor standard of maintenance.
PWC. 2005. *Delivering the PPP Promise: A Review of PPP Issues and Activity*. New York: PriceWaterhouseCoopers.	Section 2 succinctly describes the advantages and disadvantages of using PPPs.
Deloitte. 2006. Closing the Infrastructure Gap: The Role of Public-Private Partnerships. New York: Deloitte.	Examines the case for PPPs, describing the typical benefits of PPP over traditional procurement. Also reviews how PPP markets typically develop, considering PPP experience in several sectors (with a focus on developed countries).
Engel, Eduardo, Ronald Fischer, and Alexander Galetovic. 2009. *Public-Private Partnerships: When and how*. Santiago: Universidad de Chile.	Describes the circumstances under which PPPs may provide better value than traditional public procurement, as well as examining some common but weak arguments for PPPs. Also describes institutional requirements for a successful PPP program.
Fischer, Ronald. 2011. "The Promise and Peril of Public-Private Partnerships: Lessons from the Chilean Experience." IGC Rwanda Policy Note Series - No. 1. London: International Growth Centre.	Uses the experience of Chile and other developing countries to examine the benefits and pitfalls of PPPs, also offering recommendations to address common problems.

Reference	Description
Irwin, Timothy C. 2007. *Government Guarantees: Allocating and Valuing Risk in Privately Financed Infrastructure Projects*. Directions in Development. Washington, DC: World Bank.	Chapter 2 describes lessons from history of government guarantees to private infrastructure projects, with cautionary tales of governments thereby creating significant fiscal exposure. Chapter 3 describes why governments can make bad decisions on providing guarantees.
Sousa, Mariana Abrantes de. 2011. "Managing PPPs for Budget Sustainability: The Case of PPPs in Portugal, from Problems to Solutions." *PPP Lusofonia* (blog). October 30.	Describes Portugal's PPP experience, including the rapid adoption of PPP, without strong fiscal control, and the associated fiscal risk. Also considers how better management of PPPs could contribute to resolving Portugal's external debt problems.
UK. 2009. *Government Response to Report on Private Finance Projects and Off-Balance Sheet Debt*. London: House of Lords, Economic Affairs Committee.	Sets out HM Treasury's response to the Select Committee's report, providing further detail and commentary on the practices and results of PFI in the United Kingdom.
Gupta, Prashant, Rajat Gupta, and Thomas Netzer. 2009. *Building India: Accelerating Infrastructure Projects*. Mumbai, India: McKinsey & Company.	Describes bottlenecks in infrastructure provision in India, and possible solutions, including highlighting some of the benefits of PPPs.
NAO. 2003b. PFI: Construction Performance. Report by the Comptroller and Auditor General, HC 371. London: National Audit Office.	Compares PFI projects in the United Kingdom with an earlier survey of publicly-procured construction projects, and found a higher proportion of PFI projects come in on time and on budget.
NAO. 2009b. *Performance of PFI Construction*. London: National Audit Office.	Updates previous report, adding experience to 2008.
Duffield, Colin, and Peter Raisbeck. 2007. *Performance of PPPs and Traditional Procurement in Australia: Final Report to Infrastructure Partnerships Australia*. Melbourne: The Allen Consulting Group and University of Melbourne.	Compares 21 PPP projects with 33 traditionally-procured infrastructure projects, finding that on average, PPPs have lower cost overruns and delays.
Duffield, Colin. 2008. *Report on the performance of PPP Projects in Australia when compared with a representative sample of traditionally procured infrastructure projects: National PPP Forum – Benchmarking Study, Phase II*. Melbourne: University of Melbourne, MERIT.	Compares 25 PPP projects with 42 traditionally-procured projects' cost and time performance over a series of project milestones.
Gassner, Katharina, Alexander Popov, and Nataliya Pushak. 2009. "Does Private Sector Participation Improve Performance in Electricity and Water Distribution?." Trends and Policy Options No. 6. Washington, DC: World Bank.	A comprehensive econometric analysis of more than 1,200 utilities in 71 developing and transition countries. Found that private sector participation improved efficiency and service levels.
Funke, Katja, Tim Irwin, and Isabel Rial. 2013. "Budgeting and reporting for public-private partnerships." OECD/ITF Joint Transport Research Centre Discussion Paper 2013 (07). Paris: Organisation for International Co-Operation and Development.	Reviews the experience of 65 PPPs in the water sector in developing countries, finding consistent improvements in efficiency and service quality.
Guasch, José Luis. 2004. *Granting and Renegotiating Infrastructure Concessions: Doing it right*. Washington, DC: World Bank.	Describes in detail how poor PPP design and weak implementation can lead to renegotiations and increased costs. Based on a review of experience in Latin America and the Caribbean, where a high proportion of PPPs underwent renegotiation within a short time from contract close.
Frauendorfer, Rudolf, and Roland Liemberger. 2010. *The Issues and Challenges of Reducing Non-Revenue Water*. Manila: Asian Development Bank.	The section on outsourcing of non-revenue water management activities (see pages 34–37) describes how performance-based contracts can be used to help improve maintenance standards.

Key References: Infrastructure Challenges and How PPPs Can Help - Private participation in infrastructure in Fragile and Conflict States

Reference	Description
Nelson, Jane. 2014. *How Can Multinationals Engage with Government to Support Economic Development?* Washington, DC: Brookings Institution.	Describes three distinct levels (national, sector-specific and project levels) of multinational corporate-FCS government engagement.
OECD. 2007c. *Principles for Good International Engagement in Fragile States*. Paris: Organisation for Economic Co-operation and Development.	Explains how OECD countries can improve their engagement strategies with FCS.
Bettcher, Kim Eric, Benjamin Herzberg, and Anna Nadgrodkiewicz. 2015. *Public-Private Dialogue: The Key to Good Governance and Development*. Washington, DC: Center for International Private Enterprise, Economic Reform Feature Service.	Describes how the use of public-private dialogue can enhance governance and development outcomes.
Qiang, Christine. 2017. "Investment Climate Brief." World Bank. Website	Examines the use of private sector investment as a force for global economic growth and development.

Key References: Infrastructure Challenges and How PPPs Can Help - Climate Changes and Natural Disasters

Reference	Description
AfDB. 2011. *Climate Screening and Adaptation Review and Evaluation Procedures*. Abidjan: African Development Bank Group.	Provides an overview of AfDB's Climate Risk Management and Adaptation Strategy which includes climate screening at the project preparation level.
ADB. 2011. *Guidelines for Climate Proofing Investment in the Transport Sector: Road Infrastructure Projects*. Manila: Asian Development Bank.	Presents a step-by-step methodological approach to help project teams incorporate climate change adaptation measures into transport sector investment projects.
ADB. 2013. *Guidelines for Climate Proofing Investment in the Energy Sector*. Manila: Asian Development Bank.	Provides a step-by-step methodological approach to help project teams incorporate climate change adaptation measures into energy sector investment projects.
UK. 2012b. *Adapting to Climate Change: Helping Key Sectors to Adapt to Climate Change*. London: UK Government, Department for Environment, Food and Rural Affairs.	Provides guidance about assessing current and projected impacts of climate change in relation to authorities' functions and preparing proposals and policies for adaptation.
EBRD. 2015. *Building resilience to climate change: Investing in Adaptation*. London: European Bank for Reconstruction and Development.	Presents the methodology for climate resilience audits, which provide a basis to identify, propose and discuss technical and investment solutions with the client.
CLIMATE-ADAPT. 2012. "Guidelines for project managers." European Climate Adaptation Platform (CLIMATE-ADAPT). Website.	Assists project developers to incorporate resilience to current climate variability and future climate change within their projects.
OECD. 2009. *Integrating Climate Change Adaptation into Development Co-operation: Policy Guidance*. Paris: Organisation for Economic Co-operation and Development.	Policy guidance for policy makers and practitioners on approaches for climate integration at the national, sectoral, project and local level.
WB. 2011a. *Catastrophe Deferred Drawdown Option*. Treasury Product Note. Washington, DC: World Bank.	Product note regarding Development Policy Loan with a Catastrophe Deferred Drawdown Option (Cat DDO), a contingent credit line that provides immediate liquidity to IBRD member countries in the aftermath of a natural disaster

Reference	Description
WB-Risk. Accessed March 15, 2017. "Climate, and Disaster Risk Screening Tools." Washington, DC: World Bank. Website.	Provides a resource for use by development practitioners at an early stage of national level planning processes or project design. There are national/policy level tools and project level tools which provide a user-friendly step-by-step approach to understanding potential risks to programs and investments.
ESMAP. Accessed March 15, 2017. "Hands-on Energy Adaptation: Toolkit (HEAT)." Energy Sector Management Assistance Program Energy and Climate Adaptation Initiative. Website.	Online resource designed to assess climate vulnerabilities and adaptation options in a country's energy sector and raise awareness.
WB. 2016e. "Climate and Disaster Resilience." Pacific Possible. Washington, DC: World Bank.	Highlights the costs of making Pacific coastlines more resilient to climate change, and provides evidence to policy makers on how incorporating climate adaptation activities into infrastructure development will reduce impacts in future years.
WB. 2016d. "Toward Climate-Resilient Hydropower in South Asia." LiveWire. Washington, DC: World Bank.	Describes planning for climate-resiliency in hydropower projects in South Asia.
WB. 2010. "The Costs of Adapting to Climate Change for Infrastructure." Discussion Paper No. 2. Washington, DC: World Bank.	Presents a methodology to estimate the costs of adapting to climate change.
AfDB. 2013. *Initiative for Risk Mitigation: Needs Assessment for Risk Mitigation in Africa, Demands and Solutions. Final Report*. Abidjan: African Development Bank Group.	Assesses risk mitigation needs and possible solutions for African countries.
Pierris, Luigi de. 2012. "Risk Mitigation Instruments in PPP Projects." Presentation prepared for a PPP Conference, Dakar, June 5.	Presents the IRMA and AfDB's risk mitigation instruments.
Hallegatte, Stéphane, Ankur Shah, Robert Lempert, Casey Brown, and Stuart Gill. 2012. "Investment Decision Making Under Deep Uncertainty: Application to climate change." Policy Research Working Paper 6193. Washington, DC: World Bank.	Explains decision-making methodologies to be applied to the uncertain scenarios of climate change.
Bonzanigo, Laura, and Nidhi Kalra. 2014. "Making Informed Investment Decisions in an Uncertain World: A Short Demonstration." Policy Research Working Paper 6765. Washington, DC: World Bank.	Examines ten different case studies and the decision-making approaches applied to them; describes utilizing a different robust decision-making approach to conduct economic analysis of a different case.
Kalra, Nidhi, David G. Groves, Laura Bonzanigo, Edmundo Molina Perez, Cayo Ramos, Carter Brandon, and Iván Rodriguez Cabanillas. 2015. "Robust Decision-Making in the Water Sector: A Strategy for Implementing Lima's Long-Term Water Resources Master Plan." Policy Research Working Paper 7439. Washington, DC: World Bank.	Describes using robust decision-making in the Master Plan for Lima's water sector.
UK. 2015a. *Valuing Infrastructure Spend: Supplementary Guidance to The Green Book*. London: UK Government, HM Treasury.	Presents the need for considering resilience in assessing and developing infrastructure projects.

1.3 How PPPs Are Financed

Transferring responsibility to the private sector for mobilizing finance for infrastructure investment is one of the major differences between PPPs and traditional procurement. Where this is the case, the private party to the PPP is responsible for identifying investors and developing the finance structure for the project. However, it is important for public sector practitioners to understand private financing structures for infrastructure and to consider the potential implications for government. This section

- Introduces ways that private finance of PPP projects can be structured (*Section 1.3.1 - Finance Structures for PPP*);
- Highlights points that governments need to bear in mind when procuring a privately-financed PPP—that is, ways in which the government might need to enable or control how the private party raises finance to ensure the project is implemented successfully (*Section 1.3.2 - Considerations for Government*);
- Describes different roles for public finance in PPPs—that is, why and how governments may be directly involved in the financing of PPPs (*Section 1.3.3 - The Role of Public Finance in PPPs*).

The chapter on PPP Financing in **Farquharson et al's book on PPPs in emerging markets**provides an overview of some of the topics covered in this section (Farquharson et al. 2011, Chapter 5). **Yescombe's** (Yescombe 2007) and **Delmon's** (Delmon 2015) **books on PPPs** cover a wide range of topics on PPP financing. The relevant sections of these books, as well as links to additional resources, are provided throughout the section for more information on specific points.

1.3.1 Finance Structures for PPP

The private party to most PPP contracts is a specific project company formed for that purpose—often called a **Special Purpose Vehicle (SPV)**. This project company raises finance through a combination of equity—provided by the project company's shareholders—and debt provided by banks, or through bonds or other financial instruments. The finance structure is the combination of equity and debt, and contractual relationships between the equity holders and lenders.

Figure 1.3a - Typical PPP Project Structure shows a typical contract structure for a PPP project. The government's primary contractual relationship is with the project company. This may be complemented by a direct agreement between contracting authority and lenders; although often this relationship is limited to the provisions in favor of the lenders included in the PPP agreement, such as step-in rights or senior debt repayment guarantees.

The initial equity investors, who develop the PPP proposal, are typically called **project shareholders**. Typical **equity investors** may be project developers, engineering or construction companies, infrastructure management companies, and private equity funds. **Lenders** to PPP projects in developing countries may include commercial banks, multilateral and bilateral development banks and finance institutions, and institutional investors such as pension funds and insurance companies.

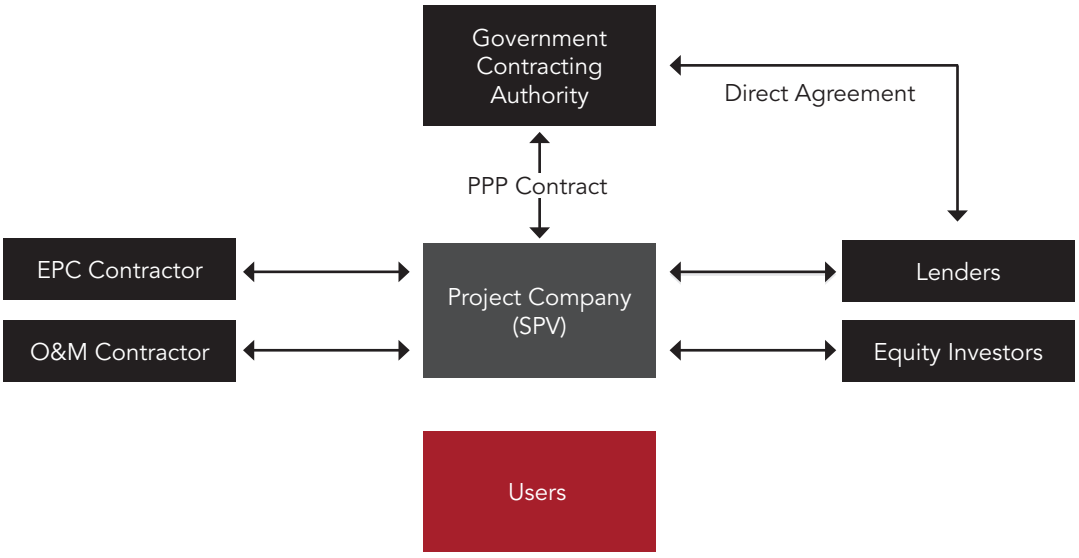
As shown in *Figure 1.3a - Typical PPP Project Structure*, the project company contracts with firms to manage design and construction (usually known as an Engineering, Procurement and Construction, or EPC contract), and operations and maintenance (O&M). These contractors may be affiliated with the equity investors. **Yescombe's book on PPP finance** includes examples of PPP structures for different types of PPP (Yescombe 2007, section 1.4).

As described in **Farquharson et al's chapter on PPP financing** (PPIAF 2001, 53), equity investment is 'first in, last out'—that is, any project losses are borne first by the equity investors, and lenders suffer only if the equity investment is lost. This means that equity investors accept a higher risk than debt providers and therefore require a higher return on their investment.

The aim of the project shareholders and their advisors in developing the finance structure is typically to minimize the cost of finance for the project. Because equity is more expensive than debt project shareholders use a high proportion of debt to finance the project. In each country, this proportion may vary from project to project, depending on the risks assumed by the PPP operator.

The financial modeling for the PPP project will tailor debt service and expected dividends according to the expected flow of funds, including revenue from user fees and government payments, and construction and on-going expenditures, namely for maintenance and operations. See *Figure 1.3b - Flow of Funds* for the typical flow of funds in a PPP.

Figure 1.3a Typical PPP Project Structure



Non-recourse project finance for PPPs

Under non-recourse project finance, lenders can be paid only from the project company's revenues without demanding compensation from the equity investors. That is, the project company's obligations are ring-fenced from those of the equity investors, and debt is secured on the cash flows of the project. As described in **Yescombe's chapter on project finance for PPPs** project finance structures typically involve a large proportion of debt (Yescombe 2007). In many cases, it ranges from 70 to 95 percent of total finance. From the equity investors' perspective, this helps manage risk by limiting exposure to a project, and makes it possible to undertake much larger projects than would otherwise be the case. For lenders, it means undertaking rigorous due diligence, focusing on the project cash flow and contractual structure.

There is a large literature on project finance structures, including several comprehensive textbooks listed in the key references for readers interested in exploring the subject further.

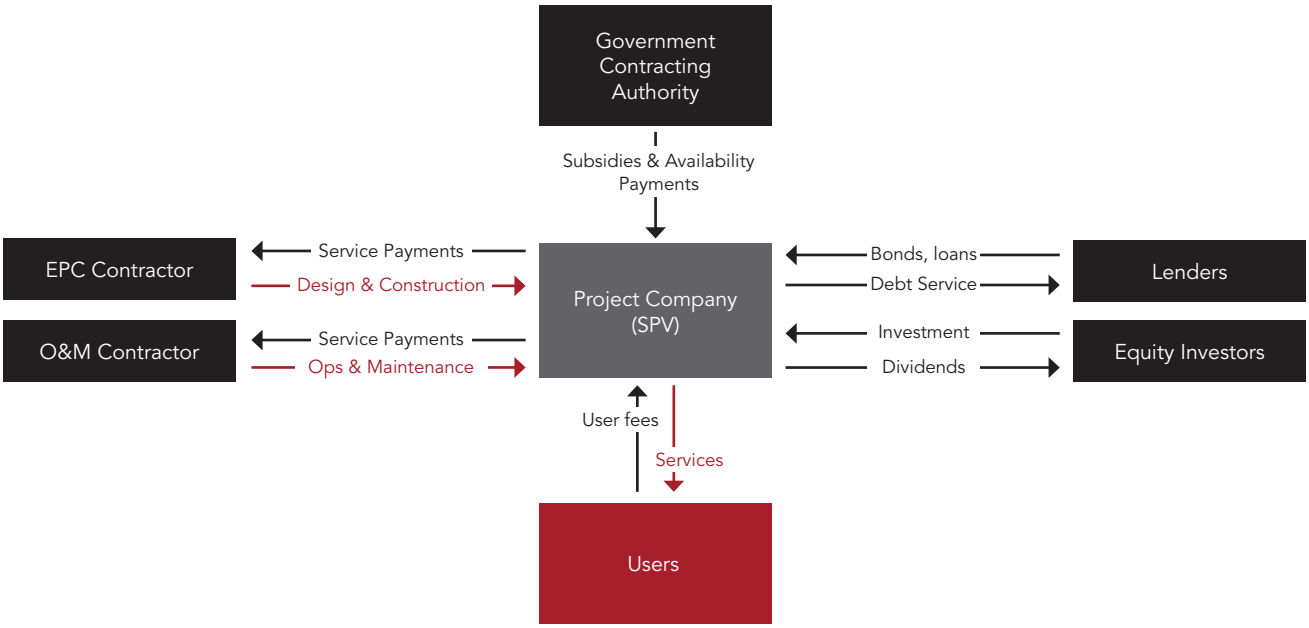
Alternatives to non-recourse project finance

While helpful for raising finance for large, highly leveraged investments, project finance comes at a cost. Interest rates for project-finance debt are more expensive than government borrowing, and often more expensive than borrowing by established companies. The transaction cost—setting up the contractual structure, and carrying out adequate due diligence—can make it unattractive for smaller deals. For this reason, many smaller PPP projects do not adopt non-recourse project finance structure to achieve greater contractual flexibility, or lower the financing cost.

One option is for project shareholders to back up the project company by providing a corporate guarantee to the lender for repayment for all or part of the project debt. *Box 1.10 - Examples of Project Finance Structure with Corporate Guarantees* provides examples.

Large infrastructure companies can structure the financing of their projects either through traditional **full recourse corporate finance** or through **limited recourse project finance**. If the corporate finance route is followed, the lenders provide loans directly to the parent company, on the strength of its credit rating and balance sheet. In case of default the lenders have full recourse to the balance sheet of the company but their loan is generally unsecured, which means that it is not backed by a specific asset. In project finance, a special purpose company (SPV) is created to hold the assets of the project exclusively. The SPV is owned by the infrastructure company and other equity investors. Lenders provide loans to the SPV. Their recourse in case of default is limited to the cash flows generated by the assets of the SPV but not to the balance sheet of

Figure 1.3b Flow of Funds



the equity investors. On the other hand, lenders will typically have security over the assets of the SPV.

In general, investors prefer limited recourse, because the risk of the project is limited to the equity they put in the SPV company. The cost of debt is generally higher, but the risk is circumscribed.

From the public sector standpoint, if the limited recourse project finance route is followed, it is important to ensure that the SPV is not too thinly capitalized, that is, the debt/equity ratio should not be too high. Otherwise, the investors' interests might not be aligned with those of the public sector, and financial close might be difficult to achieve. In addition, project finance induces lenders to focus on the PPP project assets and their ability to generate cash flows implying that lenders will implement better due diligence, and that they may later create an additional layer of protection to the public interest by exercising step-in rights in order to guarantee service delivery according to standards.

Box 1.10 Examples of Project Finance Structure with Corporate Guarantees

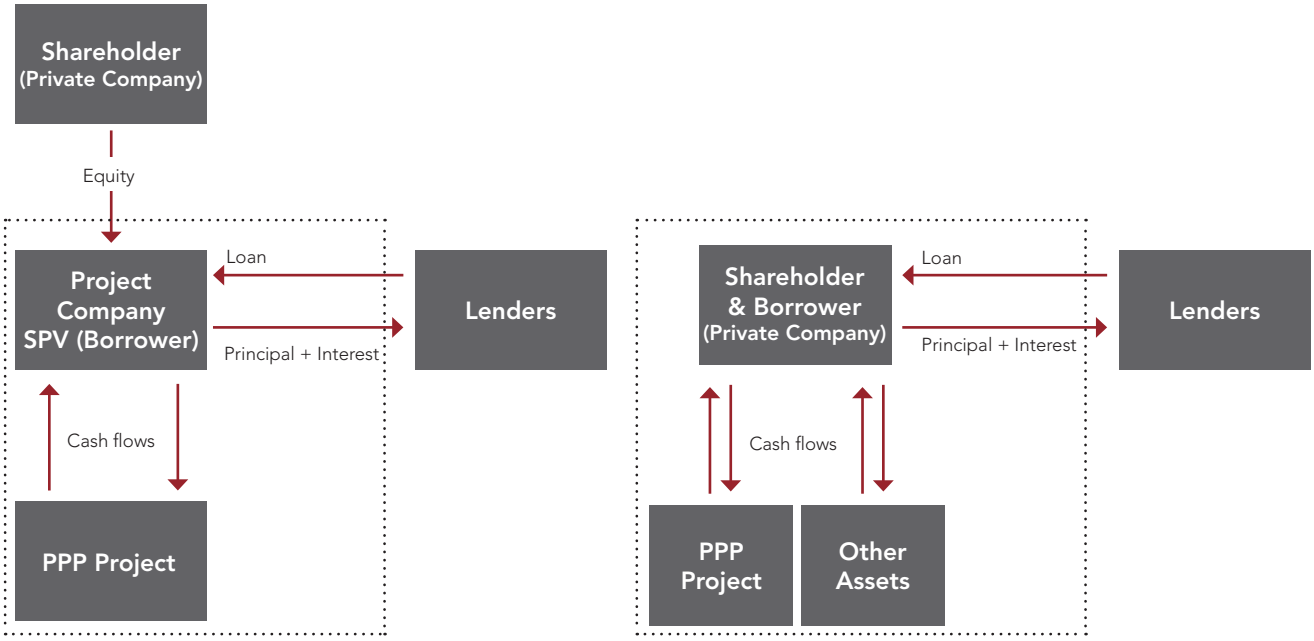
In some cases, a project company may be unable to raise finance on a non-recourse basis. One option is for a major project shareholder to provide a partial or full guarantee on the project debt. For example:

In 1997, a concession for the eastern section of metro Manila was awarded to the Manila Water Company, a consortium led by the Ayala Corporation of the Philippines, with interests from United Utilities, Bechtel, and the Mitsubishi Corporation. In the wake of the Asian Financial Crisis, the Manila Water Company was unable to raise debt to finance investments on a non-recourse project finance-basis, so Ayala provided a corporate guarantee to back up the project company.

In 1992, an oil pipeline in Colombia was being developed as a joint-venture between the national oil company and international oil companies with the IFC as the main lender. At the time, the IFC was concerned about possible guerilla attacks and the project stalled. To move forward, the shareholders provided a full loan guarantee on the project.

Sources: (Esguerra 2003); (IFC 1999)

Figure 1.4 Non-Recourse and Full-Recourse Corporate Project Finance Structures



From the lenders perspective, limited recourse project financing will often not be sufficient. They will typically require additional credit support from the PPP company shareholders and/or third parties. Monoline insurance companies were widely used for this purpose before the 2008 global financial crisis. Sometimes, lenders will ask for step-in rights in case of default. In full recourse schemes, the only drawback is a potentially long and complex process for redress, especially if the investors' parent company is based overseas.

Figure 1.4 - Non-Recourse and Full-Recourse Corporate Project Finance Structures presents the structures for full-recourse corporate and non-recourse project finance. These two cases are not the only financing structures available. PPP financing is actually quite diversified. In some countries with less developed financial institutions, where project finance is not common, but where contracting authorities wish to design good PPP arrangements, investors are required to create a PPP company (the SPV), which then obtains loans with guarantees from the PPP company shareholders. A **World Bank report on PPP financing in Latin America** (WB 2017b) describes some of these financing arrangements. In countries with more developed financial markets, large investors do finance the PPP projects with their own resources (obtained through full recourse corporate finance) and later, after construction is completed and construction risk disappears, they issue project bonds to the financial markets.

Another alternative to lower the cost of finance for a PPP is for the government to participate in the finance structure, as described in *The Role of Public Finance in PPPs* under *Section 1.3.2 - Considerations for Government*. The government—or a government-owned financial institution—could provide finance as a lender to the project company, or could provide a guarantee to some, or all, of the project debt.

Islamic Finance

Alongside the conventional system, the Islamic financial market has emerged as an increasingly relevant method for financing PPPs. According to the **Africa Islamic Economic Foundation** (AIEF 2014), Islamic financial institutions have accumulated significant liquidity, and are looking for quality projects to invest in high quality medium to long-term investment opportunities. As such, Islamic finance presents a relatively untapped market for PPP financing. But there is a more fundamental reason for the growth in and appeal of Islamic finance—during the 2008 global financial crisis, financial institutions and structures that were Sharia compli-

ant performed far better than their conventional counterparts. The two key features of Islamic finance that bring better stability are: transactions are asset-backed or asset-based (as trading of debt is prohibited); and they are based on risk-sharing principles.

Sukuk (bond-like structures) allows for co-ownership of productive resources (underlying assets). As a result, the income to *sukuk*-holders is generated by the actual underlying business activity and hence is considered profit rather than interest. The **APMG PPP Certification Guide** (APMG 2016, Annex B) presents a description of Islamic financing principles and products that may be used for PPPs. Islamic project finance requires careful design of *sukuk* that is well-adapted to each specific project and the financing instruments being used, such as *istisna* (construction financing during development phase) and *ijara* (lease financing during operational phase).

Typically, an *istisna* agreement is signed between the Islamic financier and the project's SPV to procure the construction of a PPP asset by entering into a direct agreement with its construction contractor. Once the asset has been constructed, the SPV delivers it to the financier at a pre-agreed price. This is followed by *ijara*, whereby a lease (with usufruct rights) of the same project asset is granted by the financier to the SPV. The *ijara* contract typically includes a promise by the Islamic financier as lessor to transfer ownership of the leased asset to the lessee either at the end of the lease period or in stages during the term of the *ijara*. An example of this type of arraignment is the **Queen Alia International Airport**, a 25-year concession in Jordan (IsDB and WBG 2016). An Islamic structure co-financed the project with a $100 million *istisna* combined with a forward lease under the *ijara* structure—it should be noted that in the co-financing, Islamic financing ranked pari passu (at the same level of seniority) with conventional senior lenders.

If the transfer of ownership of tangible assets is not allowed or possible, the beneficial rights contained in the project agreement can be assigned to the Islamic financier. For instance, in the **Hajj Terminal Expansion Project** (IFC 2013) in Jeddah, Saudi Arabia, the Saudi Arabian Civil Aviation Authority, the Islamic Development Bank, and IFC used a Sharia-compliant Build, Transfer, and Operate (BTO) concession model. The Islamic financiers purchased the beneficial rights under the BTO agreement, and then, as lessors, entered a forward lease agreement (*ijara*) with the project company under which the rights under the BTO agreement were assigned to it in return for rental payments.

As equity, by definition, is compliant with Islamic financial principles, it is invested either directly by sponsors or by Islamic infrastructure funds (mutual funds or unit trusts) in PPP projects. Equity could also come from *sukuk* as *mudarabah* (profit sharing trust financing—with no role in management decision-making) or *musharakah* (equity financing similar to a joint venture model). *Takaful* (Islamic insurance based on the concepts of cooperative risk sharing amongst the members) funds can also provide an alternate mode of financing PPP projects.

The following additional references provide a starting point on this subject:

- *An Introduction to Islamic Project Finance* (2013) Clifford Chance Briefing Note (Latif 2013)
- *Islamic Finance and Economic Development* (2014) Salman Syed Ali, IRTI (Syed Ali 2014)
- *An Introduction to Islamic Finance* (1999) Harvard Business School, Paper N9-200-002 (Esty et al. 1999)
- *Islamic Banking and Finance* (2011) Brian Kettell (Kettell 2011)
- *Mastering Islamic Finance* (2015) Faizal Karbani, Financial Times Publishing/Pearson (Karbani 2015)
- *Islamic Capital Markets, Products and Strategies* (2011) Hassan and Mahlknecht (Hassan and Mahlknecht 2011)
- *Public Private Partnerships: Lesson from Sukuk* (2013), Abdul Gahfar Ismail, IRTI (Ismail 2013)
- *Financing PF2 Projects: Opportunities for Islamic Project Finance* (2014) Noor Zawawi et al (Zawawi et al. 2013)
- *The Nitty Gritty of Supporting Islamic Finance* (2011) Hoda Moustafa, MIGA (Moustafa 2011)

1.3.2 Considerations for Government

When a PPP involves private finance, the investor typically has primary responsibility for developing the finance structure of the project. Nonetheless, government may need to influence its design.

At the most basic level, governments need to ensure that the project design is *bankable*—that is, the project company can raise debt. Although the ability to raise debt is a necessary feature, too much debt can undermine risk-transfer, so governments may want to limit the amount of debt finance (leverage) allowed. More arcane but still important details include: how to manage risks in going from contract award to financial close; how to deal with the possibility of refinancing project debt; and how to define step-in rights for lenders and the government. These points are described in turn below.

Governments may also participate in the finance structure. Governments can provide debt, equity, or guarantees—either directly, or through government-owned financial institutions such as development banks and pension funds. *Section 1.3.3 - The Role of Public Finance in PPPs* describes the role of this kind of public finance in PPPs.

Bankability

The ability of a project to raise finance is often called bankability. *Bankable* really means that a project can attract not only equity finance from its shareholders, but also the required amount of debt. **Delmon's chapter on bankability** (Delmon 2015, Chapter 4) and **Farquharson et al's chapter on PPP financing** (Farquharson et al. 2011, 54–57), both describe the factors banks will consider in deciding whether to lend to a project.

For a project to be bankable, lenders need to be confident that the project company can service the debt. Under a project finance structure, as described in *Section 1.3.1 - Finance Structures for PPP*, this means operating cash flows need to be high enough to cover debt service plus an acceptable margin. It also means that the risk of variation to the cash flows must be highly likely to stay within the margin. Lenders therefore carefully assess project risks, and how these risks have been allocated between the parties to the contract.

If too much risk has been allocated to the private party, lenders will reduce the amount they are prepared to lend until the margin of cash flow over debt service is acceptable. When this happens, more equity will be needed. At the same time, the project company needs to be expected to generate high enough returns to compensate its equity holders for their level of risk.

From the government's perspective, the key considerations for ensuring bankability are therefore the technical and financial viability of the project, and appropriate risk allocation. *Section 3.2 - Appraising Potential PPP Projects* provides guidance on assessing financial viability of a potential PPP project. *Section 3.3 - Structuring PPP Projects* provides guidance and tools for practitioners on risk allocation.

Moreover, lenders and shareholders both have incentives to reduce their risks and maximize their return. This means that in structuring the PPP, the government undertakes a difficult balancing act—ensuring the project is bankable, while resisting pressure for the government to accept more risk than necessary.

Limiting the amount of debt allowed

Projects shareholders often have an incentive to finance a PPP with a high ratio of debt to equity—that is, to achieve high leverage. As **Yescombe** describes, higher leverage typically enables equity investors to achieve higher returns, and makes it easier to manage the financial structure, since it can be easier to raise debt than equity (Yescombe 2007). Moreover, as described in **Ehrhardt and Irwin** (Ehrhardt and Irwin 2004), governments often provide more

Box 1.11 Example of a Thinly-Capitalized PPP: Victoria Trams and Trains

The State Government of Victoria awarded five franchises (similar to concessions) for operation of trams and commuter rail in Melbourne, and regional trains in the State of Victoria. The financial equilibrium of the projects relied heavily on the expected growth in patronage and reduction in costs. The government expected total savings in subsidies to the projects of A$1.8 billion over the life of the contracts. However, the total private capital at stake, including equity and performance bonds, was only A$135 million, which is approximately three percent of total assets. When the growth and cost reductions were not realized, the franchisees experienced losses. Because the capital at stake was relatively low, the operators could walk away from the franchises, rather than endure the losses trying to improve it. This put the government in a position of having to renegotiate the contracts with the existing operators.

Sources: (Ehrhardt and Irwin 2004); (VIC 2005)

protection to debt investors than to equity investors, providing a further incentive for high leverage. For example, governments may provide guarantees on demand designed to ensure revenue can cover debt service, or agree to payments in case of early termination that are set equal to the level of debt, such that lenders are repaid even in case of default by the project sponsor on its obligations under the contract.

To ensure a sustainable level of leverage, and large enough equity stake in the project, governments can consider introducing a minimum equity ratio for PPPs. *Box 1.11 - Example of a Thinly-Capitalized PPP—Victoria Trams and Trains* presents an interesting case in Australia where the minimum equity requirements were inadequate to ensure a genuine commitment from operators. As **Ehrhardt and Irwin** (Ehrhardt and Irwin 2004, 49–50) note, equity ratios can be particularly important if the government is also providing guarantees that are designed to protect lenders' investment. However, restricting an investor's ability to choose its capital structure can increase the cost of capital, as described in a **World Bank Gridline note on financing Indian infrastructure** (Harris and Tadimalla 2008). The authors also note the importance of structuring any guarantees or termination payment clauses to avoid creating incentives for high levels of debt and leverage.

Minimum requirements on equity levels and composition are also relevant for having a core of strategic equity investors. Governments should limit the ability of equity owners to sell-down until a certain period after construction completion and commissioning, i.e. until the project is fully operational, ensuring that strategic investors keep capital at risk long enough to ensure service performance according to contractual standards. The length of that post-commissioning period depends on the sector and the technology used.

Risks in going from award to financial close

A PPP contract is sometimes awarded and signed before the project reaches financial close—that is, before the finance for the project is fully secured. In the interim period, lenders complete their due diligence process, including detailed review of the PPP agreements. Loan agreements set *conditions precedent* that must be in place before the project company can access funds from the loan.

This process creates a risk that the project could be delayed or even fall through, if the winning bidders are unable to raise finance on the expected terms. As described by **Farquharson et al** (Farquharson et al. 2011, 125) the government may be under pressure to change the contract terms to meet lenders' requirements, since re-opening the procurement process at this stage would cause delays and additional transaction costs for the government.

Governments have a few options available to mitigate this risk. As **Farquharson et al** also explains, bidders can be required to provide a bond, which may be called if the preferred bidder fails to achieve financial close within a certain period. This may encourage bidders to develop more concrete financing plans before submitting bids. Another option to avoid the risk altogether, as described by **Delmon** (Delmon 2015, 445–446), is for governments to require bids with financing commitments already in place (called an *underwritten bid*). In this case, lenders must complete due diligence before the tender process is complete. However, both these options increase the cost of bidding, which may deter bidders and undermine competition. For projects with a small number of potential lenders, requiring underwritten bids will immediately create an upper limit on the number of bidders able to present a proposal, as discussed in the PPP Certification Guide (APMG 2016, Chapter 1, Section 7.2.2).

Another approach is to introduce stapled financing. Stapled financing is a pre-arranged financing package for the project, developed by the government and provided to bidders during the tender process. The winning bidder has the option, but not the obligation, to use the financial package for the project. Stapled financing is common in Mergers and Acquisition deals, and has been used for infrastructure projects—for example, **Russia** used it for Pulkovo airport (IFC 2017) with EBRD and IFC staple finance, and it is commonly used in PPPs in Europe, with part of the SPV debt offered by EIB under conditions pre-announced to all bidders and subject to further due diligence on the winning bidder. Staple financing is further discussed in **EPEC's 2009 report on the financial crisis and the PPP market** (EPEC 2009).

The role of output based aid

PPPs are output-based projects—users and procuring authorities will pay for service delivered and asset availability, not for inputs. When serving poor populations, PPPs can be combined with results based financing (RBF) mechanisms that can effectively give underserved populations access to electricity, water, sanitation, health care, education, and other basic services necessary for growth and opportunity. Output-Based Aid (OBA), an RBF mechanism,

has been successfully used as a component of PPPs specifically to ensure that the poor benefit from the PPP scheme—as presented in a **World Bank report on OBA for water** (GPOBA 2016).

Results-based financing (RBF) encompasses a range of mechanisms designed to enhance access to and delivery of infrastructure and social services using performance-based incentives, rewards, or subsidies—see *Box 1.7 - Performance Based Road Contracts—Improving Maintenance of Infrastructure*. RBF mechanisms typically have a funding entity (typically a government or government agency) that provides a financial incentive, conditional on the recipient undertaking a set of pre-determined actions or achieving a pre-determined performance or outputs. Resources are disbursed not solely against the completion of specific expenditures or contract effectiveness on the input side, but against demonstrated and independently verified results that are largely within the control of the recipient such as the installation of solar home systems, or the connection of households to water supply systems.

Payments that are based on independently verified results are the principal characteristic of RBF approaches. Subsidies are used to incentivize service providers to offer access to services to underserved poor populations. The subsidies can be used to contribute to the capital cost of the project so that it becomes affordable for the private operator, ensuring commercial returns from the operation. OBA is the RBF mechanism most frequently paired with PPPs. The focus is on access to basic infrastructure and social infrastructure (health, education) and on output-based reimbursement.

For example, consider a water network that reaches neighborhoods that can pay for household connections, yet the same mains line runs past poor neighborhoods that need and will pay for clean water, but cannot afford the household connection—OBA funds can help pay for the expansion of connection to poor households. Thus poor households will gain access to water services and the utility will have new paying customers that it would not have had otherwise. For additional information, see the **Global Partnership on Output Based Aid (GPOBA) website**.

Refinancing of project debt

Refinancing means taking on new debt to pay off existing loans. The project company and its shareholders may have two main reasons to refinance debt that was initially used to finance the project.

First, the project may have been unable to obtain a financing package with a long enough maturity to match the project's length. This could occur because long-term debt was not available at the time when the project was awarded, or because lenders viewed the project as too risky to extend credit with a long maturity. In this case, the project could proceed with a shorter-term loan, as described in **Yescombe's chapter on financial structuring** (Yescombe 2007, Chapter 10). This creates a refinancing risk—that is, the risk that the shorter-term loan cannot be refinanced at the expected terms. The PPP contract should specify who bears refinancing risk, as described in *Section 3.3 - Structuring PPP Projects*.

One option to mitigate refinancing risk is *take-out financing*, in which a second lender promises to take over a loan at some future point—thereby encouraging the original lender to provide longer-term debt than might otherwise be the case. For example, the Indian Infrastructure Finance Company Limited has established a take-out financing scheme for infrastructure projects (IIFCL 2015).

Refinancing can also provide an opportunity for the project company and its shareholders if more favorable terms become available. Because infrastructure projects have long durations, capital markets could change during the life of the project and offer better terms on the existing project debt. Lenders also tend to offer better financing terms to projects with demonstrated track records and have already moved past initial risks, such as construction. Shareholders can use refinancing for increasing the debt/equity ratio, re-leveraging the project and freeing equity. **Yescombe's section on debt refinancing** (Yescombe 2007) further describes the potential gains to equity investors from refinancing.

Refinancing is also relevant for lenders, allowing banks to release capital to allocate to new projects. Capital markets (and pension and insurance funds in particular) are well-placed to provide such refinancing, as they can generally provide longer tenor, and—as risk is lower after the construction phase—they can often provide cheaper debt.

Refinancing with more favorable terms can lower overall costs for users or government, improve returns to investors, or both. The government needs to consider upfront how benefits of refinancing will be treated. Options include:

- **Do nothing**—allow equity holders to gain from refinancing through higher dividend payments;

- **Share gains between project shareholders and users/clients**, by including in the PPP contract or PPP regulation a clause which states that benefits of refinancing must be reflected in the price paid for the asset or service;

- Building into the PPP contract the **right for the government to require or request refinancing of the project debt**, if it believes that more favorable terms are available in the market.

Several governments have introduced rules for how PPP refinancing benefits will be treated, as described by **Yescombe** (Yescombe 2007). For example, in 2004 the **United Kingdom's Treasury** introduced into its standard PFI contracts a 50:50 split of any refinancing gain between the investors and the government (UK 2012c); this was subsequently revised in each version of contract standards. South Korea has also introduced a similar provision in its legislation governing PPPs. Since 2008, the United Kingdom's government has also reserved the right to request for refinancing of project debt to take advantage of more favorable capital market conditions. A further discussion of refinancing and potential structural issues arising from it can be found in **EPEC's 2009 report on the financial crisis and the PPP market** (EPEC 2009).

Step-in rights

Step-in rights refer to a power under the contract or in the country's legislation for the government or lender to take control of the project in certain situations. Step-in rights for the government are normally reserved for situations in which the project poses significant health and safety risks, threats to national security, or when legal requirements call for the government to take over the project. The government may also terminate the PPP contract and take over the project if the project company fails to meet service obligations.

Effective step-in rights by lenders require, besides contractual provisions, a direct agreement between government and lenders, regulating the process for requiring and implementing those rights.

Lenders generally require step-in rights that come into effect if the project company fails to meet its debt service obligations, or if the PPP contract is under threat of termination for failure to meet service obligations. In this situation, the lenders would typically appoint new senior management or another firm to take over the project. Step-in rights do not only protect the interests of lenders, but also protect the public interest, by creating a third-party buffer between the government and the project—so that, in case of project misperformance, the lenders are allowed and incentivized to act, before the government is forced to intervene.

It is important that both the government and lenders have a clear framework and timeline for invoking their step-in rights so they are informed when problems start to occur and can take remedial actions. *Section 3.4 - Designing PPP Contracts* provides more detail on how step-in rights can be built into a PPP contract.

The role of pension funds

Pension funds have long-term liabilities on their balance sheets in the form of future pension payments. To avoid a mismatch of maturities between the two sides of their balance sheets, pension funds need to invest in long-term assets. Thus, the long-term nature of infrastructure investments suits the investment profile of pension funds; and their returns, which tend to keep up with inflation, help hedge pension funds' liabilities that are also inflation-prone. Additionally, pension funds are interested in diversifying their portfolios to lower the volatility of their returns. Infrastructure investments can be attractive when the correlation between their anticipated returns and and those of traditional assets is low.

In **Australia** and **Canada**, which benefit from a well-defined investment regulatory framework, funding to infrastructure projects through pension funds has been successfully implemented on a wide scale. In Latin America and the Caribbean—where domestic pension funds in Chile, Colombia, Peru, Mexico, Uruguay, and Brazil hold assets ranging from 12 to 68 percent of GDP—only **Chile's** and **Peru's** domestic pension funds have invested substantially into infrastructure (WB 2017b). Globally, pension funds' investments in infrastructure are estimated to be less than one percent of their assets (OECD 2011).

In general, pension fund financing to infrastructure is hindered by rigid investment regulatory frameworks, slow progress in capital market reforms, and the absence of a sound project financing framework for the banking sector. Pension funds' poor ability to conduct effective due diligence and to understand infrastructure risk may also reduce their appetite for investing in PPPs—they are better placed to refinance projects, once construction risk is out of the way and the project has a track record of good service performance. Also, the lack of suitable PPP projects—i.e. lack of well-structured projects submitted to market competition—tends

to dissuade the involvement of pension funds in infrastructure schemes. Furthermore, in countries such as **China** and **India,** overly restrictive pension fund laws undermine their investment capabilities (Inderst and Stewart 2014).

A **World Bank report on LAC infrastructure financing** (WB 2017b) analyses what pension fund managers want from infrastructure—high returns, low risk, liquidity of the instrument, fair pricing, and reliable partners. Infrastructure bonds can offer a **return** over government instruments that reflect credit risk plus some liquidity risk—but poorly prepared projects may not attract pension funds; and poorly designed PPP programs may create long-lasting distrust among institutional investors. Preference is given to **liquid** instruments such as standardized infrastructure bonds more easily valued in the market, and used for the whole concession program, instead of for individual projects. To reduce **risk**, pension funds may require government guarantees, particularly during the construction phase, but governments need to carefully manage the added contingent liabilities brought by contractual guarantees. Otherwise they require a two-stage financing mechanism, where the long-term financing comes only after completion of construction—therefore creating some refinancing risk. **Fair pricing** may not exist where governments control or cap investor returns or where the tax regime is not clear and appropriate.

1.3.3 The Role of Public Finance in PPPs

The exclusive use of private finance is not a defining characteristic of a PPP—governments can also partially finance PPP projects. Reducing the amount of capital investment needed from private entities reduces the extent of risk transfer—weakening private sector incentives to create value for money, and making it easier for private entities to abandon the project if things go wrong. Nonetheless, there are several reasons why governments may choose to provide finance for PPP projects. These include:

- **Avoiding excessive risk premiums**—the government may consider the risk premium charged by the private sector for the project to be excessive in relation to the actual project risks. This can be a difficult call to make, since financial markets are usually better at assessing risk than governments, but can apply particularly for new projects or markets, or during financial market disruptions.
- **Mitigating government risk**—where project revenues depend on regular payments from government, the risk of default by the government will be assessed by the private party and will be reflected in the project cost. Where reliability of government payments may be in doubt, providing subsidies or payments upfront in the form of loan or grant finance, rather than on-going payments, could improve the bankability and lower the cost of the project.
- **Improving availability or reducing cost of finance**—particularly when capital markets are under-developed, or disrupted, the availability of long-term finance may be limited. Governments may choose to provide finance at terms that would otherwise be unavailable. Some governments have access to finance on concessional terms, which they may pass on to lower the cost of infrastructure projects. This may also be part of a broader policy of involving state financing institutions to provide long-term lending for developmental purposes.

There are different ways in which governments can contribute to the financing structure of a PPP. Governments may provide loan or grant finance directly to the project company, or provide a government guarantee on a commercial loan. The APMG PPP Certification Guide discusses de-risking approaches and credit enhancement instruments (APMG 2016, Chapter 1, Section 7.4.2) Government-owned development banks or other finance institutions can also be involved—either providing finance to PPPs as part of a broader portfolio, or being established specifically to support the PPP program. Finally, governments may simply not transfer the financing function to the PPP project to the private sector, instead retaining on-going responsibility for capital expenditures. These options are described in more detail further in this section.

The rationale for government financial support to PPPs may be strengthened during periods of capital market disruption, and many governments introduce specific forms of financial support in response.

Loan or grant finance directly from government to project company

Governments may provide finance directly to a PPP in the form of loans or upfront grant subsidies. These can be critical for project viability, where revenue projections show that the project is not likely to be financially viable without government funding. Capital

contributions can also reduce the project's costs to the government by making finance available at better terms than would otherwise be possible. For example:

- In the **United States**, the Transportation Infrastructure Finance and Innovation Act (TIFIA) established a flexible mechanism for the United States Department of Transport to provide loans (as well as loan guarantees) directly to private and state project shareholders for eligible projects. The credit assistance is offered on flexible terms, and typically takes a subordinated position, which in turn makes it easier to attract more private debt (US 2010, Chapter 4).

- India's Viability Gap Fund uses funds appropriated from the national budget to provide upfront capital subsidies for PPP projects, as described in *Box 2.9 - The Viability Gap Fund Program in India*. The **Indian government's guidelines on financial support for PPP in infrastructure** (IN 2013a) provide more details on this initiative.

The willingness of the public sector to provide funds can also act as a signal to help build confidence of private investors. For example, after the 2008 financial crisis, the United Kingdom's Treasury recognized several infrastructure projects could have difficulty raising debt and were in danger of being scrapped. The Treasury created the Treasury Infrastructure Finance Unit (TIFU) to lend at commercial rates to PPP projects that were unable to raise enough commercial bank finance. The unit funded one major project in April 2009: The Greater Manchester Water project. According to a **United Kingdom National Audit Office report** (NAO 2011, 8), the Treasury's willingness to lend improved market confidence, and as of July 2010, 35 further projects had been agreed without public lending.

Government provision of SPV equity

Under the **British Government's revised PPP policy introduced in 2012**—termed *Private Finance 2*, or *PF2*—the Treasury may provide a minority share of the equity in PF2 projects (UK 2012a). The rationale was to give government better access to project information, including in relation to the financial performance of the project company; allow government to be more involved in strategic decision making; and improve value for money by sharing in the ongoing investment returns. A similar structure has been used by a few other governments, such as the Regional Government of Flanders in Belgium.

However, public equity in a PPP can also generate conflicts of interests within the public sector, and may enhance the perception of risk for private investors. In particular, government ownership can trigger conflict of interests with its regulatory function; and the private investors may be concerned that the government might be tempted to interfere in the management of the PPP contract within the SPV, if some decisions need to be taken to maximize shareholders value but are not necessarily in the public sector's best interest. Under the **United Kingdom's PF2 policy** (UK 2012a), this potential conflict of interest is mitigated by separating the ownership function from the contract management function. Hence, equity shareholdings are managed by a unit located in the Treasury separate from the procuring authority. France follows the same approach.

Government guarantee of commercial loan to project

Rather than providing lending directly, governments may instead guarantee repayment of debt provided by commercial sources, in case of default by the private party. **Farquharson et al** (Farquharson et al. 2011, 63) notes that guaranteeing project debt undermines the risk transfer to the private sector. For this reason, governments often provide only partial credit guarantees—that is, a guarantee on repayment of only a part of the total debt.

Partial credit guarantees have been used by both developed and developing country governments to help support their PPP programs. For example:

- **Korea's** Infrastructure Credit Guarantee Fund guarantees project debt through a counter-guarantee structure. That is, the Fund guarantees an on-demand term loan provided by a financial institution that can be called by the project company to meet its senior debt service payments (Fitch 2006a, 6–7).

- **Kazakhstan** has provided guarantees on infrastructure bonds issued for its transport PPPs. The guarantees on the bonds by the government gave security for the pension funds to invest in the projects (USAID 2008).

- **Indonesia** has established IIGF, as described in *Section 2.4.3 - Budgeting for Government Commitments to PPPs*.

The use of guarantees should be carefully considered, and cover the risks which the government is best placed to manage. Inappropriate use of guarantees can increase government's fiscal exposure, and reduce value for money as the transfer of risk to the private sector is mitigated. A more detailed discussion on this topic can be found in *Section 1.3.2 - Considerations for Government* which focuses on the dangers of over-leverage, and in *Section 1.2.1 - Insufficient Funds* which discuses the risks associated with the lack of fiscal clarity from PPPs. For more information on government guarantees and public financial management for PPPs, see *Section 2.4 - Public Financial Management Frameworks for PPPs*.

Forfaiting structures

A finance structure sometimes used to reduce the cost of finance for PPPs is the forfaiting model, which can be used for government-pays PPP projects. Under this model, once construction is completed satisfactorily, the government issues an irrevocable commitment to pay the project company a portion of the contract costs—typically sufficient to cover debt service. This can lower the project's financing costs.

However, it means the government retains more risk under the PPPs. The lender has less interest in ensuring project performance since government payments are no longer conditional on the private operator meeting performance objectives. Since there is certainty in government payments, this is effectively a government debt obligation—and government should account for this liability accordingly. Besides, the fact that payment is not conditional reduces revenue risk. It should therefore be reflected in the pricing of SPV debt. The forfaiting model has been widely used in Germany for small projects—typically municipal projects—where over half of the PPPs implemented between 2002 and 2006 used this structure. For more detail on the forfaiting model, see **Daube's article** (Daube et al. 2008) comparing project finance to the forfaiting model.

A variant of the forfaiting model is the cession de créance (assignment of receivables) used in France. In this case, upon verification of availability, the project company assigns its receivables payable by the government to the commercial bank financing the project. Therefore, once the infrastructure is built and operational the government payments are unconditional and can be used to cover some or all of the debt service of the PPP project company.

The Government of Peru has also introduced a financing structure for PPPs that is a variant on the forfaiting model. In the Peruvian model, irrevocable payment commitments are issued *during* construction on completion of defined milestones. The CRPAO structure is described in *Box 1.12 - CRPAOs in Peru*. These forfaiting-type models allow for the private partner to gradually finance its investment by securitizing the guaranteed future flow of payments related to each phase of construction. However, it also means the government is committed to paying a proportion of the contracted amount irrespective of whether the asset is completed. The relevance of this approach may depend on the nature of the asset—in particular, whether it is readily divisible.

Box 1.12 CRPAOs in Peru

In Peru, an innovative financing structure has been developed to finance construction of its road concessions. The Government of Peru issues PAOs (Pago Annual de Obras or *annual payments for work*) to the private contractor for completing construction milestones. PAOs are obligation of the Government of Peru to make dollar-denominated payments on an annual basis (similar to bonds). After they are issued, the payments are not linked to the performance or operation of the roads and are irrevocable and unconditional. Debt for the project is raised through bonds that are backed by the securitization of the PAOs, known as CRPAOs (Certificado de Reconocimiento de Pago Annual de Obras).

Peru first used this financing structure in 2006 to finance the first 960km piece of the IIRSA Interoceania Sur. The project raised $226 million in debt for the project with a $60 million partial credit guarantee from the Inter-American Development Bank. Two subsequent pieces of the Interoceania Sur have also used the CRPAO financing structure.

Sources: (Fitch 2006b); (USAID 2009)

Development bank or other state finance institution involvement in PPPs

Many governments have established publicly-owned development banks or other finance institutions, which may provide a range of financial products to PPP projects. These financial institutions may be capitalized by the government, and can often also access concessional financing. Where these entities operate as commercial finance institutions, they may be better placed to assess the viability of a proposed PPP project than the government itself—although they are sometimes also exposed to political pressure that may undermine the quality of due diligence or project structuring.

In some cases, established development banks may expand their activities into the PPP sector. For example, the **Banco Nacional de Desenvolvimento Econômico e Social** (BNDES, Annual Report) has been a major lender to private infrastructure projects in Brazil—appraising risk and providing finance.

Alternatively, governments may establish finance institutions specifically to serve PPPs, and sometimes other infrastructure investments. For example, the India Infrastructure Finance Company Limited (IIFCL) was established in 2006 to provide long-term debt to viable infrastructure projects undertaken by public or private companies. The Indonesia Infrastructure Guarantee Fund (IIGF) was established in 2009 as a state-owned company to provide guarantees for infrastructure projects under PPP schemes. However, as described by **Klingebiel and Ruster in their paper on infrastructure facilities** (Klingebiel and Ruster 1999), unless policy and institutional frameworks are developed to provide a pipeline of bankable projects, government-backed financing facilities are unlikely to provide the desired results.

Table 1.4 Example of Third-Party Risk Mitigation or Credit Enhancement Instruments

Instrument	Description	Example Provider(s)
Full or comprehensive credit guarantees	Cover the full value of a project's senior debt for all risks. Such cover is typically available for projects that are already relatively low-risk, with the objective of raising the rating of those projects to investment grade, enabling more risk-averse investors such as pension funds to participate in the project financing.	Historically such guarantees were provided by "monoline" insurers. Providers of such guarantees are relatively few, and include some Development Finance Institutions (e.g. EIB), Export Credit Agencies, and MIGA's guarantees regarding 'non honoring of financial obligation'.
Partial credit guarantees (PCGs)	Tailored to the project, they cover loss in case of default up to a certain proportion of a project's senior debt. This cover may be on a first loss or *pari passu* basis. First loss guarantees absorb the first percentage of loss given default: that is, they reduce the risk of loss from a lender's perspective in a similar way to subordinated debt. Pari passu guarantees absorb a defined percentage of any loss—that is, reduce the size of loss, but not the risk.	Most development finance institutions can provide partial credit guarantees, for example the World Bank, or the EIB's Project Bond Initiative, which can offer both subordinated debt or partial credit guarantees. GuarantCo specializes in providing partial credit guarantees in local currency, to enable local financial institutions to participate in project financing (also reducing currency-related risks).
Political risk insurance	Protect the project sponsor and/or lender from loss due to political risks. These may include the risk of expropriation, political violence such as war or civil disturbance, or transfer or convertibility risk, and breach-of-contract risks.	Offered by several development finance institutions, including MIGA. A report by the **Initiative for Risk Mitigation in Africa** (IRMA) (Pierris 2012), which is a program in partnership with the AfDB, it illustrates that the range of IRMA's PRI instruments that can be used for PPP projects.
Currency swaps or forward contracts	Swaps or forward contracts to hedge against fluctuations in currency or commodity prices. Currency swaps in particular are often available only for a limited range of widely-traded currencies.	Commercial banks and the Currency Exchange (TCX), a donor-funded initiative that provides currency swaps for a wide range of currencies.
Insurance or contingent credit lines against natural disasters	Protect from loss due to natural disaster, or alternatively, provide a contingent credit line to finance needed investments.	Provided by several development finance institutions or in some cases, private providers. Examples include index-based weather derivatives (see *Box 1.9 The Uruguay Weather Derivative*), or the World Bank's Catastrophic Risk Deferred Drawdown Option (WB 2011a).

Government-owned finance institutions can also be used to provide PPP policy coordination and enforcement, by establishing clear rules and requirements for when financing will be available. This can particularly apply when a financial institution is set up specifically to serve the needs of a PPP program. For example, in Mexico most PPPs have been implemented with the support of FONADIN, an infrastructure investment fund under the national development bank BANOBRAS. The operating rules for FONADIN *de facto* established the rules and procedures by which PPP projects will be implemented, as described in *Box 1.13 - Mexico's FONADIN*.

1.3.4 Third Party Risk Mitigation and Credit Enhancement

The PPP Agreement is at the center of a PPP, as shown in *Figure 1.3 - Typical PPP Project Structure*. This agreement allocates projects risks, responsibilities, and rewards between the two signatories—the contracting agency and private parties—following the principles discussed in *Section 3.3 - Structuring PPP Projects*. The overarching goal is to align the profit incentives of the private parties with the government's objectives for the project.

However, a well-structured PPP agreement, based on sound risk allocation, may not necessarily result in a bankable project. As described in *Section 1.3.2 - Considerations for Government*, if the level of risk allocated to the private party is too high, lenders may increase their lending rates or reduce their willingness to lend to the project to the point where the project becomes unviable or not bankable. For example, projects with particularly high exposure to geotechnical or natural disaster risks—particularly in the context of climate change, as described in *Section 1.2.6 - Climate Change and Natural Disasters*—could be difficult to finance. Projects in countries with a high perceived risk of doing business with the government in general, such as in fragile or conflict-affected states, as described in *Section 1.2.5 - Infrastructure in Fragile and Conflict-Affected States*, often face similar challenges.

In these circumstances, governments can secure the bankability of the project by accepting more risk (through adjusting the agreement or providing additional guarantees), or providing government grants or loans to reduce the extent to which the private party needs to raise finance, as described in *Section 1.3.1 - Finance Structures for PPP*. However, these levers have limitations: they may reduce the risk transfer to the point where the alignment of incentives is simply too weak to be effective; they may present fiscal costs or risks that the government is not willing to bear; or they may simply not be effective, particularly in the case of significant political risk or risk of adverse government behavior, which is borne by the private party by definition.

An alternative option is to assign some part of the project risk to a third party through a credit enhancement or risk transfer instrument. These instruments include guarantees, insurance policies, or hedging mechanisms under which, for a fee, the provider will agree to compensate the concessionaire (or its lenders) in case of default and/or loss due to some specified circumstance. Some of these instruments are offered by commercial providers, such as insurance companies or swap providers, which specialize in pricing and managing risks. Others are offered by development finance institutions, such as MIGA, that have access to concessional capital, explicit mandates, different risk appetites, and/or are better placed than private sector lenders to assess and manage the specific risks

Box 1.13 Mexico's FONADIN

Prior to 2012, Mexico had no PPP Law. However, most government agencies that implement projects through PPP schemes did so with the support of the *Fondo Nacional de Infraestructura* (FONADIN). Exceptions are typically projects that are self-financing—that is, projects that generate revenues that are sufficient to cover the costs; the two government entities that generally follow this path are CFE (the national electric company) and PEMEX (the national oil company).

In addition to providing subsidized lending and, in some cases grants, FONADIN can help agencies in providing grants for the preliminary studies for the project, preparing the project documentation and implementing the tender process. In practice, this has meant that the Presidential Decree that established FONADIN in 2008 has effectively governed most PPP projects. Under that decree, the Rules of Operation of FONADIN set out the scope, and the processes and procedures to identify, assess, and approve PPP projects.

Source: (FONADIN 2011)

involved in investing in emerging markets—see (WB 2016h) as an example.

Risk mitigation or credit enhancement instruments fall into three broad types: full, or comprehensive credit guarantees, which cover the totality of a project's senior debt against all risks; partial credit guarantees, which cover a certain proportion of a project's debt for all risks; and a range of partial risk instruments which provide full or partial cover of loss due to specific risks.

The APMG PPP Certification Guide discusses credit enhancement instruments. (APMG 2016, Chapter 1, Section 7.4.2).

For a general discussion of risk mitigation instruments, the **OECD's report mapping instruments and incentives for infrastructure financing** (OECD 2015c) provides a comprehensive description of different instrument types, and the **African Development Bank (AfDB) on the Initiative for Risk Mitigation** (Pierris 2012, 68–72) present several examples. The **World Economic Forum** (WEF 2016) has undertaken a recent assessment of the availability and use of risk mitigation instruments for infrastructure in developing countries.

Accessing these risk mitigation or credit enhancement instruments is mostly the responsibility of the concessionaire during arranging financing for the project. Governments may also consider the option of credit enhancement when structuring a project, and engage with potential providers prior to bringing it to market—particularly for credit enhancements designed to back up the government's own commitment to the project. This can help attract bidders who may otherwise not participate, and ensure bids are based on comparable assumptions, resulting in a more competitive procurement for the project.

Key References: How PPPs Are Financed

Reference	Description
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Chapter 5 provides an overview of private finance for PPPs, focusing on challenges faced in developing countries.
Yescombe, E.R. 2007. *Public-Private Partnerships: Principles of Policy and Finance*. Oxford: Butterworth-Heinemann.	Provides comprehensive coverage of PPP financing: putting PPPs in context; describing financial analysis of PPPs and how this informs investment decisions by both public and private parties; debt financing structures and sources; how PPP financing plans are constructed; and how financing requirements are reflected in contractual terms.
Delmon, Jeffrey. 2015. *Private Sector Investment in Infrastructure: Project Finance, PPP Projects and PPP Frameworks*. 3rd edition. Alphen aan den Rijn, Netherlands: Wolters Kluwer.	Also covers a wide range of topics on PPP financing. These include an introduction to project finance structures and typical terms (Chapter 2); typical contractual arrangements for a PPP (Chapter 3); and bankability (Chapter 4).
Daube, Dirk, Susann Vollrath, and Hans Wilhelm Alfen. 2008. "A Comparison of Project Finance and the Forfeiting Model as Financing Forms for PPP Projects in Germany." *International Journal of Project Management* 26 (4) 376-387.	Describes the forfaiting model used in Germany as an alternative to project finance, to lower financing costs for PPP projects.
Ehrhardt, David, and Timothy C. Irwin. 2004. "Avoiding Customer and Taxpayer Bailouts in Private Infrastructure Projects: Policy toward Leverage, Risk allocation, and Bankruptcy." World Bank Policy Research Working Paper 3274. Washington, DC: World Bank.	Describes how high leverage combined with high-risk projects and a reluctance to allow a PPP company to go bankrupt can create problems for PPPs, and suggests options to address the problem. Includes PPP case studies in Australia, the United Kingdom, Brazil, and Mexico.
Harris, Clive, and Sri Kumar Tadimalla. 2008. "Financing the Boom in Public-Private Partnerships in Indian Infrastructure: Trends and policy implications." Gridlines Note No. 45. Washington, DC: World Bank.	Describes how financing structures for PPPs in India have evolved as the use of PPPs has increased since the mid-1990s—in particular, noting an increasing proportion of debt financing—and provides some policy lessons.

Reference	Description
US. 2010. *Project Finance Primer*. Washington, DC: United States Government, Department of Transportation, Federal Highway Administration.	Outlines the United States financing mechanisms for highway infrastructure. Chapter 4 describes three mechanisms by which the United States government provides credit assistance to private investors in roads.
IN. 2013b. *Guidelines for Formulation, Appraisal and Approval of Central Sector Public Private Partnership Projects*. New Delhi: Government of India, Ministry of Finance.	Describes India's Viability Gap Financing scheme for providing capital subsidies to private infrastructure projects.
UK. 2010b. *Financing PFI Projects in the Credit Crisis and the Treasury's Response, Ninth Report of Session 2010-11*. London: House of Commons.	The Treasury of the United Kingdom outlines its response to the financial crisis, which included establishing an Infrastructure Finance Unit to provide lending at commercial terms to projects unable to raise debt from commercial banks.
Farquharson, Edward, and Javier Encinas. 2010. "The U.K. Treasury Infrastructure Finance Unit: Supporting PPP financing during the global liquidity crisis." Public-Private Partnerships Solutions. Washington, DC: World Bank.	Summarizes the United Kingdom's experience with PFI during the financial crisis, and describes the Treasury Infrastructure Finance Unit.
Burger, Philippe, Justin Tyson, Izabela Karpowicz, and Maria Delgado Coelho. 2009. "The Effects of the Financial Crisis on Public-Private Partnerships." IMF Working Paper WP/09/144. Washington, DC: International Monetary Fund.	Investigates the impact of the global financial crisis on PPPs, and the circumstances under which providing support to new and existing projects is justified.
Foster, Richard. 2010. "Preserving the Integrity of the PPP Model in Victoria, Australia, during the Global Financial Crisis." Public-Private Partnerships Solutions. Washington, DC: World Bank.	Describes how the Government of the State of Victoria, Australia, adapted its PPP program to the global financial crisis, by making changes on a project-by-project basis to allocating certain financial risks.
EPEC. 2009. *The Financial Crisis and the PPP Market: Potential Remedial Actions*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Provides ideas for governments on ways to support PPPs during the Global Financial Crisis. These include changes to procurement approaches, providing state guarantees or co-lending, particularly as a short-term measure, and adapting PPP structures to attract different types of investor.
Latif, Qudeer. 2013. "An Introduction to Islamic Project Finance." Client Briefing. April 29. Dubai: Clifford Chance.	This reference provides an overview of the Sharia compliant project finance market, summary of a few recent deals and how these deals were structured and procured.
Esty, Benjamin C., Fuaad A. Qureshi, and Mathew Mateo Millett. 1999. "Introduction to Islamic Finance." Harvard Business Review Case Study. August 6. Watertown, Massachusetts.	Provides a basic introduction to the principles of Islamic finance, including the religious background and its legal foundations. Also discusses the development of Islamic financial institutions and the financial instruments they use. Concludes with a discussion of recent developments and future challenges for this growing segment of the global financial system.
Karbani, Faizal. 2015. *Mastering Islamic Finance: A Practical Guide to Sharia-Compliant Banking, Investment and Insurance*. Upper Saddle River, New Jersey: FT Press.	Guides readers from the basic principles underpinning Islamic finance, including its market applications and prevalent practices.
Esty, Benjamin C. 2014. *Modern Project Finance: A Casebook*. Hoboken, New Jersey: John Wiley and Sons.	Provides a detailed description and analysis of project-financed transactions.
Hoffman, Scott. 2007. *The Law and Business of International Project Finance: A Resource for Governments, Sponsors, Lawyers, and Project Participants*. 3rd ed. Cambridge, England: Cambridge University Press.	Covers the complete project finance structure, from conception to negotiation to debt closing, and from project difficulties to successful restructuring.
Finnery, John D. 2013. *Project Financing: Asset-Based Financial Engineering*. 3rd ed. Hoboken, New Jersey: John Wiley and Sons.	Reviews the project finance process step by step to assist readers in familiarizing themselves with the topic.

Module 2

Establishing the PPP Framework

PPPs can be implemented on a one-off basis without any specific supporting legal and institutional framework. However, most countries with successful PPP programs rely on a sound PPP framework. Countries pioneering PPPs have built their PPP programs and frameworks together, learning by doing, and adjusting their frameworks to their needs. Governments now beginning or expanding their PPP programs can benefit from this global experience. By addressing efficiency and good-governance requirements, they can design and implement PPP frameworks that promote sound project selection, fair and competitive procurement, effective delivery of public services, and the ultimate success and sustainability of PPP programs.

The "PPP framework" consists of the policies, procedures, institutions, and rules that together define how PPPs will be identified, assessed, selected, prioritized, budgeted for, procured, monitored, and accounted for; and who will be responsible for these tasks. Establishing a PPP framework communicates government's commitment to PPPs and it fosters efficiency in the governance of the PPP program—that is, it promotes accountability, transparency, and integrity. It ensures that selected projects are aligned with the government's development strategy, generate the greatest economic returns for society as a whole, and do not expose the government to excessive fiscal risks. It also guarantees that consultation with stakeholders will be systematically undertaken and fair compensation awarded to those that are entitled to receive it. This generates greater private sector interest and public acceptance of PPP programs. These core principles are described in *Box 2.1 - Good Governance for PPPs*.

Defining the PPP framework

There is no single, model PPP framework. A government's PPP framework typically evolves over time, often in response to specific challenges facing its PPP program. In the early stages of a program the emphasis may be on enabling PPPs, and creating and promoting PPP opportunities. Once several PPPs have been implemented on an *ad hoc* basis, concern about the level of fiscal risk in the PPP program may be the impetus for strengthening the PPP framework. In this case, the focus may be on strengthening control over how PPPs are developed, or improving public financial management for PPPs, as for example in **South Africa** (Burger 2006).

Often the initial phase of this iterative process involves introducing PPP-specific institutions, rules, and procedures to ensure PPP projects are subject to similar discipline as public investment projects.

Box 2.1 Good Governance for PPPs

The United Nations Economic Commission for Europe (UNECE) Guidebook on Promoting Good Governance in PPPs defines governance as *the processes in government actions and how things are done, not just what is done*. All elements of the PPP Framework described in Module 2 of the *Reference Guide* contribute to the governance of the PPP program. UNECE describes good governance as encompassing the following six core principles:

Efficiency—use of resources without waste, delay, corruption, or undue burden on future generations

Accountability—the extent to which political actors are responsible to society for their actions

Transparency—clarity and openness in decision-making

Decency—development and implementation of rules without harming people

Fairness—equal application of rules to all members of society

Participation—involvement of all stakeholders

One of the aims of establishing a sound PPP framework is to ensure these principles of good governance are followed in the implementation of PPP projects.

Source: (UNECE 2008, Section 2.1: Principles of Good Governance in PPPs)

Gradually, as experience with PPP grows, these PPP frameworks may re-integrate with normal public investment and infrastructure planning, procurement, and fiscal management processes, with PPPs as one option facing the same standards as others for implementing public investment projects. Maintaining the same standards will prevent PPPs from being used to circumvent standard project checks and balances or fiscal constraints.

The best solutions to any given challenge will likely vary between countries—depending on the country's existing legal framework, investment environment, government institutions, and capacity. *Box 2.2 - The PPP Framework of Chile* and *Box 2.3 - The PPP Framework of South Africa* provide brief overviews of the PPP frameworks in South Africa and Chile—both countries recognized as having best-practice PPP frameworks.

The components of a comprehensive PPP framework typically include the following:

- **Policy**—articulation of the rationale behind the government's intent to use PPPs to deliver public services, and the objectives, scope, and implementing principles of the PPP program.
- **Legal framework**—the laws and regulations that underpin the PPP program—enabling the government to enter into PPPs, and setting the rules and boundaries for how PPPs are implemented. This can include PPP-specific legislation, other public financial management laws and regulations, or sector-specific laws and regulations.
- **Processes and institutional responsibilities**—the steps by which PPP projects are identified, developed, appraised, implemented, and managed, ideally within the Public Investment Management system; and the roles of different entities in that process. A sound PPP process is efficient, transparent, and is followed consistently to effectively control the quality of PPP projects.
- **Public financial management approach**—how fiscal commitments under PPPs are controlled, reported, and budgeted for, to ensure PPPs provide value for money, without placing undue burden on future generations, and to manage the associated fiscal risk.
- **Other arrangements**—how other entities such as auditing entities, the legislature, and the public participate in the PPP program, and hold those responsible for implementing PPPs accountable for their decisions and actions. The sections of this module describe each of these elements of a PPP framework, providing examples and guidance for practitioners.

In practice, these elements are closely interrelated. For example, a well-controlled process for developing PPPs requires assessing their fiscal consequences, which implies some Finance Ministry control at different stages of the project cycle. This is essential for sound public financial management of the PPP program. Comprehensive public reporting of fiscal commitments to PPPs in turn enables effective oversight of the PPP program. These linkages are highlighted throughout this module.

Box 2.2 The PPP Framework of Chile

Chile is a country with substantial PPP experience and a well-defined PPP framework. As of 2015, Chile had 59 active projects in roads, airports, jails, reservoirs, urban transport, hospitals, and other sectors, with a total investment value of $10.8 billion.

The use of PPPs in Chile was enabled in 1991 by Decree 164, which set out much of the framework still in use today. This framework was updated in 2010 by the Concessions Law.

The Concessions Law sets out the institutional responsibilities and processes for developing and implementing PPPs. The Concessions Unit of the Ministry of Public Works (MOP) acts as implementing agency for all PPPs in Chile. The MOP may receive proposals from government agencies or private investors. It follows a clearly-defined process to appraise a project. If the project is deemed to be a good PPP candidate, the MOP Concessions Unit prepares the tender documents, manages the tender process, and selects and announces the winning bidder by decree. The Unit then manages the PPP contract over the project lifetime, receiving regular reports from the concessionaire—with the ability to request additional audits to check the information received—and managing any changes needed to the contract.

The National Planning Authority reviews and approves the technical and economic analysis of the project. The Concessions Council—led by the Minister of Public Works, with an advisor selected by the MOP, and four other advisers representing the Civil Engineering, Economics and Management, Law, and Architecture departments of the University of Chile—approves the initial decision to carry out the project as a PPP.

The Ministry of Finance approves PPP tender documents, as well as any changes made during the tender process, and any significant changes made through the lifetime of the contract. The Minister of Finance also signs the decree awarding the PPP contract to the winning bidder. To manage these responsibilities, the Ministry has established a Contingent Liabilities Unit, which reviews all projects prior to approval, and calculates the value of the government's liabilities initially and throughout the contract on an annual basis. Chile publicly discloses its commitments to PPP projects in a detailed annual contingent liabilities report. Information on the PPP program is also included in budget documentation.

The Chilean Treasury makes the payments set out in the PPP contract in accordance with appropriation procedures and the milestones stipulated in the contract. These payments were previously approved by the Ministry of Finance during the project approval phase. Disbursements are structured where possible to minimize their impact on fiscal risk—for example, demand guarantee payments are typically due the year after a demand shortfall, once the amount is known.

Either party can bring a dispute that emerges during the implementation of a project to a Technical Panel. If the solution proposed by the technical panel does not resolve the problem, the parties may bring the matter before the Arbitration Commission or the Appeals Court of Santiago.

Sources: (CL 2010a); (CL 2010b); (CL 2016)

For more on the typical components of a PPP framework, see **Farquharson et al** (Farquharson et al. 2011, 15–16), and **Yong** (Yong 2010, 30), which both provide brief overviews. **The OECD's recommendation on public governance of PPPs** (OECD 2012) also sets out guiding principles for governments on managing PPPs. The recommendations cover three areas: (1) establishing a clear, predictable, and legitimate institutional framework supported by competent and well-resourced authorities; (2) grounding the selection of PPPs in value for money; and (3) using the budget process transparently to minimize fiscal risks and ensure the integrity of the procurement process. These built on earlier **OECD principles for private sector participation in infrastructure** (OECD 2007b).

Detailed assessments of PPP frameworks in a range of countries are available in the following:

- The **Economist Intelligence Unit (EIU)'s Infrascope** index publications assess the PPP environment in a set of countries to determine whether they are ready to undertake sustainable PPPs. The variables used to assess the countries include many of the PPP framework elements described above, as well as the country's operational experience with PPPs, the availability of finance and financing support mechanisms, and the overall investment climate. The series includes the **EIU Infrascope index for Latin America and the Caribbean** (EIU 2014b), commis-

Box 2.3 The PPP Framework of South Africa

South Africa is another country with substantial PPP experience. From 2000 to April 2014, South Africa implemented 24 national and provincial level PPP projects totaling over $8.35 billion of investment.

The legislation governing national and provincial PPPs is the Treasury Regulation 16, issued under the Public Finance Management Act of 1999. Regulation 16 sets out the PPP process, requirements and approvals, and institutional responsibilities. Municipal PPPs are governed by the Municipal Finance Management Act and the Municipal Systems Act. There are also municipal PPP regulations that roughly mirror the requirements of Treasury Regulation 16.

PPP processes and institutional responsibilities are established in a detailed *PPP Manual*. This manual describes how the Treasury regulations should be interpreted, and provides detailed guidance at every step in the PPP process, each in a separate module. Each module of the manual is issued as a practice note of the National Treasury, and can be updated separately. A similar manual, the *Municipal Service Delivery and PPP Guidelines*, provides instructions for municipal PPPs.

Responsibility for implementing PPP projects rests with the contracting authority. Contracting authorities must identify and appraise PPP projects, and manage the tender process to select the winning bidder, following the detailed guidance and requirements (including checklists for each stage and standard forms) set out in the manuals. The contracting authority is responsible for managing PPPs through the contract lifetime, which includes ensuring the project meets performance standards, resolving disputes, and reporting on the PPP in the institution's/municipality's annual reports.

PPP approvals are made by the Treasury at the national and provincial levels. Municipal PPPs will be subject to Treasury's views and recommendations. Projects are submitted for approval at four points, after: (1) the feasibility study has been completed; (2) the bid documents have been prepared; (3) bids have been received and evaluated; and (4) negotiations have concluded and the PPP contract is in its final form. The Treasury established a PPP Unit in 2004 to review all PPP submissions and recommend the PPP for approval. The Treasury's evaluation focuses particularly on the value for money and affordability of the PPP project.

Payments for PPP commitments are made through the annual appropriations process. The Accounting Standards Board of South Africa has published guidelines for public sector accounting for PPPs. The PPP Manual also sets out the auditing requirements for PPP. The Auditor General's annual audits of contracting authorities should check that the requirements of the PPP regulations have been met, and the financial implications are reflected in the institution or municipality's accounts. The Auditor General may also conduct forensic audits if any irregularity is suspected.

Sources: (ZA 2004a); (Burger 2006); (Irwin and Mokdad 2010)

sioned by the Inter-American Development Bank's Multilateral Investment Fund (MIF); the **EIU Infrascope index for the Asia-Pacific region** (EIU 2014a), commissioned by the Asian Development Bank (ADB); the **EIU Infrascope indexfor Eastern Europe and the Commonwealth of Independent States** (EIU 2012), commissioned by the European Bank for Reconstruction and Development (EBRD); and the **EIU Infrascope report evaluating the environment for PPPs in Africa** (EIU 2015), commissioned by the World Bank.

- **Irwin and Mokdad's paper on managing contingent liabilities in PPPs** (Irwin and Mokdad 2010) describes the PPP approval, analysis and management approach in Australia, Chile, and South Africa, with a focus on fiscal management.
- The **PPP Knowledge Lab** contains links to a set of tools designed by multilateral organizations to assess and improve PPP frameworks.
- The OECD Principles for Public Governance of Public-Private Partnerships (OECD 2012)—provides recommendations on how to ensure value for money through institutional design, regulation, competition, budgetary transparency, fiscal policy, and integrity at all levels of government.
- The **Country Readiness Diagnostic for Public-Private Partnerships** (WB 2016a) is a World Bank tool to help determine the status quo and compare it with best practices to determine gaps.
- The **World Bank Benchmarking PPP Procurement 2017** (WB 2016b)—benchmarks the regulatory frameworks govern-

ing the PPP procurement processes in 82 economies, and evaluates these data against internationally recognized good practices.

- The **Framework for Disclosure in PPP Projects** (WB 2015a)—is a World Bank review of PPP disclosure frameworks and practices together with a set of recommendations for a systematic structure for proactively disclosing project information.

A PPP framework can be instituted in different ways. The options available typically depend on the legal system of the country, and on the norm for establishing government policies, procedures, institutions, and rules. They can include:

- **Policy statement**—in developed countries with a common-law tradition, PPP policy statements typically set out the rationale for, objectives, scope, and implementing principles of the PPP program, as described further in *Section 2.1 - PPP Policy*. Policy statements may also outline procedures, institutions, and rules by which the objectives and principles will be put into practice.
- **Laws and regulations**—as described further in *Section 2.2 - PPP Legal Framework*, civil law countries typically require legislation to enable PPPs to be pursued, and set out the rules for how PPPs will be implemented; many common law countries also introduce PPP legislation as a more binding form of commitment to a PPP framework. This can be a dedicated PPP law, a component of broader public financial management law, subordinate legislation such as executive orders, presidential decrees, regulations, or a combination.
- **Guidance materials**, such as manuals, handbooks, and other tools. These may be used to establish PPP procedures upfront, or developed over time to supplement policy statements or legislation, as a codification of good practice. *Module 3 - PPP Cycle* provides examples and draws from many examples of good quality guidance material from national PPP programs.

In addition to cross-sector PPP frameworks, policies or laws at the sector level can enable the use of PPPs and create a framework for PPPs within the sector. Many PPP programs use a combination of these approaches.

2.1 PPP Policy

The first step for government in establishing a PPP framework is to articulate its PPP policy. PPP policy is used in different ways in different countries. This *Reference Guide* uses *PPP policy* to mean the government's statement of intent to use PPPs as a course of action to deliver public services and the guiding principles for that course of action. A PPP policy would typically include:

- **PPP rationale/program objectives**—why the government is pursuing a PPP program
- **PPP program scope**—what types of projects will be pursued under the PPP policy
- **Implementing principles and governance arrangements**—how PPP projects will be implemented, to ensure the PPP program meets its objectives

The following sections provide examples of how different countries define their PPP program objectives, scope, and implementing principles.

Many governments issue a PPP policy statement or document to communicate their intention to use PPPs to civil servants, the public, and potential investors and the rationale behind this decision. The policy statement also describes how PPPs will be implemented. The **OECD's report on fostering investment in infrastructure** (OECD 2015b, 16–17) highlights the importance of a stable government position on private participation. The following sections reference some examples of PPP policy documents. Other countries incorporate these elements of PPP policy within PPP laws and regulations, or guidance material. PPP policies benefit from being more comprehensive public investment or infrastructure policy framework, as described further in *Section 2.3 - PPP Processes and Institutional Responsibilities*.

2.1.1 PPP Program Objectives

Governments pursue PPP programs for different reasons. Some countries begin using PPPs to resolve a crisis or remove bottlenecks in a particular sector. For example, PPPs were first used in South Africa in the roads sector to build more highways. In the Philippines, many of the first PPPs were in the power sector, where the state-owned power company contracted with independent power producers to solve a power crisis. In both cases, the use of PPPs subsequently extended into other sectors.

Most governments define broad PPP program objectives when formulating and documenting their PPP policies. The choice and relative priority of these objectives cascade from the government's other policies and priorities. They can include:

- Enabling more investment in infrastructure, by accessing private finance
- Encouraging a whole-life-cost approach to infrastructure
- Putting a greater focus on the quality of service to the end-user
- Accessing additional management capacity through private operation of infrastructure
- Achieving value for money in the provision of infrastructure and public services
- Improving accountability in the provision of infrastructure and public services
- Harnessing private sector innovation and efficiency
- Stimulating growth and development in the country

Table 2.1 - Example PPP Program Objectives provides examples of PPP program objectives in countries' PPP policy statement or law.

2.1.2 PPP Program Scope

Many governments choose to limit the scope of their PPP program to particular types of projects (or contracts). The aim can be to focus on those most likely to achieve the government's objectives and provide value for money. Governments may define the PPP program scope by one or more of the following:

- **PPP contract types**—there is no consistent, international definition of PPP. The term describes a wide range of contract types as presented in *Section 1.1 - What is a PPP: Defining Public-Private Partnership*. Some countries filter the types of contract that are included under their PPP policies. The rationale behind this approach can be to prioritize the contract types that are most consistent with the government's policy objectives. It is also important to clarify when the requirements and processes of the PPP framework apply. For example, India's draft National PPP Policy specifies the types of contracts that can be used for PPPs (Engineering-Procurement-Construction (EPC) contracts, and divestiture of assets). Brazil's *Law 11079*, Federal PPP Law, (BR 2004a) and Chile's *Ley y Reglamento de Concesiones de Obras Públicas* (CL 2010b) both define limits on the contract duration.
- **Sectors**—the PPP program may be limited to sectors most in need of investment or improvements in service performance, or those where PPPs are expected to be most successful. For example, Singapore's PPP policy limits the use of PPPs to those sectors in which other similar countries have had proven success with PPPs. Some countries exclude sectors considered too sen-

Table 2.1 Example PPP Program Objectives

Country	Reference	PPP Objectives
Australia	National PPP Policy Framework (AU 2016b, 3)	Describes the aim of PPPs as being "to deliver improved services and better value for money, primarily through appropriate risk transfer, encouraging innovation, greater asset utilization and an integrated whole-of-life management, underpinned by private financing."
Indonesia	Regulation of Government Cooperation with Business Entity in the Supply of Infrastructure (ID 2005, Chapter II Article 3)	The purpose of cooperation of government and the private sector (through PPPs) is set out as follows: • To fulfill sustainable funding requirements in the supply of infrastructure through mobilization of private sector funds • To improve the quantity, quality and efficiency of services through healthy competition • To improve the quality of management and maintenance in the supply of infrastructure • To encourage the use of the principle where users pay for services received; or in certain cases the paying ability of the users shall be taken into consideration
São Paulo (Brazil)	Law 11688 (SP 2004a, Article 1)	States that the objective of the PPP program is to "promote, coordinate, regulate, and audit the activities of the private sector agents who, as collaborators, participate in the implementation of public policies aimed at the development of the state and the collective wellbeing."
Mexico	PPP Law (MX 2012, Ley de Asociaciones Publico Privadas, Art.1)	States that the objective of the PPP program is to increase social wellbeing, and investment levels in the country.

sitive, such as water, education or health. The **EPEC report on European lessons with PPPs** (EPEC 2015) discusses the use of PPPs for specific sectors in countries such as Belgium, France, Greece, the Netherlands, and Ireland.

- **Project size**—many governments define a minimum size for PPP projects implemented under the PPP framework. Small PPP projects may not make sense because of the relatively high transaction costs—although there is evidence of a few cases in which small PPPs have been successful. In Singapore, PPPs are only pursued for projects with an estimated capital value of over $50 million. When Brazil passed its PPP law (BR 2004a) set a minimum size of 20 million reais ($6.9 million at that time) for individual projects launched under the PPP Law.

Table 2.2 - Example Definitions of PPP Policy Scope provides more detail on how various countries have defined the scope of their PPP programs.

Additionally, certain countries have special programs specifically for small projects, such as Kenya, Tanzania and India. These are described in greater detail in the **review of trends in small-scale PPPs** (Ahmad and Shukla 2014).

2.1.3 Implementing Principles

PPP policies often include a set of implementing principles—the guiding rules, or code of conduct under which PPP projects will be

Table 2.2 Example Definitions of PPP Policy Scope

Country	Reference	PPP Policy Scope
Australia	National PPP Guidelines-PPP Policy Framework (AU 2016b, Section 3.1.3, 6)	**Project size**—value for money considerations mean PPPs will likely only be applicable for projects over $50 million.
Brazil	National PPP Law (BR 2004a, Law 11079, Article 2, paragraph 4)	**Contract Types**—only two types of contracts will be considered PPPs in Brazil: sponsored concession—returns for the private party come from user fees and government transfers; and administrative concessions—all returns to the private party come from government transfers. Concessions not requiring government transfers are not considered PPPs in Brazil. The law also states that the concession must be at least five years long to be considered a PPP. **Project Size**—PPPs will only be used for project over 20 million reais.
Chile	Concessions Law (CL 2010b, Law 20.410)	**Contract types**—the law specifies a maximum duration for concession contracts of 50 years. **Sector—**the law does not specify the sectors.
Colombia	National PPP Law (CO 2012a, Law 1508, Articles 3 and 6)	**Contract types—**PPP contracts must always make the private investor responsible for operations and maintenance, and must be for less than 30 years (if the project is longer, it will require approval from the National Council on Economic and Social Policy). **Project size—**Total investment in the project must be above 6000 smmlv (i.e. minimum legal monthly wage) or approximately $1,460,000.
Indonesia	Presidential Regulation No. 67 (ID 2005, Peraturan Presiden No. 67)	**Sectors –** specifies eight eligible infrastructure sectors: transportation (ports and railways); roads; water (channels for fresh water flows); potable water distribution; waste water; telecommunications; electric power; oil and natural gas.
Mexico	PPP Law (MX 2012, Ley de Asociaciones Publico Privadas)	**Contract types**—defines PPPs as long-term contractual relationships between public and private entities to provide services to the public sector or the general public, and where infrastructure is provided to increase social wellbeing and investment levels in the country. Contracts must not exceed 40 years in duration (including extensions)—contracts that are longer than 40 years must be approved by law.
Senegal	PPP Contracts Law and Order of Application (SN 2015, Loi Relative aux Contrats de Partenariat et Decret d'Application)	**Sectors**—PPP provisions apply to all sectors except those subject to special regulations, particularly mining, telecommunications, and energy.

implemented. These principles set out the standards against which those responsible for implementing PPPs should be held accountable. Regulations and processes detailing how the principles will be put into practice often support the PPP policy framework. For example, *Box 2.4 - PPP Implementing Principles in Peru* lists the implementing principles established in Peru's national PPP law.

For other examples of strong guiding principles, see:

- The **State Government of Karnataka Infrastructure Policy** (KAR 2015, 9–20) explains its *Touchstone Principles*.
- **Australia's National PPP Policy Framework** (AU 2016b, 11–12) sets out nine principles: value for money, public interest, risk allocation, output-orientation, transparency, accountability, modified funding and financing, sustainable long-term contracting, and engaging the market.
- **Brazil's Federal PPP Law** (BR 2004a, Law 11079, Article 4), identifies seven principles for the use of PPPs—efficiency, respect for the interests of users and the private actors involved, non-transferability of regulatory, jurisdictional and law enforcement responsibilities, transparency, objective risk allocation, and financial sustainability.
- The **PPP Law of the State of São Paulo**, Brazil (SP 2004a, Law 11688, Article 1) sets out eight principles to guide PPP design and implementation, including efficiency, respect for the interests of the end users, universal access to essential goods and services, transparency, fiscal, social, and environmental responsibility.
- **Indonesia's Presidential Regulation No. 67** (ID 2005, Article 6) presents PPP principles promoting transparency, fair consideration, and competition in the PPP program, as well as "win-win" structures for the public and private parties.
- **Colombia's National PPP Law** (CO 2012a, Law 1508, Articles 4 and 5) lays out the key principles of the PPP policy in the country: efficiency, necessity, and efficient risk allocation. The law also states that all payments to private investor must be conditional on the availability of the infrastructure to contractually-set levels.
- **Jamaica's PPP Policy** (JM 2012) sets out four guiding principles: optimal risk transfer; achieving value for money for the public; being fiscally responsible; and maintaining probity and transparency.

Box 2.4 PPP Implementing Principles in Peru

Peru's PPP policy is set out in legislative Decree 1012. Article 5 defines the following guiding principles for PPP programs:

Value for Money: the public service provided by the private actor must offer better quality for a given cost or lower costs for a given quality outputs. This is how the policy seeks to maximize user satisfaction and optimize the use of public resources.

Transparency: all quantitative and qualitative information used to make decisions during the evaluation, development, implementation and monitoring stages of a PPP must be made public in accordance with Article 3 of the Transparency and Public Information Access Law.

Competition: competition must be sought to ensure efficiency and lower costs in the provision of public infrastructure and services. The government must avoid any anti-competitive or collusive behavior.

Adequate Risk Allocation: there must be adequate risk allocation between the public and private parties. This means that the risks must be assigned to the party that has the greatest capacity to manage the risks at a lower cost, considering both the public interest and the project's characteristics.

Budgetary Responsibility: this is defined as government capacity to assume the firm and contingent financial commitments related to the implementation of PPP contracts without compromising the sustainability of public finances or the regular provision of the public service.

Source: (PE 2014)

Key References: PPP Policy Examples

Reference	Description
AU. 2016b. *National Public Private Partnership – Policy Framework*. Canberra: Commonwealth of Australia.	Sets out the policy objectives, scope, assessment of projects as PPPs, and principles guiding the application of PPPs.
ID. 2005. *Peraturan Presiden Republik Indonesia Nomor 67 Tahun 2005*. Jakarta: President of the Republic of Indonesia.	Sets out the purpose, scope, and principles of the PPP program in Indonesia, as well as defines the PPP process and responsibilities.
SP. 2004a. *Lei No. 11.688 de 19 de maio de 2004*. São Paulo: Governo do Estado de São Paulo.	Sets out the objectives of the PPP Program, creates the PPP Management Council, the São Paulo Partnerships Corporation, and the PPP Unit within the Planning Secretariat. Also establishes the private partner's responsibilities, and establishes the rule for PPP contracts.
MX. 2012. *Ley de Asociaciones Público Privadas*. Mexico City: Gobierno de México, Cámara de Diputados.	Sets out the scope, principles, and processes for the PPP program in Mexico.
BR. 2004. *Lei No. 11.079 de 30 de dezembro de 2004*. Brasília: Presidência da República, Casa Civil.	Defines PPPs and the PPP process, including requirements for the tendering process and contract design. Also establishes the institutional framework for the PPP program.
CL. 2010b. *Ley y Reglamento de Concesiones de Obras Públicas: Decreto Supremo MOP Nº 900*. Santiago: Gobierno de Chile, Ministerio de Obras Públicas.	This law creates the Concessions Council, defines all the preparatory activities that must be carried out by the contracting agency, establishes the procurement process, sets rights and responsibilities, and establishes processes for dealing with change.
CO. 2012a. *Ley 1508 de 10 de enero de 2012*. Bogotá: Congreso de Colombia.	Sets out the scope, principles, and processes for the PPP program in Colombia, as well as institutional responsibilities for developing projects.
SG. 2012. *Public Private Partnership Handbook. Version 2*. Singapore: Government of Singapore, Ministry of Finance.	Introduces PPPs, their structures, and the process for procuring and managing PPPs in Singapore. It also defines the scope of Singapore's PPP program.
PE. 2014. *Ley No. 30167: Ley que Modifica el Decreto Legislativo 1012*. Lima: Presidente de la Republica del Peru.	This decree is the national law and it sets out the PPP policy in the country. Defines and classifies PPPs, sets out the principles that should guide the implementation of the policy, define the institutional framework, and sets out the financial rules for PPPs in Peru.
KAR. 2015. *Proceedings of the Government of Karnakata: Amendments to the Karnataka Infrastructure Policy, 2007*. Bengaluru, India: Government of Karnataka.	Sets out the State of Karnataka's policy relating to PPPs, including procurement principles and the composition and organization of PPP cells.
SN. 2015. *Loi Relative aux Contrats de Partenariat (PPP) et Decret d'Application. Loi 2014-09 du 20/02/2014 et Décret 2015-386 du 20/03/2015*. Dakar: Gouvernement du Sénégal.	Defines Senegal's PPP policies and sets out how contracts are structured and implemented.

2.2 PPP Legal Framework

The **PPP legal framework** refers to all laws and regulations that govern the PPP project cycle. Governments embarking on PPPs may need to adapt the existing legal framework to ensure—at minimum—that contracts for the delivery of public services by a private entity can be entered into. In some cases, changes may be necessary to introduce PPP-specific processes and responsibilities. Some governments do so by adapting existing laws; others introduce specific legislation.

The legal framework for PPP depends on the legal tradition in the country—common law and civil law are the two main types. In **civil law systems**, the operations of government are codified through administrative law. This code, combined with other legislation, such as the civil code and the commercial and public contract codes, establishes legal rights and processes that apply to PPP contracts. **Common law systems** are less prescriptive, with fewer provisions governing contracts in general. As a result, contracts in common law countries tend to be longer than in civil law countries; the terms governing the relationship between the parties tend be specified in greater detail to avoid ambiguities that may not be easily resolved by reference to specific jurisprudence.

This section briefly describes and provides examples of PPP legal frameworks: *Section 2.2.1 - Scope of the PPP Legal Framework* describes the broad scope of legislation that may affect PPPs and *Section 2.2.2 - PPP Laws* focuses on PPP-specific legislation. The following resources provide overview guidance on assessing and developing the legal and regulatory framework for PPPs:

- **Jeff Delmon and Victoria Delmon's Legal Guide** (Delmon and Delmon 2012) reviews key legal issues in 17 countries.
- The **World Bank's PPP Infrastructure Resource Center (PPPIRC)** presents the key features of common and civil law systems and their impacts on PPP arrangements. It has useful **online tools** for assessing the legal environment for PPPs in various countries (PPPIRC, *Legislative Frameworks)*.
- Annex 2 of the **EPEC Guide to Guidance** (EPEC 2011b) has an overview of legal and regulatory requirements for PPPs in countries with different legal traditions.
- The **World Bank Benchmarking PPP Procurement 2017** (WB 2016b) presents the procurement framework in 82 economies and evaluates them against international good practices.
- **Farquharson et al** (Farquharson et al. 2011, 16–21) sets out key questions that investors and lenders are likely to ask about the legal and regulatory framework, and some principles on developing effective frameworks.
- The **PPIAF's online PPP Toolkit for Roads and Highways** (WB 2009a, Module 4) includes a section on legislative framework that describes the types of enabling law for PPPs. It includes other laws that typically impact PPP projects in highway infrastructure.

2.2.1 Scope of the PPP Legal Framework

The PPP legal framework includes not only PPP-specific legislation and regulations, but also all legislation that affects PPP contracts, decision processes, and implementation procedures.

As described in *Section 2.2 - PPP Legal Framework*, in civil law countries PPP contracts are framed by **administrative law**, which governs the functions and decision-making processes of government agencies. This body of law can create legal rights and obligations for both the contracting authority and private party in addition to those specified in the contract. For example, the public contract code may establish the right of the contracting authority to modify or cancel a contract (often linked to a legal requirement for continuity of service provision). Some protections of the operator may also be implied by law—such as the right to maintain the financial equilibrium of the contract in case of certain types of unexpected change in circumstances (as described further under *Section 3.4 - Designing PPP Contracts*). Administrative law may also define processes and institutional roles relevant to PPPs; such as those for procurement, or resolution of contractual disputes—including the ultimate jurisdiction of administrative courts, unless otherwise specified. In both civil and common-law jurisdictions, there may also be **specific laws** that apply to aspects of the PPP process. These can include:

- **Public contract and procurement laws**—PPP contracts and transactions must typically comply with public procurement law and regulations, unless PPPs are specifically exempt.
- **Public financial management laws**—institutional responsibilities, processes, and rules established in public financial management laws and regulations can contribute to the PPP framework.

For example, this could include project approval requirements, fiscal limits, budgeting processes, and reporting requirements.

- **Sector laws and regulatory frameworks**—PPPs are often implemented in sectors that are already governed by sector-level law and regulatory frameworks. These may constrain the government's ability to contract with the private sector, or provide rules for doing so.
- **Other laws affecting contracts and the operation of private firms**, which also apply to PPP companies, and should be taken into consideration when defining PPP projects and processes can include:
  - Environmental law and regulations
  - Laws and regulations governing land acquisition, ownership and expropriation
  - Licensing requirements, particularly for international firms
  - Tax rules
  - Insolvency law
  - Currency exchange controls
  - Employment law
  - Insurance

For each of the topics mentioned above, the **PPP in Infrastructure Resource Center** (PPPIRC) identifies important issues and presents guidance as well as references.

These laws taken together may comprise the legal framework for implementing PPP—that is, there may be no need for PPP-specific legislation. For an example, see *Box 2.5 - PPP Legal Framework in Germany*.

2.2.2 PPP Laws

Some countries enact specific PPP laws. As described in OECD's report on fostering investment in infrastructure (OECD 2015b, 16–17), these may be used to adapt the existing legal framework if it is not clear or comprehensive, or if the general framework constrains the government's ability to structure and manage PPPs well. Instead of creating a PPP Law, the government may change existing laws to accommodate PPPs. A PPP-specific law can help raise the profile and demonstrate political commitment to the PPP program—although care is needed to avoid conflict with any other existing laws. PPP laws may establish guiding principles for a PPP program, processes and institutional responsibilities (such as for selecting PPP projects, procurement, and dealing with disputes) and policies such as public financial management rules governing PPPs. A well-designed PPP law typically sets out principles, which may be supported by more detailed regulations—with a view to avoiding rigidity and enabling the PPP programs to adapt over time.

Box 2.5 PPP Legal Framework in Germany

The development and implementation of PPPs in Germany is regulated primarily by the Budget law, particularly sections 7 and 55 of the Federal Budget Code (DE 2013), which set out requirements for project preparation and appraisal, and procurement, respectively.

The Budget law establishes guiding principles and appraisal requirements for all public procurements, including PPP projects. Under section 7 subsection (1) of the Federal Budget Code, the principles of efficiency and economy must be observed when preparing and executing the budget—which includes the preparation of PPP projects. Economic feasibility analysis is the main instrument for implementing the efficiency principle—it must be conducted for all initiatives having a financial impact, which includes PPPs (section 7 subsection (2) of the Federal Budget Code). This analysis— see (NRW 2007) or (DE 2014)—must be conducted during various stages of the project development process before any decision with financial impact; it includes analysis of alternative procurement approaches.

General provisions for procurement processes are set out in Section 55 of the Federal Budget Code. Federal procurement procedures vary according to certain thresholds (€5 million for construction contracts). For procedures exceeding stipulated thresholds, the rules established under EU Directives apply, as well as the Act Against Restraints of Competition (DE 1998, part 4) and the Ordinance on the Award of Public Contracts (DE 2016).

Table 2.3 Example PPP Laws

Jurisdiction	PPP-Specific Laws and Regulations
Brazil	The federal-level legal framework for PPPs in Brazil is different for Concessions (self-financing projects requiring no government subsidy support), and PPPs: • **Law 8987 is the Federal Concessions Law (BR 1995).** Establishes which government bodies can grant concessions and defines concession types. Also sets out criteria for selecting bidders during tender, the required content of concession contracts, rights and responsibilities of the contracting government agency, the concessionaire and users, the tariff policy, and acceptable reasons for step in and contract termination. **Law 9648** made some updates to this law. • **Law 11079 is the Federal PPP Law (BR 2004a).** Defines PPPs in the Brazilian context, establishes the scope of the PPP program, defines the contents of PPP contracts, sets rules for providing guarantees, and defines the rights and responsibilities of the contracting authority. Each state that uses PPPs also has its own legal framework.
Chile	**Law 20410 is the current Concessions Law** (CL 2010b). Updated the previous legal instrument for concessions—Decree 900 (1996)—which had modified the original legal instrument for PPPs in Chile: The Ministry of Public Work's Regulation 164 (1991). The law sets out the institutional framework for PPPs, tender rules, concessionaire's rights and obligations, inspection and oversight requirements, and procedures for resolving conflicts.
Colombia	**Law 1508 is the National PPP Law** (CO 2012a). Sets out the scope of the PPP program in the country and the principles that should guide it; also establishes the procedures and institutional framework for PPPs. Sets out specific approaches on PPP procurement, PPP contract design, and on the budgetary approach for PPPs. The following laws also contribute to the legal framework for PPP: **Law 80** (CO 1993): establishes norms and principles for government contracting. It also sets norms that regulate the legal relationship between the public and private partners. **Law 1150** (CO 2007): modifies some parts of Law 80. Specifically, it incorporates certain elements that make the tendering processes more efficient and transparent. **Presidential Decree 4165** (CO 2011), in article 4, establishes the National Infrastructure Agency (ANI Agencia Nacional de Infraestructura), which is in charge of identifying, assessing the viability, and proposing concessions and other forms of PPPs in transport and other related services, and of developing and implementing the resulting PPP projects. **Presidential Decree 1467** (CO 2012c)**:** defines the structures of PPPs under Law 1508. **Presidential Decree 100** (CO 2013)**:** modifies certain articles in Presidential Decree 1467, specifically the treatment of prequalified bidders and private initiatives.
France	**Law 2004-559** (FR 2004) **on Partnership Contracts** sets out the legal and institutional framework for PPPs in France. **Law 2008-735** (FR 2008) incorporates adjustments to Law 2004-559, as well as the codes for subnational governments, urbanisms, general tax, monetary policy and finance, to improve the PPP framework in France. In addition, the Parliament has passed sector-specific laws to enable PPPs in the justice and penitentiary systems (**Law 2002-1094, and Law 2002-1138**), and the Public Hospital System (**Law 2003-850**).
Indonesia	**Presidential Regulation No. 67** (ID 2005, Peraturan Presiden Republik Indonesia Nomor 67) lays out the purposes, principles, requisites and framework for implementing PPPs in Indonesia.
Mexico	The **PPP Law** (MX 2012) sets out the principles, scope, institutional framework, contracting mechanisms, required studies, approval procedures, PPP registry, fiscal management, and other matters that make up the Federal PPP Policy in Mexico.
Peru	**Legislative Decree No. 410-2015-EF** (PE 2015) establishes the principles, processes, and role of the Public Sector in the evaluation, implementation, and operation of public infrastructure and public service involving private sector participation.
Philippines	The **BOT Law** (PH 2006, Republic Act 7718) enables the use of PPPs to develop infrastructure in the Philippines. The law establishes rules concerning the bidding process, financing, government support, and regulatory authorities. **Executive Order No. 8** (PH 2010) modifies the BOT law, reorganizing the BOT Office of the National Economic Development Authority (NEDA) into a PPP Center, and outlining its duties and responsibilities.
South Africa	The **Public Finance Management Act** (ZA 1999b) is the enabling legislation for PPPs. In accordance with this Act, the National Treasury issued **Treasury Regulation 16** (ZA 2003) to the Act, which establishes the rules for the nation's PPP program.
Tanzania	The **PPP Act** (TZ 2010) sets out the responsibilities of the private and public sectors, the functions and powers of the PPP Unit, and the approval process for PPPs.

PPP laws are most common in civil law countries—for example, all Latin American countries implementing PPPs do so under a specific PPP or concession law (or both). Some common-law countries also adopt PPP laws to establish a more binding commitment by government than a PPP policy.

Table 2.3 - Example PPP Laws provides examples of PPP laws and regulations from several countries. **Yong** summarizes the suggested content of a dedicated PPP law (Yong 2010, 33), while the **United Nations Commission on International Trade Law** has published general recommendations (UNCITRAL 2001) and model legislative provisions (UNCITRAL 2004) for enabling privately financed infrastructure projects. The **World Bank PPPIRC website** (PPPIRC, "Legislation and Laws") provides more information, including summaries of different legislation types (such as general PPP laws, concession laws), example provisions, and PPP legislation from over 30 countries.

Resources on these and other country-specific PPP laws and regulations can be found on the **PPP Knowledge Lab** country pages.

2.3 PPP Processes and Institutional Responsibilities

Governments need commitment, skill, capacity, and coordination to implement PPPs successfully. Under a PPP contract, the private party will design, finance, build, and maintain the infrastructure, and provide services. However, the government remains responsible for ensuring the public service is provided to the expected quality and quantity specified in the PPP contract, in a way that achieves good value for money. The government must choose the right project, select a competent partner, and set and enforce the parameters within which that partner operates. It is always important to keep in mind that PPPs are fundamentally a procurement mechanism for the delivery of a public service.

To this end, many governments define processes and institutional responsibilities for PPPs—that is, the steps that must be followed when developing and implementing a PPP project, and the entities responsible for each step. This section provides examples and resources for practitioners on:

- Establishing the **PPP process**—there are several steps that a government must usually take to implement a PPP project successfully. Defining a standard PPP process, with approvals required at key points, helps to ensure that these steps are taken consistently and efficiently. *Section 2.3.1 - PPP Process* describes a typical PPP process, and gives examples from various countries' PPP programs.
- Defining **institutional responsibilities** for PPPs—that is, which entity will play which role at each step. Institutional arrangements and the allocation of functions differ from place to place—depending on the specific needs of the PPP program and the existing institutional responsibilities and capacities. *Section 2.3.2 - Institutional Responsibilities: Implementation* and *Section 2.3.3 - Institutional Responsibilities: Review and Approval* describe and provide examples of institutional responsibilities for:
  - **Implementing PPPs**—that is, doing the day-to-day work to drive forward the PPP process through the steps defined below: from identifying potential projects, appraising, structuring, drafting the contract, bidding it out, and managing the contract after it is signed.
  - **Reviewing and approving PPPs**—that is, overseeing the PPP process, typically through review and approvals at key stages, to ensure that the project represents a good investment decision for the government.
- Establishing **PPP units**. Some governments establish teams aggregating staff with specific knowledge on PPPs. The functions of these PPP Units vary widely, as do their location within government and structure—reflecting the variation in priorities and constraints facing PPP programs both between governments, and over time as the PPP program evolves. *Section 2.3.4 - Dedicated PPP Units* briefly describes the various roles played by these units, with examples from different countries.

This section focuses on the process and responsibilities within the executive branch of government for implementing PPPs. *Section 2.5 - Broader PPP Program Governance* provides further guidance on how other entities can input into the PPP process, and hold those responsible for developing PPPs accountable for their decisions and actions.

2.3.1 PPP Process

Many governments set out a process that must be followed to develop and implement every PPP project. Standardizing the PPP process helps ensure that all PPPs are developed in a way that is consistent with the government's objectives. It also helps achieve coordination between the various entities involved.

Figure 2.1 - Typical PPP Process shows an example of a well-defined PPP process. The process is broken down into several stages, in which the PPP is iteratively developed and appraised. At each key stage, approval is required to proceed. There are two reasons to use an iterative approach to developing a PPP project. First, it enables timely involvement of oversight agencies in approving projects, as described further in *Section 2.3.3 - Institutional Responsibilities: Review and Approval*—poor projects, and poorly-defined projects, risk undermining a whole PPP program. Second, it avoids wasting resources developing weak projects. Developing a PPP project is costly—early checks that the project is promising can help ensure development budgets are well-spent.

As shown in *Figure 2.1 - Typical PPP Process*, the process of developing and implementing a PPP is typically preceded by **identifying a priority public investment project**. A PPP is one way to deliver public investment—moreover, one that "locks in" the specifications of the project over a long-term period. Potential PPP projects therefore typically emerge from a broader public investment planning and project selection process. At some point in this process some or all proposed public investment projects may be screened, to determine whether they may provide more value for money if implemented as a PPP.

Developing and implementing the PPP then involves several stages:

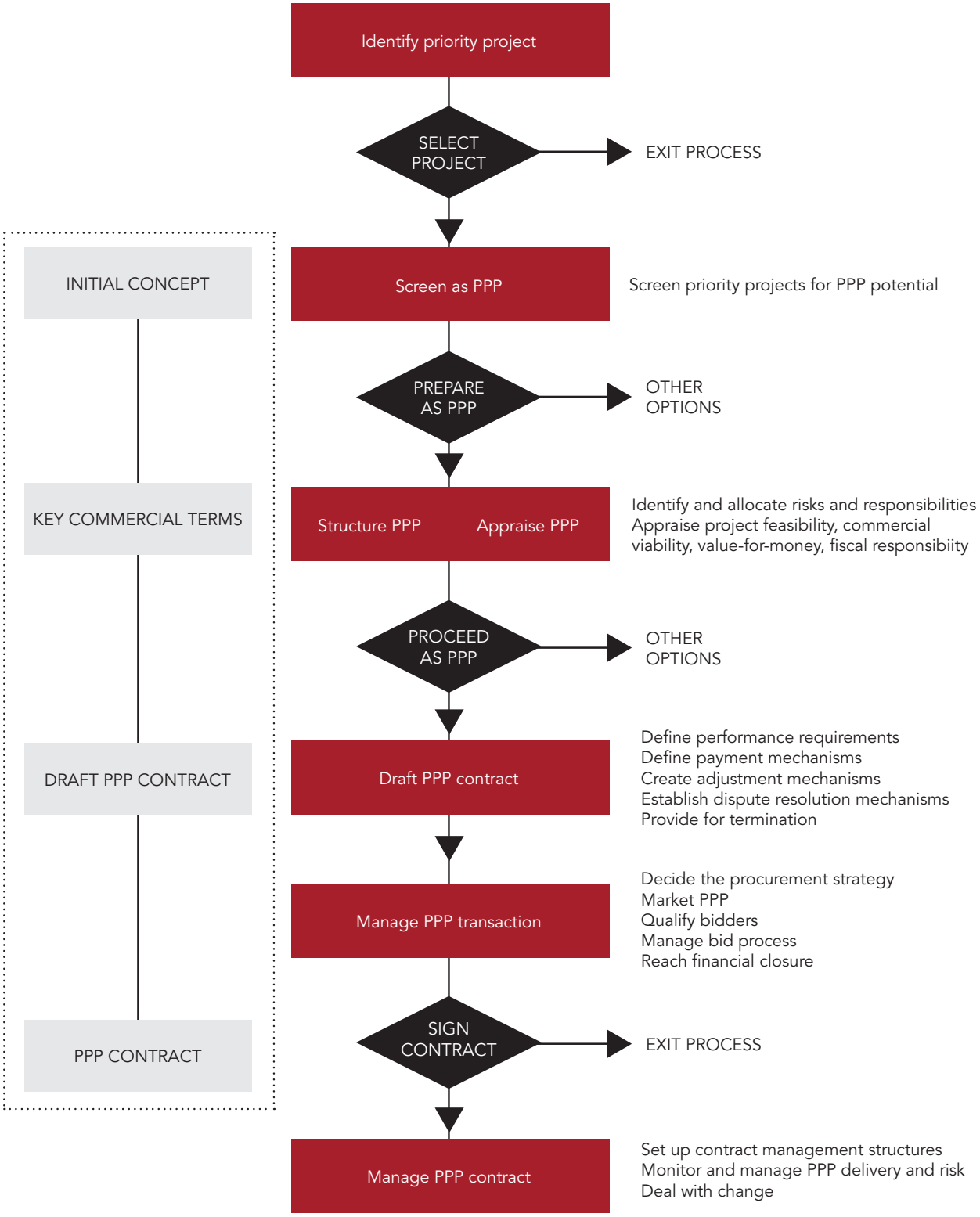
- **Structuring and appraising the PPP**—once a priority public investment project has been identified and tentatively approved for development as a PPP, the next step is to select the PPP structure, or key commercial terms—including the proposed contract type, risk allocation, and payment mechanisms. This proposed PPP structure can then be appraised. The proposed PPP structure and appraisal analysis is often pulled together in a business case to demonstrate why the PPP project is a good investment decision. Approval is typically needed at this stage, based on the analysis in the business case, before going on to prepare for and implement the PPP transaction.
- **Designing the PPP contract**—the final step to prepare the PPP for procurement is to draft the PPP contract and other agreements. This involves developing the commercial principles into contractual terms, as well as setting out the provisions for change and how the contract will be managed, such as dispute resolution mechanisms. Often the design of the draft contract is completed in the early stages of the procurement process, to allow for consultation with potential bidders. *Section 3.4 - Designing PPP Contracts* presents specific guidance on designing the PPP contract.
- **Implementing the PPP transaction**—in the transaction stage, the government selects the private party that will implement the PPP. This usually involves preparing for and conducting a competitive procurement process. Bidders submit information detailing their qualifications and detailed technical and financial proposals, which are evaluated according to defined criteria—often in a multi-stage process—to select a preferred bidder. Since the bidding process also results in the establishment some key parameters of the contract—in particular its cost—most processes involve a final approval before contract close. The PPP contract signed at contract close between the contracting authority and the SPV (the special-purpose firm created by the winning bidders for implementing the project) may include as attachments the main sub-contracts signed between the SPV and third-party contractors (i.e. the construction contract and the operation/maintenance contract). The transaction stage is complete when the project reaches financial close, i.e. when the financing contracts have been signed so that implementation may begin. Once the PPP has reached financial close, the government must **manage the PPP contract** over its lifetime. This involves monitoring and enforcing the PPP contract requirements, and managing the relationship between the public and private partners.

An alternative to the government carrying out all these steps is to allow private companies to identify and propose PPP projects. Some governments have introduced specific requirements and processes to ensure that these unsolicited proposals are subject to the same assessment, and developed following the same principles, as government-originated PPPs. *Section 3.7 - Dealing with Unsolicited Proposals* provides details and examples.

Module 3 - PPP Cycle describes the PPP process in detail, setting out options and providing information and guidance for practitioners on each stage. The following provide examples of how the PPP process is defined in a range of countries:

- In **Chile**, the Concessions law (CL 2010b, Chapters II and III, Articles 2-14) presents a thorough description of the PPP process including the preliminary proposal by the contracting agency, the tender process and implementation.
- In **Egypt**, the Ministry of Finance has published a step-by-step guide to developing PPPs (EG 2007). The guide assists the relevant Ministries through the PPP process, from identifying a

Figure 2.1 Typical PPP Process



project through developing a business case and the procurement process.

- An **ADB publication on PPP projects in Korea** (Kim et al. 2011, 61–72) includes a detailed description of the PPP implementation process for different types of PPP, including unsolicited projects.
- The **PPP Guidelines of the Government of Malaysia** (Dobbs et al. 2013, 11) provides an overview of its PPP process.
- In **Mexico**, the **PPP Law** describes all the studies that must be carried out to assess the viability of a PPP project; sets out the PPP approval process; sets out the activities and institutional responsibilities in running a PPP tender process; and describes the bid evaluation process and the selection of the winning bid (MX 2012, Articles 14, 21–25, 38–51, and 52-59).
- **Peru's Legislative Decree No.30167** lays out the process for carrying out a PPP, establishes the criteria for selecting projects and the PPP modality, and defines the steps and responsibilities in project design and approval (PE 2014).
- The **Implementing Rules and Regulations of the Philippines BOT Law** (PH 2010, 11–51 and Annexes) set the PPP process in the Philippines.
- In **Puerto Rico**, the **PPP Act** (PR 2009, sections 7–10), presents a detailed description of the PPP process including conducting initial desirability and convenience analysis, setting up a Partnership Committee to implement the tender process and the PPP contract, and selecting proponents and awarding partnerships.
- The **South Africa PPP Manual** (ZA 2004a) has an introduction that provides a brief overview of the PPP process. The process is explained in detail in the manual, with a module dedicated to each step.
- **Spain's Public Procurement Law** (ES 2011) has a detailed description of the PPP process, including the project appraisal requirements, disclosure requirements at each stage, the approval process, and tendering options.

2.3.2 Institutional Responsibilities: Implementation

Implementing a PPP project successfully requires commitment and a range of skills and expertise. Government agencies and individuals responsible for implementing projects need a sound understanding of the needs of the particular sector, skill in economic and financial appraisal of projects and PPPs, expertise in structuring privately-financed infrastructure project contracts, expertise in procurement and contract management, and experience in dealing with the private sector. The main challenge in designing the institutional arrangements for PPPs is to ensure that all these skills are available to implement PPP projects successfully.

By default, responsibility for implementing a PPP typically falls to the ministry, department, or agency responsible for ensuring the relevant asset or service is provided. However, particularly at the early stages of a PPP program, such entities usually to have the full range of skills and experienced needed: hence, other government entities are sometimes involved, namely the central PPP unit. Both in developed (UK, Canada, Australia) and developing countries (Philippines, Colombia, South Africa) a strong central unit has been shown to be critical to a successful program. This section briefly describes the range of institutional arrangements for identifying PPP projects; developing and implementing those projects; and managing the PPP contracts.

Identifying PPP projects

As described in *Section 2.3.1 - PPP Process* above, PPP projects usually emerge from the public investment planning and project identification process. Responsibility for identifying potential PPPs from among priority public investment projects therefore often rests with the relevant sector agency or entity under the oversight of entities responsible for public financial management and planning. For more on PPP review and approval responsibilities see *Section 2.3.3 - Institutional Responsibilities: Review and Approval*.

Sometimes a specialized PPP team may be involved in the PPP identification process, as described in *Section 2.3.4 - Dedicated PPP Units*. For example, a PPP Unit may provide support to sector agencies in screening projects for PPP potential—particularly at the early stage of a PPP program when sector agencies may have limited understanding of how PPPs work. Sometimes PPP Units are mandated to promote the use of PPPs. This can help overcome initial anti-PPP bias at the early stage of new PPP programs. However, it can also risk distorting the public investment planning process—pushing forward projects because they appear to be doable as PPPs, rather than because they are public investment priorities. Instituting a clear PPP process with appropriate approvals, as de-

scribed in *Section 2.3.1 - PPP Process* and *Section 2.3.3 - Institutional Responsibilities: Review and Approval*, helps overcome this risk.

Level playing field vs. perverse incentives

The need for a level playing field, when assessing PPP versus non-PPP options, is critical for success in the procurement of infrastructure and services—even more at the subnational level, where technical capacity and the ability to reach the financial markets may be limited, and free-riding on upper levels of government is often an attractive alternative. The traditional procurement practices sometimes induce governments to avoid using the PPP route, even when it provides greater value to users and taxpayers. Conversely, fiscally stressed governments may look for PPPs even for projects where the PPP option is not the most efficient solution.

Some governments have created PPP incentives in an attempt to modify the behavior of civil servants. These approaches have not always yielded positive outcomes. While public procurement practices favored the procurement modes traditionally used, PPP incentives created bias in decision-making in the other direction. "PFI credits" in the United Kingdom are now recognized as having induced significant bias. Other governments have resorted to lines of funding available only for PPP projects, or for non-PPP projects. These types of discrimination may distort decision-making in favor of non-optimal solutions—and, even when not distorting the decision process, they create reasonable suspicions of bias, affecting public perceptions.

Developing and implementing PPP projects

Responsibility for developing and implementing the PPP project—that is, for structuring the PPP, designing the PPP contract, bidding out the transaction, and managing the contract—typically falls to the government entity responsible for the delivery of the relevant asset or service. This entity is often termed, for PPP purposes, the contracting authority or contracting agency, since it will usually be the public party to the PPP contract. The PPP law or policy may define the types of government entity that can be contracting authorities, and specify that these authorities are responsible for PPP implementation. For example:

- In the **Philippines**, **the BOT Law** (PH 2006, Implementation Rules and Regulations) delegates responsibility for developing and implementing PPPs to eligible government agencies, units, or authorities. These include Government-Owned or Controlled Corporations (GOCCs), Government Financial Institutions (GFIs), State Universities and Colleges (SUCs), and Local Government Units. These agencies are required to create a Pre-qualification, Bids and Awards Committee (PBAC) that will oversee the PPP process for each PPP project.
- Under **Tanzania's PPP Law** (TZ 2010), the contracting authority is responsible for facilitating project development, including project identification, a feasibility study, environmental impact assessment, and design and implementation of the PPP contract.
- In **Colombia**, the **Manual for PPP procedures** (CO 2014, Chapter 4.2, 34) allows contracting authorities to be ministries or other sector-specific institutions, and local and regional institutions. The contracting authorities are in charge of conducting eligibility and value for money analyses, and submitting the results to the PPP Unit, which develops and implements PPP-related policies and steers procurement processes in coordination with contracting authorities.

However, sector agencies may lack some of the skills needed to identify and develop PPP projects successfully. Particularly at the early stages of a PPP program, sector agencies may have little or no experience with engaging with the private sector on privately-financed projects. For this reason, other government entities are often also involved, to provide additional skills or perspectives. This can be achieved in different ways, including:

- Involving dedicated PPP units, as described in *Section 2.3.4 - Dedicated PPP Units*. These units are a repository of skill and experience in developing PPPs. They often support contracting authorities in implementing PPP projects. In a few cases the PPP unit may take over primary responsibility as implementing agency. For example, the PPP Law in **Chile** authorizes the Ministry of Public Works as the implementing agency for PPPs, through its dedicated concessions unit (CL 2010b, Article 1–3, 6–9, 15–21, 25, 27–30, 35–36, 39–41). *Section 2.3.4 - Dedicated PPP Units* provides several more examples of PPP units and the extent of their roles in implementing PPPs.
- Forming interdepartmental committees to oversee each PPP transaction—often including representatives from the sector ministry as well as ministries of finance and planning, and legal representatives.

- Involving specialist entities in different implementing roles. This is the case in Peru, for example, where the procurement agency is responsible for implementing the PPP transaction, and sector regulatory agencies are responsible for monitoring the private parties' compliance with the PPP contract.

Even governments with extensive PPP experience may not have all the expertise and skills in-house needed to develop PPP projects. **PPIAF's guide for hiring and managing advisors** (PPIAF 2001) describes how they will benefit from using external advisors who will provide support in the appraisal, preparation and transaction phases of a proposed PPP. These external advisors may engage in detailed, technical tasks such as conducting feasibility studies and drafting PPP contracts. Developing countries governments are too often unaware of the significant disadvantage of not having competent external advisors by their side when negotiating with private parties. While they may be expensive, experienced advisors equip governments to take informed decisions and safeguard the public interest. Private parties seldom make the mistake of not hiring them. The best advisors in the market usually advise them. With this asymmetry in negotiating ability, PPP contracts will often be biased in favor of the private parties.

Box 2.6 External advisors

Governments can use the advisory services provided by commercial firms or multilateral organizations. The IFC paper on independent advisors outlines several key characteristics that external advisors should possess:

- The ability to balance private and public sector interests by designing projects that guarantee long-lasting benefits for the population
- Reputation as an honest broker to demonstrate transparency and inspire investor confidence
- Multi-skilled team with extensive, direct experience in infrastructure project structuring and financing
- Direct experience in the relevant sector and market
- Ties with the global investment community

Source: (Jagun and Marques de Sá 2006)

The **EPEC report on the role and use of external advisors** (EPEC 2014d) outlines how governments may best utilize the support of external advisors. The extent and nature of external advisory support needed may change as the government and the country gains PPP experience. Initially, governments may rely heavily on advisors, and contract full-service transaction advisors providing the full range of technical skills needed as well as strategic support. Over time, responsible government teams may be better able to play an integrating role, and use advisors to provide specific technical or legal inputs. Even when working with experienced advisors, however, it is important for the contracting authority to develop the internal capacity to manage the process effectively—to oversee the work of the advisors, and retain ownership of the structuring decisions. Over-relying on external consultants to drive the procurement process can put the contracting authority in a weak position for managing the contract over its lifetime.

Managing PPP Contracts

Monitoring the project performance and managing the contract usually falls to the contracting authority. From roads and bridges to water provision and hospital services, line ministries and agencies typically have the required technical knowledge and the policy focus for monitoring delivery. Some countries reduce conflict in contract management by outsourcing to credible external entities, such as engineering firms, or research institutions, certain specialized monitoring activities. For example, in Brazil, the state Government of Minas Gerais hires Independent Verifiers for monitoring PPP performance; in France, engineering firms are hired for monitoring PPP hospital infrastructure performance.

However, managing PPP contracts can be complex—particularly when it comes to dealing with change that inevitably occurs over the lifetime of the contract (as described in *Section 3.6.3 - Dealing with Change*). Some countries therefore involve other, specialized entities in the contract management function; for example, by:

- Creating a **centralized contract management support function**. For example, in 2006, the British Treasury invited the then-PPP Unit, Partnerships UK, to create a PFI Operational Taskforce, operating on behalf of the Treasury (UK 2006a, 3). This taskforce provided support to hundreds of contract managers and published guidance. The central PPP unit for British local governments, 4Ps (now called Local Partnerships—a company jointly owned by HM Treasury and the Local Government

Association) also has a role in supporting local governments in carrying out their contract management role. In 2007, it published a **Guide to Contract Management for PFI and PPP Projects** (4ps 2007).

- **Including responsibility for some aspects of contract management among the responsibilities of a dedicated PPP Unit**. For instance, the Concessions Unit of the Ministry of Public Works in Chile monitors performance and manages PPP contracts on behalf of several ministries. Often this involvement may be limited to non-routine events, or particularly challenging contract management tasks. In Korea, the PPP Unit PIMAC manages PPP contracts during the sensitive construction phase.
- **Allocating contract management responsibility to an independent regulator**—a solution when relevant variables, such as the mechanism determining the fees to collect over time, are not clearly prescribed in the contract. However, the functions of regulator and contract manager may collide—the contract manager is supposed to protect the public interest and the public purse, while the regulator may have a distinct and legally-mandated set of interests to preserve.

2.3.3 Institutional Responsibilities: Review and Approval

A PPP project is a specific type of public investment. Most governments have systems and standard procedures for reviewing and approving capital investment projects: to ensure all projects are effective at meeting strategic objectives; provide value for money; and in line with fiscal priorities. Because PPPs do not necessarily require capital investment by the government, they may not automatically be subject to these approval rules. Many governments therefore define similar review and approval requirements for PPPs. See *Table 2.4 - Example PPP Approval Requirements* for some examples.

Often, several decision points are created, allowing weak projects to be stopped before they consume too many resources, or develop a momentum of their own. This is illustrated in *Figure 2.1 - Typical PPP Process*. These iterative reviews are sometimes called *gateway processes*. **Monteiro's article in IMF's book on PPPs** (Schwartz et al. 2008) describes a typical gateway process, and how this process works in Portugal. At a minimum, formal approval is typically needed to enter into a PPP transaction. Because the final cost of a project is not known until procurement is concluded, final approval may be needed before the contract is signed. *Figure 2.2 - The South African Gateway Process for PPPs* describes this gateway process in South Africa (ZA 2004a, Module 1).

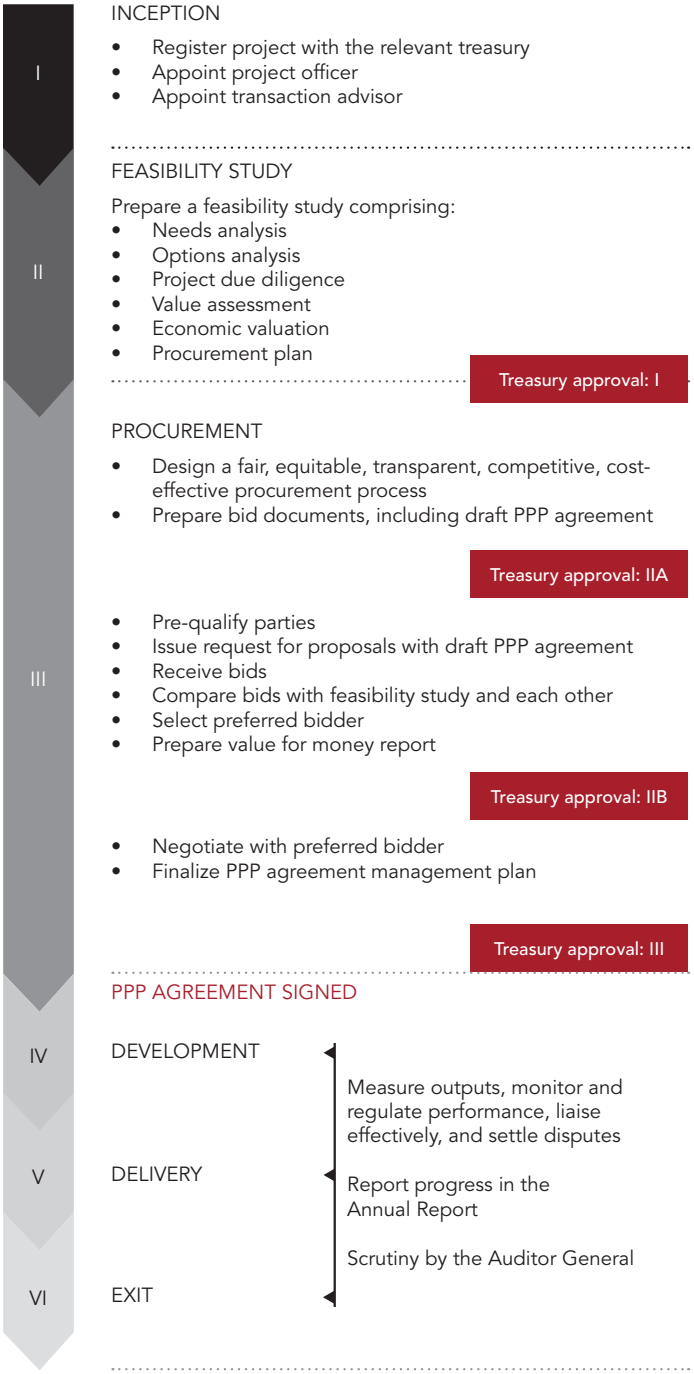
Finance ministries typically have a leading role in this process, given their responsibilities for managing government resources, and (often) economic and fiscal policy. The IMF emphasizes the importance of the role of the finance ministry in its **book on Public Investment and PPPs** (Schwartz et al. 2008, 10). In France and many Francophone countries this role is split between the Ministries of Finance, Development and Planning. In a few other countries, another entity altogether has overall responsibility for overseeing the public investment program, and hence may play the same role for PPPs—such as the National Economic Development Agency (NEDA) in the **Philippines**. Many finance ministries have established special PPP units through which to carry out their filtering and monitoring functions, as described further below.

Other oversight agencies can also have a role in reviewing and feeding into PPP project approvals, mirroring their roles in any major capital investment project. These can include:

- **Planning agencies**: Some governments separate responsibility for planning and project appraisal from fiscal oversight, with the former housed in a dedicated planning agency. For example, in **Chile,** the National Planning Authority must review and approve the economic analysis of proposed PPPs, as is the case for all public investment projects.
- **Attorney generals** may be required to approve major government contracts, including PPPs, as part of their role as the government's legal advisor. For example, The **PPP law of Tanzania** (TZ 2010, 15–16) requires that the implementing agency submit the final draft PPP contract for approval by the Attorney General before the contract is executed.
- **Supreme audit entities:** Many Latin American countries also require approvals from audit entities that are independent of the executive branch of government, as described further in *Section 2.5 - Broader PPP Program Governance*. For example, in **Brazil**, the Court of Audits (Tribunal de Contas da União, or TCU, at the federal level, and state Courts at the subnational level) is required to review each PPP project and its legal documents before it can go to market.

These additional reviews can be important checks on the quality and legality of the project appraisal and development process. However, they can also introduce delays at crucial points. Mech-

Figure 2.2
The South African Gateway Process for PPPs



anisms for coordination can help. Capacity building may also be needed to ensure these institutions are able to fulfill their roles as they relate to PPPs.

Ultimately approval may be by Cabinet and/or Parliament. Jurisdictions vary as to which entity can approve a PPP. A few countries require legislative approval of large projects. More often, approval may come from Cabinet or a Cabinet-level committee, the finance ministry, or a combination. As described in **Irwin's paper on controlling spending commitments in PPPs** (Irwin 2007, 113–114), approval power may depend on the size of the project, as is typically the case for other capital investments.

Coordination

Decision-making for public investment projects is typically articulated around the annual budget process. However, because PPPs often do not have immediate budget implications, specific coordination mechanisms are needed to ensure the projects are integrated into the Mid-Term Expenditure Framework (MTEF) and reviews and approvals proceed smoothly and do not hold up the project development process. In some cases, PPP units are assigned with a coordinating role, as described further in *Section 2.3.4 - Dedicated PPP Units*. Some governments also form interdepartmental committees to oversee each PPP transaction, to ensure the perspectives of oversight agencies are taken into consideration throughout the project development process rather than just at review points.

2.3.4 Dedicated PPP Units

Government teams concentrating skills in PPPs with the public administration are often called *PPP Units*. The functions of these PPP Units vary widely, as do their location within government and team structure. This variety reflects the range of priorities and constraints facing PPP programs both between governments, and within a government over time as the PPP program evolves. Countries with established PPP programs experienced a gradual broadening of the scope of the original PPP Unit, tending to address infrastructure in general, including non-PPP solutions.

Functions allocated to such PPP Units can include:

- **Policy guidance and capacity building**—defining PPP policies and processes, and building the capacity of implementing agencies to follow those processes. This often includes preparing guidance materials and standard documentation for PPPs. *Table 2.1 - Example PPP Program Objectives* and the "Key Referenc-

Table 2.4 Example PPP Approval Requirements

Country	Reference	Approval Requirements
State of Victoria, Australia	National PPP Guidelines-Partnership Victoria Requirements (VIC 2016, 5)	All high-value or high-risk projects—including PPPs—go through a gateway approval process, established by the Department of Treasury and Finance. A panel of experts that are not directly involved in the project carries out reviews at key stages in developing and implementing the project, called *gates*. For PPPs, there are five gates: strategic assessment, business case (before issuing the requests for expressions of interest), readiness for market (before issuing project briefs and contract), readiness for service (before the contract is executed), and benefits evaluation.
Chile	Concessions Law (CL 2010b, Law 20410, Articles 7, 20, and 28)	Final approval of a PPP—through signing the decree that formalizes the concession—rests with the President and the Ministry of Finance together. Contracts cannot be bid out unless the Ministry of Finance has approved the bidding documents. The Ministry of Finance must also approve any changes to economic aspects of the bidding documents, as well as certain changes during implementation.
Colombia	PPP implementation rules (CO 2014, Section 3.2.3) Also set out in the National PPP Law (CO 2012c, Law 1508, Article 26)	PPPs must be approved by: • **CONFIS—**the National Fiscal Council, which leads the national fiscal policy and coordinates the budgetary system, approves the future appropriations (vigencias futuras) for PPP projects. CONFIS is made up of the Ministry of Finance, the Director of the Administrative Department of the National Planning Agency, the Chief Economic Advisors of the Presidency, the Vice-minister of Finance, and the directors of the National Treasury, Public Credit, and Tax and Customs Authority. Before reaching the CONFIS the project must have the approval of the sector ministry, and the National Planning Department. • **CONPES—**the National Council for Economic and Social Policy, which is the highest planning authority in Colombia and advises the government in all aspects related to the economic and social development of the country, certifies the strategic importance of the project. Such certification is required for the project to be eligible to receive future appropriations. In addition, this sets the limits on how many future appropriations can be approved by CONFIS in any given year. CONPES comprises the President, Vice President, the Cabinet, the director of the administrative department of the presidency, the director of the national planning department, and the director of Colciencias.
Philippines	The Philippines BOT Law (PH 2006, Rule 2, 16–19)	All national projects and projects over PHP200 million ($4.6 million) require approval from the Investment Coordination Committee (ICC) under the National Economic and Development Authority (NEDA) Board. The members of the NEDA Board are cabinet members responsible for the major infrastructure, economic and finance departments. PPP projects also require approval from both the NEDA Board and the President, upon recommendation by the ICC. The ICC's recommendation is in turn informed by a review by NEDA's technical staff, to check the project submission is complete, and adequately demonstrates the project complies with requirements for financial, economic, social, and environmental impacts.
South Africa	Public Finance Management Act and Treasury Regulation 16 (ZA 2004a, 8–10)	PPP approvals are made by the Treasury, through its PPP Unit. Projects are submitted for approval at four points, after: (1) the feasibility study has been completed, (2) the bid documents have been prepared, (3) bids have been received and evaluated, and (4) negotiations have concluded and the PPP contract is in its final form.

es" in *Module 3 - PPP Cycle* provide examples of such guidance material.

- **PPP promotion** both within and beyond government—that is, encouraging sector agencies to consider using PPPs, or promoting the opportunities presented by the PPP program to potential suppliers and investors.
- **Technical support** in implementing PPP projects. As described in *Section 2.3.2 - Institutional Responsibilities: Implementation* above, this may involve providing hand-holding support to responsible implementation teams in ministries or agencies; or being directly responsible for some aspects of PPP implementation. Some PPP Units act as a Project Development Facility, identifying, assessing, and structuring projects, and building a project pipeline.
- **Gatekeeping** or reviewing and overseeing the management of PPP projects for efficiency and affordability; and either approv-

Box 2.7 PPP Training

As part of their capacity-building functions, PPP Units in countries with significant PPP programs promoted the creation of PPP training programs—e.g. the Philippines (PH 2017) and South Africa (ZA 2017). In South Korea (KDI Training), the Public and Private Infrastructure Investment Management Center (PIMAC) provides several PPP training programs every year. This training for public officials are done at two levels, basic and advanced training. The latter addresses feasibility studies, evaluation, financial modeling, and negotiation. PIMAC also provides PPP training for private companies.

Multilateral organizations have also partnered with PPP teams in organizing PPP training activities and practitioner networks. The World Bank and PPIAF promoted Tanzania's City Creditworthiness Academy (TZ 2014). The Korean Development Institute (KDIS 2017), ADB, and the World Bank have supported the annual conferences promoted by the Asian PPP Network (APN) (KDI 2017).

Several Massive Open Online Courses (MOOCs) have been developed for PPPs. The World Bank created the PPP MOOC (WB 2015d) in English followed by a French version (WB 2016g). The Inter-American Development Bank also developed several MOOCs on PPPs and infrastructure in Spanish and Portuguese (IDB 2017)—for instance, a MOOC on PPPs and another on sustainable cities. The APMG PPP Certification Program (APMG-PPP) is another useful tool in building knowledge about PPPs. Practitioners can become certified in PPP by APMG, a reputable online assessment portal—certification requires taking online examinations that demonstrate a solid understanding of the *APMG PPP Guide* (APMG 2016), a comprehensive encyclopedia developed by over 80 PPP practitioners. Students can also become accredited to train PPP practitioners to pass the certification examination.

ing PPP projects, or advising on the approval process. As described in *Section 2.3.3 - Institutional Responsibilities: Review and Approval*, such reviews can take place at several stages during project development; while the oversight role of such PPP teams can extend into PPP implementation and portfolio management.

PPP units may perform more than one of these functions, while a single PPP program may involve more than one PPP unit performing different roles.

The institutional design of PPP Units, particularly the gatekeeping ones, requires a well-pondered balance of mandatory requirements (e.g. project scrutiny, draft contract review, involvement in the tender process) and resource provision (not only money for project preparation and procurement, but mainly knowledge and experts able to supplement line ministries staff and resources)—in practice, a "sticks and carrots" approach. Adequate leverage of the PPP Unit is also required.

The structure and location within government of PPP units typically depends on their specific functions, as well as existing institutions, skills, and experience within government. PPP units may be departments within ministries or agencies, units with special status but reporting to ministries, autonomous government entities, or even government-owned or public-private corporations. Gatekeeping units are most often located within ministries of finance, or other oversight agencies; while technical support units may be housed centrally, sometimes alongside other relevant functions such as procurement, or be established at the subnational or sector level where a sector has a significant PPP program. Units with a PPP promotion focus may be part of broader investment promotion entities.

The functions of PPP units, and hence their structure, may also change over time as the PPP program evolves. For example, in the United Kingdom, the original Treasury Task Force (its first PPP Unit) was partially converted into a joint public-private venture (Partnerships UK, or PUK, 51 percent owned by private entities), with more of a focus on PPP promotion and technical support. However, as the PPP program developed and ministries and agencies gained more experience, the focus shifted towards oversight and integration of PPP with the broader public investment function. Eventually PUK was reabsorbed into the government as *Infrastructure UK*, which later merged into the UK's Infrastructure and Projects Authority.

Many countries do establish their central PPP Unit in the Ministry of Finance, to better fulfil its role of gatekeeper—that is the case of the United Kingdom, France, Portugal, South Africa, India, and Indonesia. A number of countries that have established their central PPP Unit outside the Ministry of Finance felt the need to create

its own Ministry of Finance PPP Unit, in charge of monitoring and managing fiscal liabilities and fiscal risks arising from PPPs—that is the case, for instance, of the Division of Contingent Liabilities and Concessions of the Ministry of Finance of Chile (where the main PPP Unit is part of the Ministry of Public Works) and of the Subdirection of PPPs of the Ministry of Finance of Colombia (where the PPP Unit is an agency under the Ministry of Transportation).

The following studies provide more information on the functions and structure of PPP Units, detailed case studies, and assessments of the effectiveness of these units in achieving their objectives:

- An **OECD study on PPP units** (OECD 2010) describes the range of PPP unit functions along the lines of the list above, and provides detailed case studies of PPP Units in Germany, Korea, South Africa, the State of Victoria in Australia, and the United Kingdom.
- A **report by the Brookings Institution** (Irwin and Mokdad 2010) provides a similar breakdown of the functions of PPP units into three categories: review bodies or gatekeepers; full service agencies providing technical assistance to review agencies, and centers of excellence acting as repositories of best practice.
- A **set of reports published by the European PPP Expertise Centre** analyzes European PPP Units and institutional frameworks (EPEC 2014a) and discuss individual cases, such as **France** (EPEC 2012) and **Portugal** (EPEC 2014c).

Did you know....?

The Dakar toll road is the first successful road PPP in West Africa

The Dakar toll road was inaugurated in August 2013 by SENAC, the Senegalese concession company set up by Eiffage, a French construction company, and is considered the first greenfield toll road PPP in West Africa. Traffic congestion had been an issue for decades as the previous two-lane road could only handle a fraction of the greater capital's traffic. Built as a concession, the new 24 kilometer, six-lane road project enhanced access to the city center and improved commute times between central Dakar and outlying neighborhoods. The city center as well as the outskirts experienced stimulated economic growth as access to markets for businesses improved significantly. Some of the challenges of this project included the resettlement of more than 30,000 people, the largest resettlement program undertaken by the government and project sponsor, in concordance with IFC's Equator Principles and Performance Standards. A contract for the expansion of the road to connect central Dakar with the new international airport was signed in 2014.

Source: Partnering for Water in Cote d'Ivoire: Lessons from 50 Years of Successful Private Operation. Gridlines; No. 50. World Bank, August 2009

Key References: PPP Processes and Institutional Responsibilities

Reference	Description
CL. 2010b. *Ley y Reglamento de Concesiones de Obras Públicas: Decreto Supremo MOP Nº 900*. Santiago: Gobierno de Chile, Ministerio de Obras Públicas.	Sets out the processes for handling proposals, tendering, monitoring, and dispute resolution.
EG. 2007. *National Program for Public-Private Partnerships*. 2nd edition. Cairo: Government of Egypt, Public-Private Partnerships Central Unit.	Egypt's comprehensive guidelines and policies for PPPs, including regulations for the PPP procurement process. It also outlines the institutional responsibilities within the government and the approval process.
MY. 2009. *Garis Panduan: Kerjasama Awam-Swasta Public-Private Partnership-PPP*. Putrajaya, Malaysia: Prime Minister's Office, Public-Private Partnership Unit.	The Government of Malaysia's policy framework and procurement process for PPPs are outlined in this document.
MX. 2012. *Ley de Asociaciones Público Privadas*. Mexico City: Gobierno de México, Cámara de Diputados.	Sets out in detail the process and institutional responsibilities for developing and implementing PPP projects in Mexico.
PE. 2014. *Ley No. 30167: Ley que Modifica el Decreto Legislativo 1012*. Lima: Presidente de la Republica del Peru.	Sets out the entire PPP process (from appraisal to tendering and implementing the contract), and it also defines the institutional framework for PPPs in infrastructure—this includes defining the role of the Ministry of Finance and the PPP promotion Agency PROINVERSION).
PH. 2006. *The Philippine BOT Law R.A. 7718 and its Implementing Rules and Regulations*. Revised 2006. Manila: Public-Private Partnership Center.	The set of laws for PPPs in the Philippines, including implementing rules and regulations of the PPP process.
PR. 2009. *Act No. 29*. San Juan: Commonwealth of Puerto Rico.	Outlines the processes for assessing the desirability and convenience of the PPP project, tendering the project, designing the contract, and monitoring its implementation. It also establishes the PPP Authority, and assigns responsibilities to the Authority and other government agencies.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	The comprehensive PPP manual outlining the PPP procurement process for South Africa, including the approval process.
ES. 2011. "Real Decreto Legislativo 3/20111, de 14 de noviembre, por el que se aprueba el texto refundido de la Ley de Contratos del Sector Público." *Boletín Oficial del Estado*, 276 (1) 117729-117913. Madrid: Gobierno de España, Ministerio de la Presidencia.	Describes the different stages and studies that must be carried out when using a PPP as a procurement option. PPP that use private public-private legal framework will consider the principles of transparency, openness, and non-discrimination of public legal framework.
EPEC. 2011b. *The Guide to Guidance: How to Prepare, Procure, and Deliver PPP Projects*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	A guide and sourcebook for PPP policies and project implementation. Chapter 1 presents a short guide on project identification.
PPPIRC. Accessed March 9, 2017. "Public-Private Partnerships in Infrastructure Resource Center website." Website.	The section on legislation includes information and questions for assessing legal environments for PPPs, information on types of legislation, and example PPP legislation from over 30 countries.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	This guide for public sector practitioners describes how to develop and implement a PPP successfully, by developing a marketable project and attracting the right private partners. Chapter 4 describes guidelines for PPP project selection.
WB. 2009a. "Toolkit for Public-Private Partnerships in Roads and Highways." World Bank. Website.	An online product. Module 4 in the Laws and Contracts section of the online toolkit on Legislative Framework describes the various types of laws that comprise the framework for PPPs in roads.

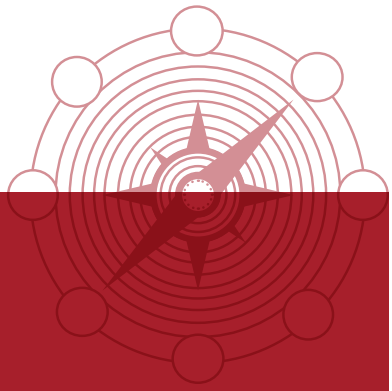
Reference	Description
EPEC. 2014d. *Role and Use of Advisers in Preparing and Implementing PPP Projects*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Highlights what practitioners should expect when working with external advisors and best practices for engagement.
UNCITRAL. 2004. *Model Legislative Provisions on Privately Financed Infrastructure Projects*. Vienna: United Nations Commission on International Trade Law.	This report by the UN offers legislative recommendations and model provisions for PPP legislation that are favorable to privately financed infrastructure projects.
Yong, H.K., ed. 2010. *Public-Private Partnerships Policy and Practice: A Reference Guide*. London: Commonwealth Secretariat.	This report provides a comprehensive review of PPP policies worldwide, including guidance to practitioners about key aspects of designing and implementing PPP policy and projects. Chapter 4.1 outlines key issues for a PPP legal framework, and principles for PPP legislation.
KR. 2011. *Basic Plan for Public Private Partnerships*. Seoul: Korea Development Institute, PIMAC.	Establishes the PPP process and institutional responsibilities of various parties involved in the PPP process.
US. 2009. *Public Policy Considerations in Public-Private Partnership*. Washington, DC: United States Government, Department of Transportation, Federal Highway Administration.	This report reviews how different states within the United States have responded to the issues most frequently raised 14 PPP issues. Both legislative and contract provisions are examined to identify how states vary in addressing the public policy concerns in PPP arrangements.
UK. 2015a. *Valuing Infrastructure Spend: Supplementary Guidance to The Green Book*. London: UK Government, HM Treasury.	Based on interviews across 10 departments in the United Kingdom, the report develops a benchmarking model which can be used to compare the management performance of PFI and PPP programs.
EPEC. 2012a. *France: PPP Units and related institutional framework*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	The report surveys the developments in PPP legislations and institutions in France. It describes the role of the central PPP unit (MAPPP) in relation with other PPP units in respective line ministries.
TZ. 2010. *Bill Supplement No. 0: The Public-Private Partnership Act, 2010*. Dar es Salaam: Government of Tanzania.	Tanzania's PPP law, which creates and outlines responsibility for a new PPP unit. The law also describes the requirements for PPP projects in the country and the responsibility of each actor and stakeholder.
CO. 2014. *Manual de Procesos y Procedimientos para la Ejecución de Proyectos de Asociación Público-Privada*. Bogotá: Gobierno de Colombia, Ministerio de Hacienda y Crédito Público.	Manual that provides, in detail, the PPP procurement process in Colombia.
Akitoby, Bernardin, Richard Hemming, and Gerd Schwartz. 2007. "Public investment and public-private partnerships." *Economic Issues* 40, Washington, DC: International Monetary Fund.	A short booklet describing the implications of PPPs for public investment, including how PPP commitments should be managed and controlled.
VIC. 2016. *Partnership Victoria Requirements*. Melbourne, Australia: State of Victoria, Department of Treasury and Finance.	These guidelines outline the objective, scope, and principles of the PPP program in the State of Victoria, Australia. The guidelines also include a revised PPP procurement process to adhere to changes in the national guidelines.
NEDA. 2005b. *ICC Project Evaluation Procedures and Guidelines*. Manila: National Economic and Development Authority.	The guidelines by which projects are evaluated by the Investment Coordination Committee (ICC) in the Philippines, including reporting requirements of the implementing agency.
CO. 2012c. *Decreto Ley 1467 de 2012*. Bogotá: Congreso de Colombia.	Sets out the institutional responsibilities and processes for PPPs in Colombia. It sets out the roles of the Ministry of Finance and the National Planning Department, the Committee on Economic and Social Policy (CONPES), and the Committee on Fiscal Policy (CONFIS).

Reference	Description
NAO. 2006. *A Framework for Evaluating the Implementation of Private Finance Initiative Projects: Volume 1*. London: National Audit Office.	The report describes the evaluation framework which considers the entire lifecycle of a project from the initial strategic analysis to the mature operational phase. The matrix covers six key business management themes across six stages in the lifecycle of the project.
WB. 2013b. "Implementing a Framework for Managing Fiscal Commitments from Public Private Partnerships." Operational Note. World Bank, Washington, DC.	Presents practical guidance on how to implement that framework.

Key References: PPP Units

Reference	Description
WB. 2007b. *Public-Private Partnership Units: Lessons for their Design and Use in Infrastructure*. Washington, DC: World Bank.	This report provides a comprehensive assessment of the effectiveness of PPP units in developed and developing countries. The report offers lessons of the context in which PPP units have been most effective.
Dutz, Mark, Clive Harris, Inderbir Dhingra, and Chris Shugart. 2006. "Public Private Partnership Units: What Are They, and What Do They Do?." Public Policy for the Private Sector Note No. 311. Washington, DC: World Bank.	A short note reviewing several country experiences with PPP units, and provides high-level recommendations to improve governance and their effectiveness.
Kim, Jay-Hyung, Jungwook Kim, Sunghwan Shin, and Seung-yeon Lee. 2011. *Public-Private Partnership Infrastructure Projects: Case Studies from the Republic of Korea. Volume 1, Institutional Arrangements and Performance*. Manila: Asian Development Bank.	This report reviews the PPP program in Korea, including case studies of BTO and BTL PPP projects.
WB. 2006a. *India: Building Capacities for Public-Private Partnerships*. Washington, DC: World Bank.	More details on case studies, including their applicability to India.
Farrugia, Christine, Tim Reynolds, and Ryan J. Orr. 2008. "Public-Private Partnership Agencies: A global perspective." Working Paper #39. Stanford, California: Collaboratory for Research on Global Projects at Stanford University.	A review of PPP units with a focus of experience of developed countries. The report includes case studies and reviews the key aspects of eight difference agencies.
OECD. 2010. *Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures*. Paris: Organisation for Economic Co-operation and Development.	Provides an overview of dedicated PPP units in OECD countries, including case studies of the experience of five jurisdictions (State of Victoria, Australia, Germany, Korea, the United Kingdom, and South Africa).
Burger, Philippe. 2006. "The Dedicated PPP Unit of the South African Treasury." Paper presented at the Symposium on Agencies and Public-Private Partnerships. Madrid, July 5-7.	This paper provides a review of the PPP program in South Africa and its dedicated PPP unit.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	The comprehensive PPP manual outlining the PPP procurement process for South Africa, including the approval process.
EPEC. 2012a. *France: PPP Units and related institutional framework*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	The report surveys the developments in PPP legislations and institutions in France. It describes the role of the central PPP unit (MAPPP) in relation with other PPP units in respective line ministries.
Istrate, Emilia, and Robert Puentes. 2011. "Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units." Project On State and Metropolitan Innovation. Washington, DC: Brookings-Rockefeller.	This report surveys international PPP units and U.S. domestic PPP units. It addresses whether a U.S. federal PPP unit is desirable.

Reference	Description
Farrugia, Christine, Tim Reynolds, and Ryan J. Orr. 2008. "Public-Private Partnership Agencies: A global perspective." Working Paper #39. Stanford, California: Collaboratory for Research on Global Projects at Stanford University	A review of PPP units with a focus of experience of developed countries. The report includes case studies and reviews the key aspects of eight difference agencies.
OECD. 2010. *Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures.* Paris: Organisation for Economic Co-operation and Development.	Provides an overview of dedicated PPP units in OECD countries, including case studies of the experience of five jurisdictions (State of Victoria, Australia, Germany, Korea, the United Kingdom, and South Africa).
Burger, Philippe. 2006. "The Dedicated PPP Unit of the South African Treasury." Paper presented at the Symposium on Agencies and Public-Private Partnerships. Madrid, July 5-7	This paper provides a review of the PPP program in South Africa and its dedicated PPP unit.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	The comprehensive PPP manual outlining the PPP procurement process for South Africa, including the approval process.
EPEC. 2012a. *France: PPP Units and related institutional framework*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	The report surveys the developments in PPP legislations and institutions in France. It describes the role of the central PPP unit (MAPPP) in relation with other PPP units in respective line ministries.
Istrate, Emilia, and Robert Puentes. 2011. "Moving Forward on Public Private Partnerships: U.S. and International Experience with PPP Units." Project On State and Metropolitan Innovation. Washington, DC: Brookings-Rockefeller.	This report surveys international PPP units and U.S. domestic PPP units. It addresses whether a U.S. federal PPP unit is desirable.



Did you know....?

Most bridges in Paris were built as PPPs

Historically, Paris' bridges were built as PPPs by entrepreneurs under 20 to 50-year concessions. The contracts allowed them to collect tolls, for example, from pedestrians and horse riders. Sometimes the contracts included building houses on the bridge, with on average 30 to 50 houses per bridge. An example for a bridge concession is Pont Marie, the still existing bridge linking Île Saint-Louis to the Right Bank. The concession contract was established in 1614, after the entrepreneur Jean-Christophe Marie submitted an unsolicited proposal in 1610 (he was the same person reconverting the island into a wealthy residential area). The concession authorized Marie to collect tolls for 20 years. King Louis XIII laid the inauguration stone in 1614, and the bridge opened for circulation in 1630.

Source: Xavier Bezançon, 2000 Ans d'Histoire du Partenariat Public-Privé (Paris: Presses de l'École Nationale des Ponts et Chaussées, 2004

2.4 Public Financial Management Frameworks for PPPs

Typically, PPP contracts have financial implications for governments. Payment commitments under PPP contracts are often long-term, and can be contingent on risk. *Box 2.8 - Types of Fiscal Commitments to PPPs* sets out the different categories of risk inherent to PPPs. Managing these risks can create challenges for public financial management, which is generally geared to annual appropriations for expenditure. For this reason, PPP-specific approaches to public financial management have been developed.

Section 1.2 - Infrastructure Challenges and How PPPs Can Help describes some of the problems that commonly arise when the fiscal implications of PPPs are not carefully thought through. Without specific rules to address and manage fiscal risk, PPPs can be used to bypass budget constraints or borrowing limits and create hidden deficits for the Government, as illustrated by **Kharas and Mishra's paper** (Kharas and Mishra 2001). Governments also often underestimate the cost of bearing risk under PPPs. This can result in significant levels of exposure to PPP-related risks that can jeopardize fiscal sustainability if not monitored and managed proactively.

This section provides guidance for practitioners on public financial management for PPPs, to help avoid these pitfalls. The following sections describe how governments can:

- Assess the fiscal implications of a proposed PPP project
- Control aggregate exposure to PPPs
- Budget for fiscal commitments to PPPs
- Reflect fiscal commitments to PPPs in government accounts and reports

2.4.1 Assessing Fiscal Implications of a PPP Project

Good practice consists of subjecting public investment projects to appraisal and approval processes to determine whether it is a good project. Close integration with the budget process is essential to elucidate whether and when the project is affordable. The finance ministry typically plays a central role in this endeavor. Because PPPs often involve neither capital investment nor other expenditure in the short term, they may slip through the standard control mechanisms designed for public investment financed by the public purse.

Government commitment is a key element of success of PPP programs, together with effective reforms to foster collaboration and coordination between various government institutions and overcome governance challenges.

The World Development Report 2017 (WB 2017c) describes the critical path to maximize the efficiency of policy reforms. The "policy effectiveness cycle" begins by defining the objective to be achieved; it then follows a series of six critical steps as follows: diagnosis; assessment; targeting; designing; implementation; and evaluation and adaptation. The process through which the various actors bargain about the design and implementation of policies within a specific institutional setting, must also be taken into account. The consistency and continuity of policies over time (commitment), the alignment of beliefs and preferences (coordination), and the voluntary compliance and absence of free-riding (cooperation) are key institutional functions that influence how effective policies will be.

The Ministry of Finance plays a critical role in all three functions. The assessment of fiscal implications of a PPP project/portfolio demonstrates the commitment of the government to the private sector and helps reduce uncertainty regarding project development. This in turn helps reduce the cost of private finance. It also helps attract the ablest and efficient PPP operators, instead of firms more interested in benefiting from uncertainty and contract changes by gaming government. The Ministry of Finance also coordinates and collaborates with sector ministries and other government agencies such as PPP units.

Having Ministry of Finance officials understand infrastructure risks and PPP fiscal risks is therefore critical for full government commitment. Most governments have established their central PPP units in the Ministry of Finance. Even those that have anchored it elsewhere, have felt the need to have a PPP team in the Ministry of Finance and therefore have fiscal management staff trained in PPP contracting. Those PPP teams help review PPP projects and assess PPP fiscal costs and risks, checking the fiscal sustainability of PPP programs, managing fiscal PPP risks, and reporting on PPP liabilities.

Commitment, collaboration, and coordination are also essential to formulate and implement policies on a broad set of issues including cross-sectoral issues, public finance management, and regulations concerning internal control and reporting mechanisms. Sustained efforts are also needed to develop a system to manage threats to the integrity of practitioners. Finally, because the electoral cycle is typically much shorter than the project cycle, politicians are most

Box 2.8 Types of Fiscal Commitments to PPPs

Fiscal commitments to PPPs can be regular payments constituting all or part of the remuneration of the private party, a means to share risk, or a combination of the two. Common types of government fiscal commitments to PPPs include the following:

Direct liabilities

Direct liabilities are payment commitments that are not dependent on the occurrence of an uncertain future event (although there may be some uncertainty regarding their value). Direct liabilities arising from PPP contracts can include:

- "Viability gap" payments—a capital subsidy, which may be phased over construction based on achievement of milestones, or against equity investments. Alternatively, subsidies can be used to lower tariffs for targeted end-users so that they become affordable to them.
- Availability payments—a regular payment or subsidy over the lifetime of the project, usually conditional on the availability of the service or asset at a contractually specified quality. The payment may be adjusted with bonuses or penalties related to performance.
- Shadow tolls, or output-based payments—a payment or subsidy per unit or user of a service—for example, per kilometer driven on a toll road.

Contingent liabilities

Contingent liabilities are payment commitments whose occurrence, timing, and magnitude depend on some uncertain future event. Explicit contingent liabilities under PPP contracts can include:

- Guarantees on particular risk variables—an agreement to compensate the private party for loss in revenue should a particular risk variable deviate from a contractually specified level. The associated risk is thereby shared between the government and the private party. For example, this could include guarantees on demand remaining above a specified level; or on exchange rates remaining within a certain range; or commitments to buy land needed for the project, or to pay compensation for relocation of people and activities.
- Compensation clauses—for example, a commitment to compensate the private party for damage or loss due to certain, specified, uninsurable *force majeure* events.
- Termination payment commitments—a commitment to pay an agreed amount, should the contract be terminated due to default by the public or private party—the amount may depend on the circumstances of default.
- Debt guarantees or other credit enhancements—a commitment to repay part or all of the debt used to finance a project. The guarantee could cover a specific risk or event. Guarantees are used to provide more security to a lender that their loan will be repaid.
- Litigation—potential litigation costs to government relating to PPP.

Every PPP contract also creates implicit contingent liabilities—moral obligations of governments reflecting public interest or political pressures. These include: cost of retendering or operating if operators go bankrupt; cost of expanding or redesigning service when PPP contract is overly rigid; and change in government policy.

Polackova and Schick's edited volume on Government Contingent Liabilities (Polackova 1998) defines direct and contingent liabilities, and describes the fiscal risks posed by contingent liabilities in general.

likely to inaugurate projects that were planned by the previous administration, and to select and plan those that will be inaugurated by the next administration. This requires a considerable degree of commitment and collaboration, particularly since politicians usually want to leave their mark.

Section 2.3 - PPP Processes and Institutional Responsibilities describes how governments often create an approval process for PPPs that mirrors that used for their large investment projects. Such processes generally provide a central role for the finance ministry. This section offers guidance on how the finance ministry can decide wheth-

Table 2.5 Options for Assessing the Affordability of Fiscal Commitments to PPPs

Option	References and Examples
Forecast budget limits—that is, make conservative assumptions for how overall budget limits will evolve, and consider whether the estimated annual payments for a PPP (under a reasonable range of scenarios) could be accommodated within those limits	An **OECD survey** described in (OECD 2008a, 42–43) found that: • In **Brazil,** project studies must include a fiscal analysis for the next ten years. • In the **UK,** procuring authorities must demonstrate the affordability of a PPP project based on agreed departmental spending figures for the years available, and on cautious assumptions of departmental spending envelopes thereafter. • In **France**, affordability of a PPP is demonstrated by reference to a ministerial program—a multi-year indicative budgeting exercise. • The **PPP Manual of South Africa** section on affordability (ZA 2004a, Module 2) also describes a similar approach.
Introduce budget rules—that is, the affordability of PPP commitments is considered in the annual budget process	For example: • In the **State of Victoria, Australia,** a department considering a PPP must first seek approval for the capital spending that would be required if the project received public funds—as required in the national PPP Guidelines (AU 2017) and described in Irwin's review of PPP contingent liability management (Irwin and Mokdad 2010, 10-11). • **Colombia's law on contingent liabilities** (CO 1998, Article 6) requires implementing agencies to make a cash transfer to a contingency fund when a PPP project is signed. The cash transfer is set equal to the expected cost of programs including any guarantees provided. The payments may be spaced out over several years. This means the decision to accept a contingent liability has an immediate budget impact that must be considered.

er to approve the fiscal commitments to a proposed PPP project. In doing so, a finance ministry typically considers two questions: will the project provide value for money; and is the project affordable.

Assessing whether a PPP will provide value for money

For most projects, assessing value for money means assessing whether the project is cost-benefit justified, and the least-cost way of achieving the benefits. When assessing a PPP, some additional analysis is needed—to check whether the PPP has been structured well, and will provide better value for money than alternative public procurement modes. *Section 3.2 - Appraising Potential PPP Projects* describes this analysis, and provides links to examples and guidance.

Assessing whether a PPP is affordable

The second question is even harder to answer: Is the PPP project affordable? There are two main challenges in answering this question for a PPP project.

First, it is not always clear how much the PPP will cost. Direct fiscal commitments are long-term, and may depend on variables such as demand (in the case of shadow tolls) or exchange rates (where payments are made in foreign currency). Moreover, many fiscal commitments to PPPs are contingent liabilities, whose occurrence, timing, and value all depend on some uncertain future events. *Section 3.2 - Appraising Potential PPP Projects* provides guidance and examples on how the cost of fiscal commitments to a proposed PPP can be calculated. Mostly this involves considering the modal or best estimate value, hopefully correcting for optimism bias, and scenarios for how that value might vary.

Second, because costs are long-term, and may be contingent, it is not easy to decide whether they are affordable. An **OECD publication on PPPs** (OECD 2012, 21) defines affordability to mean the "ability to be accommodated within the inter-temporal budget constraint of the government." For most government expenditures, affordability is assessed by considering the annual budget constraint, and in some cases the medium-term (typically three-year) expenditure/fiscal framework. *Table 2.5 - Options for Assessing the Affordability of Fiscal Commitments to PPPs* describes two alternatives for PPPs. The approach may be different for different types of fiscal commitments. Limits on the total stock of fiscal commitments to PPPs may also affect decision-making for particular projects.

The complexity of financial arrangements that are often entered into in a PPP project, especially in infrastructure investments, war-

rants that the government is able to identify up-front what its liabilities are over the life of the project. These could be explicit or implicit direct or indirect. Constructing a *Fiscal Risk Matrix* (for liabilities) and a *Fiscal Hedge Matrix* (for the asset side) to catalogue the potential sources of fiscal risks to the government, and factors that influence their size, is an important analytical exercise to be undertaken prior to signing a PPP agreement. These two matrices are displayed in *Table 2.6 - Fiscal Risk Matrix: For Liabilities* and *Table 2.7 - Fiscal Hedge Matrix: Assets and Contingent Financing*. This function is typically carried out in the Ministry of Finance and must be divorced from the sector ministry or entity promoting and negotiating the project.

2.4.2 Controlling Aggregate Exposure to PPPs

As well as considering fiscal exposure project-by-project, some governments introduce targets or rules limiting aggregate exposure. A challenge is defining which types of fiscal commitments should be included—for example, does the rule apply to direct liabilities only, or are contingent liabilities included?

The introduction of specific limits on PPP exposure is described in **Irwin's article on controlling spending commitments in PPPs** (Irwin 2007, p.114–115). For example:

- **Peru's Legislative Decree No. 410-2015-EF** (PE 2015) states that the present value of the total fiscal commitments to PPPs, excluding governmental finance entities, shall not exceed 12 percent of GDP. However, every three years, the President may, with the endorsement of the Ministry of the Economy and Finance, issue a decree to revise this limit, depending on the infrastructure needs of the country.
- In **Hungary**, Act 38 of 1992 (Article 12) limited the total nominal value of multi-year commitments in PPPs to three percent of government revenue, as quoted in Irwin's paper (Irwin 2007).
- **Brazil's** Federal PPP Law (BR 2004a, Law 11079) initially limited total financial commitments pertaining to all PPP contracts to a maximum of one percent of annual net current revenue—in 2009 Law 12024 raised this limit to three percent, and in 2012 Law 12766 raised it again to five percent.

Irwin describes how creating PPP-specific limits—distinct from other limits on public expenditure—can create incentives for agencies to choose traditional public procurement over PPPs even when PPPs would provide better value for money (or vice versa). Nonetheless, given the difficulties in deciding whether a particular PPP commitment is affordable, limits on aggregate exposure can be a helpful way to ensure the government's total exposure to PPP costs and risk remains within manageable limits (Irwin 2007).

Monitoring and managing the fiscal impacts and risks associated with PPP projects undertaken by quasi-fiscal entities at the subnational levels is important as well. This is more so in countries where the subnational governments have undertaken, or have plans to undertake large PPP portfolios of infrastructure projects—see **Gooptu and Kahkonen lessons of international experience on subnational debt management** (Kahkonen and Gooptu 2015).

An alternative is to incorporate limits on PPP commitments within other fiscal targets. For example, some governments introduce targets or limits on public debt or government liabilities. Some types of PPP commitment may be included within measurements of government liabilities, following international norms or national rules. However, this usually only applies in limited cases and is restricted to the national level as highlighted by **Liu and Pradelli**. Their paper (Liu and Pradelli 2012) proposes a more rigorous monitoring framework of fiscal risks imposed by PPP liabilities by using a minimum set of five sub-national debt indicators which also considers the SPV's debt. **Irwin** also describes an alternative of establishing a limit on debt plus PPP commitments (Irwin 2007).

2.4.3 Budgeting for Government Commitments to PPPs

Budgeting for PPPs involves making sure money is appropriated and available to pay for whatever cost the government has agreed to bear under its PPP projects. Because such cost may be contingent or occur in the future, PPP budgeting can be hard to manage in traditional annual budget cycles. Nevertheless, credible and practical budgeting approaches are needed for good public financial management, and to assure private partners that they will be paid. This section describes how some countries have introduced systems specifically to enable better budgeting for PPP payments, both direct and contingent.

Budgeting for Direct Commitments to PPPs

Direct commitments to PPP may include ongoing payments such as availability payments and shadow tolls, as well as capital subsidies during project construction.

Table 2.6 Fiscal Risk Matrix: Liabilities

	Direct	Contingent
Explicit (legal obligation, no choice)	Foreign and domestic sovereign debt Budget expenditures—both in the current fiscal year and those legally binding over the long term (civil servant salaries and pensions)	Guarantees for borrowing and obligations of sub-national governments and SOEs Guarantees for trade and exchange rate risks Guarantees for private investments (PPPs) State insurance schemes (deposit insurance, private pension funds, crop insurance, flood insurance, war-risk insurance) Unexpected compensation in legal cases related to disparate claims
Implicit (expectations – political decision)	Future public pensions if not required by law Social security schemes if not required by law Future health care financing if not required by law Future recurrent cost of public investments	Defaults of subnational governments and SOEs on nonguaranteed debt and other obligations Liability clean-up in entities being privatized Bank failures (support beyond state insurance) Failures of nonguaranteed pension funds, or other social security funds Environmental recovery, natural disaster relief

Source: (Polackova 1998)

Table 2.7 Fiscal Hedge Matrix: Assets and Contingent Financing

	Direct (based on the stock of existing assets)	Contingent (dependent on future events, such as value generated in the future)
Explicit (based on government legal powers such as ownership, right to raise taxes and other revenues)	Asset recovery (workouts, sales of non-performing loans, state equity sales, etc.) Proceeds from privatization of state-owned enterprises (SOEs) and other public resources Recovery of government loan assets (e.g. resulting from earlier direct government lending)	Government revenues from natural resource extraction and sales Government customs revenues Tax Revenues less: • Tax Expenditures • Revenues from forward sales (e.g. commodity forward sales) • Hedging instruments and re-insurance purchased by government
Implicit (based on Government indirect control)	Stabilization and contingency funds (Note: These liabilities refer to fiscal authorities, not the central bank) Positive net worth of Central Bank	Profits of state-owned enterprises Contingent credit lines and financing commitments from IFIs Current account surpluses across currencies

When governments provide capital subsidies to PPPs, the payments required are similar to those for traditionally-procured government projects. Because these payments are typically made within the first few years of a project, they can be relatively easily built into annual budgets and medium-term expenditure frameworks. Nonetheless, some governments have introduced particular funds, called Viability Gap Funds, from which such payments will be made. One example of such a fund is in India, as described in *Box 2.9 - The Viability Gap Fund Program in India*.

Budgeting for **long-term direct commitments**, such as availability payments, is more challenging. The mismatch between the annual budget appropriation cycle and the multi-year payment commitments exposes the private party to the risk that payments may not be appropriated when due. This problem is not unique to PPPs—many other types of contractual payment commitments extend beyond the budget year. In many jurisdictions, governments do not introduce any particular budgeting approach for direct, long-term PPP commitments on the assumption that a responsible legislature

Box 2.9 The Viability Gap Fund Program in India

In July 2005, the Cabinet Committee on Economic Affairs established India's Viability Gap Fund (VGF) program through its approval of the *Scheme for Financial Support to Public Private Partnerships in Infrastructure.* During its first eleven years, 58 projects with a total project cost of approximately $4.9 billion and VGF allocation of $872 million received final approval thanks to the scheme.

The primary objective of India's VGF program is to attract private investment in infrastructure by making PPP projects financially viable, with three underlying objectives:

- Mobilizing additional finance to meet India's infrastructure needs more rapidly
- Prioritizing PPP projects to improve the efficiency of service delivery, control timing and cost, and attract private sector expertise
- Developing projects through an inclusive approach that does not neglect geographically or economically disadvantaged regions

Knowing that the funding is available encourages firms to bid on India's PPP projects. The resulting competition has meant that many projects that the government thought might need a subsidy have, in fact, been fully privately financed, without a VFG contribution being called on or in some cases with *negative grants*, or upfront payments by the private sector.

The scheme is funded by the Government through budgetary resources. Budget provisions are made on an annual basis based on the likely demand for disbursements during the year. In the first year, a budgetary provision of $40 million was made. The scheme also provides for a revolving fund under the authority of the Empowered Committee to ensure liquidity of the VGF facility. The fund is replenished as needed.

In any given year, the value of projects approved is capped by a ceiling equivalent to ten times the budget provisions for VGF—to ensure continuing liquidity and prevent bunching of disbursement requests as far as possible. This cap can be modified at the discretion of the Ministry of Finance. In practice, the cap has not been binding.

Sources: (IN 2013a); (IN 2017)

will always approve appropriations to meet the government's legally binding payment commitments.

Where appropriations risk is high—typically in systems with a strict separation of powers between the legislature and executive—mechanisms to reduce this risk may be warranted. In **Brazil,** at the federal level, Law No.101 of 2000 (BR 2005) requires subsidy payments to PPPs to be treated in the same way as debt service payments—that is, they are automatically appropriated. This means that once the subsidy is approved, the appropriations needed are not subject to further legislative approval. 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.

For more on budgeting for direct commitments to PPPs, see the **World Bank report on fiscal subsidies for PPPs** (WB 2012a). The study presents the appropriations mechanisms for Brazil at the Federal and State levels (see pages 15–16), Colombia (page 31), Mexico (page 46), and India (page 59).

The long-term nature of most governments' commitments to pay, under PPP contracts, suggest the need for incorporating them in the Medium-Term Fiscal Framework (MTFF). More countries have legislation requiring periodic analysis of a MTFF, such as Brazil, China, Colombia, India, Peru, and Poland—good practice consists of including PPPs in the MTFF.

Governments with prudent fiscal governance have felt the need to establish and continuously update a centralized register for all PPP commitments in the Ministry of Finance. This is good practice. All PPP commitments should be centrally recorded and monitored. This is relevant for unitary countries, but also for federal republics that have a history of subnational fiscal discipline issues. Monitoring currency exposures may be also relevant—PPP commitments may have foreign exchange implications.

Availability payments depend on effective availability of infrastructure. Although contingent upon availability, these payments should be considered as direct liabilities as their probability of occurring is almost certain in a well-designed PPP. Governments may commit

to pay according to the volume of production or the amount and quality of services delivered, for instance healthcare services in a PPP hospital or electricity generated at a PPP power plant. Since these costs are variable, governments must budget for expected levels of delivery.

Budgeting for PPP Contingent Liabilities

Budgeting for contingent liabilities can be particularly challenging, because payments may become due unexpectedly. If savings cannot be found within the existing appropriations, government may need to go back to the legislature to request a supplementary appropriation—often a difficult and contentious affair.

To overcome these difficulties, some governments introduce particular mechanisms for budgeting for contingent liabilities under PPP projects. As described in **Cebotari's paper on managing contingent liabilities** (Cebotari 2008, 26–28), the first option is to create additional budget flexibility. This can include creating a contingency line in the budget from which unexpected payments can be made. A contingency line could be specific to a particular liability—for example, to one considered relatively riskier—or cover a range of contingent liabilities. In **Chile,** the Ministry of Finance assesses the cost of guarantees (e.g. demand guarantees) provided to PPP operators and creates a budget line for those guarantees. Cebotari also notes that some countries allow spending in excess of the budget without need for additional approval in certain, defined circumstances.

A second option, also described in detail by **Cebotari** (Cebotari 2008, 27–29), is to create a contingent liability fund. A contingent liability fund (or guarantee fund) is an account (which may be within or external to the government's accounts) to which transfers are made in advance, and from which payments for realized contingent liabilities will be made when due.

The following are examples of contingent liability funds for PPPs:

- **Colombia**—has developed a set of procedures for managing contingent liabilities arising from guarantees offered to toll road concessionaires. This includes assessing the fiscal impact of guarantees before these are granted and setting aside funds to cover the expected payments from the guarantees (WB 2012a, 32–33). A Government Entities Contingent Liabilities Fund, established in 1998, is managed by La Previsora, a Trust Company. The fund is funded by contributions by various government entities, contributions from the national Budget, and the returns generated with its resources. The government entities carry out the contingent liabilities valuation which is then approved by the Public Credit Division of the Ministry of Finance. Once the PPP is approved and implemented, the division carries out ongoing assessments of the value of the associated contingent liabilities (CO 1998, Articles 3–8).
- **São Paulo, Brazil**—in the State of São Paulo, the São Paulo Partnerships Corporation (Companhia Paulista de Parcerias—CPP) was established in 2004 using resources from the sale of the government's stake in State-Owned Enterprises (SP 2004a, Articles 12–23). Section 5 of State Governor's Decree (SP 2004b, Articles 11–12) describes the duties of CPP. The CPP manages its resources as a fiduciary fund that provides guarantees to PPP projects (SP 2004b, Article 15). The CPP is governed by a directorate made up of up to three members selected by the governor of the state, a management council made up of up to five members selected by the state governor, and a fiscal council. The CPP is an independent legal entity. The government of the state can add capital to the fund using funds from the sale of shares in state-owned companies or government-owned buildings, public debt titles, other goods or rights that are directly or indirectly owned by the government. The World Bank review of Subsidy Funds for PPPs in LAC (WB 2012a, 16) provides more background about the CPP.
- **Indonesia**—the Indonesia Infrastructure Guarantee Fund, or IIGF, is a state-owned enterprise established by government regulation and a 2009 Ministry of Finance decree. As one of the fiscal tools of the government, IIGF is under direct supervision of the Ministry of Finance and has mandate to provide guarantees for infrastructure projects under of PPP schemes. IIGF is part of the government's efforts to accelerate infrastructure development in Indonesia, by providing contingency support/guarantee for the risks caused by the government's action or inaction. The Fund operates as a single window for appraising, structuring, and providing guarantees for PPP infrastructure projects. The single window ensures a consistent policy for appraising guarantees and a single process for claims. It introduces transparency and consistency in the process which is critical for market confidence. IIGF provides guarantees against specific risks based on private sector demand in a variety of sectors—including power, water, toll roads, railways, bridges, ports, and others (IIGF).
- **South Korea**—The Infrastructure Credit Guarantee Fund (ICGF) was established in 1994. It is being managed by a pub-

lic financial institution. ICGF guarantees each project up to 300 billion won, for an annual guarantee fee capped at 1.5 percent of the total guarantee amount (KR 2011). Typically, the annual guarantee fees range between 0.3 and 1.3 percent. The guarantee operates as a subrogation—that is, ICGF pays back loans taken by the project company to financial institutions if it defaults on its debt obligations. If funds become insufficient, the government can provide additional contributions (Kim et al. 2011).

As well as providing a clear budgeting mechanism and thereby improving credibility, creating a fund can also help control the government's fiscal commitments to PPPs—depending on how the fund is designed. For example, Colombia's approach encourages discipline when deciding what liabilities to accept, as described in *Section 2.4.1 - Assessing Fiscal Implications of a PPP Project*. Requiring a cash transfer from the implementing agency's budget when a contingent liability is incurred means the decision to accept a contingent liability has an immediate budget impact that must be considered. In Indonesia, the government policy requires IIGF to accept contingent liabilities based on a careful assessment of the risk by the fund's management. **The EPEC note on State Guarantees in PPPs** (EPEC 2011a, Section 2) provides further detail on the different types of guarantees that governments may offer to PPP projects.

2.4.4 Fiscal Accounting and Reporting for PPPs

Governments need to account for and report on their financial commitments, including those under PPP contracts—an additional reason for the Ministry of Finance to keep a centralized register of financial commitments under PPP contracts, both direct and contingent. When reporting is done well, it encourages the government to scrutinize its own fiscal position. Making financial reports publicly available enables other interested parties—such as lenders, rating agencies, and the public—to reach an informed opinion on the government's public financial management performance.

Box 2.10 - Types of Government Financial Reporting briefly describes the three types of government financial accounting and reporting—government financial statistics, government financial statements, and budget documentation and reporting—and the internationally relevant—recognized standards and guidelines that apply in each case. In general, these standards set rules or guidelines for whether and how different kinds of liabilities and expenditures should be recognized—that is, formally recorded in the financial statements and statistics, or disclosed—and reported in notes or narratives. This section briefly describes how these standards apply to PPPs, with some examples of how different countries have interpreted them in practice.

The **2016 Eurostat Guide to the Statistical Treatment of PPPs** (EPEC 2016) explains how government-pays PPP contract provisions are relevant to the **Eurostat statistical classification of PPPs** (see *Box 2.10 - Types of Government Financial Reporting*). The definition, for statistical purposes, of *general government sector* may differ from the one used for financial management of government affairs. Eurostat, a statistical office, uses the *risks and rewards* criterion for classification purposes, while the international standard for public accounts, IPSAS, uses the control criterion, as described in *Section 2.4.4 - Fiscal Accounting and Reporting for PPPs*.

Recognizing PPP Liabilities in Government Accounts

Governments need to decide whether and when PPP commitments should be recognized—that is, formally recorded in financial statements as creating public assets, liabilities or expenses. This is important because limits or targets are often set on the government's liabilities and expenditures. Whether or not PPP commitments are recognized as expenses or liabilities can therefore influence a government's decision to pursue PPPs, or how to structure them, in a way that is not driven by the fundamental objective of achieving value for money. *Section 1.2.1 - Insufficient Funds* describes how some governments have used PPPs to circumvent limits on liabilities. The **2016 Eurostat Guide to the Statistical Treatment of PPPs** (EPEC 2016) notes that an excessive focus on off government balance sheet recording can be at the expense of sound project preparation and value for money and may push public authorities to use PPPs where not appropriate.

The financial standards mentioned in *Box 2.10 - Types of Government Financial Reporting* vary in their treatment of PPP fiscal commitments. A few standards specifically address when and how direct liabilities and assets of PPP projects should be recognized by the contracting governments:

- **International Public Sector Accounting Standards**—introduced in 2011, IPSAS-32 defines when PPP assets and liabilities should be recognized, assuming a government is following IPSAS accrual accounting standards, that is it records revenues and expenses when they are incurred, regardless of when cash is

Box 2.10 Types of Government Financial Reporting

Most governments capture and report financial information in three related frameworks:

- Government finance statistics—these are summary statistics on the state of a government's finances, which are intended to be internationally comparable. These statistics may follow regional or international standards, such as those set by Eurostat for European Union countries, or the IMF's Government Finance Statistics Manual (GFSM) (IMF 2014b) published in 2001 but with regular updates since that date.
- Government financial statements—most governments also publish audited financial statements. There are internationally-recognized standards on what should be in those financial statements, although in practice few governments meet those standards. The International Public Sector Accounting Standards (IFAC) is a modified version of the International Financial Reporting Standards (IFRS). IPSAS is designed for use in the public sector, while IFRS applies to companies. Some governments adopt local accounting standards that are a simplified version of the IPSAS standards.

Budget documentation and reporting—most governments prepare reports on financial performance as part of budget preparation and reporting. These are not subject to any international standards, although there are international guidance materials that promote transparency—for example, the IMF's Update on the Fiscal Transparency Initiative (IMF 2014a) and the OECD's Recommendation of the Council on Budgetary Governance (OECD 2015a).

exchanged. Under IPSAS-32, PPP assets and liabilities appear on the government's balance sheet, provided the government controls or regulates the services the operator must provide with the PPP asset, to whom, and at what price; and the government controls any significant residual interest in the asset at the end of the contract. Under this definition, government-pays PPPs would appear on the government's balance sheet; the treatment of user-pays PPPs depends on the details of the contract (IFAC 2011). Additional IFAC guidance on IPSAS-32 is provided in (IFAC 2016). IPSAS-32 assumes full accrual accounting (for example, such that the government prepares a full balance sheet capturing both assets and liabilities)—PFRAM (IMF and WB 2016) adapts IPSAS-32 to cash accounting, allowing for users to see how a PPP is reflected in both accrual and cash accounting. Also relevant in the standard on contingent liabilities, IPSAS-19 (IFAC 2002).

- **The IMF's Government Finance Statistics Manual** (IMF 2014b) sets out criteria for classifying PPP assets and liabilities for statistical reporting purposes. Under these criteria, PPP assets and liabilities are accounted for in the government's balance sheet if the government bears most of the project's risks and rewards—for example, taking into consideration the degree to which the government controls the design, quality, size, and maintenance of the asset, and bears construction risk; as well as the allocation of demand risk, residual value and obsolescence risk, and availability risk.
- **Eurostat guidelines**—Eurostat requires European governments to recognize PPP liabilities in debt statistics where the government retains construction risk or demand or availability risk. **Rougemont's article on Accounting for PPPs** (Schwartz et al. 2008, 256–268) provides more detail, and the **European Manual on Government Deficit and Debt** (Eurostat 2016) and the **European System of Accounts ESA2010** (Eurostat 2010) define the rules. Since PPPs transfer those risks to the private party, under this rule most PPPs tend to remain off the government's balance sheet—realizing that an excessive focus on off government balance sheet recording can be at the expense of sound project preparation and value for money and may push public authorities to use PPPs where not appropriate, Eurostat prepared with EPEC the **2016 Eurostat Guide to the Statistical Treatment of PPPs** (EPEC 2016).

Most accounting and reporting standards do not require governments to recognize contingent liabilities, including those arising from accepting risk under PPP contracts. **Cebotari's report on contingent liabilities** (Cebotari 2008, Annex I) describes one limited exception: IPSAS standards for governments implementing accrual accounting (IFAC 2002) require contingent liabilities to

be recognized, only if it is more likely than not that the underlying event will occur, and the amount of the obligation can be measured with sufficient reliability. In this case, the net present value of the expected cost of the contingent liability should be recognized as a liability when the contract is signed.

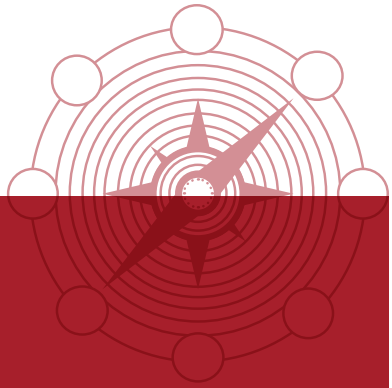
Disclosing PPP Liabilities

Most international reporting and statistical standards agree that even when PPP commitments are not recognized as liabilities, they should be disclosed in notes to the accounts and reports. For example, an **IMF booklet on Public Investment and PPPs** (Schwartz et al. 2008, 14–17) describes what information should be disclosed for PPPs in general, and specific disclosure requirements for guarantees. A **World Bank report on Disclosure of Project and Contract Information in PPPs** (WB 2013c) reviews practices in several jurisdictions and present best practices in the field.

Disclosing contingent liabilities can be challenging since it can be difficult to estimate their value. *Section 3.2 - Appraising Potential PPP Projects* provides guidance on how the value of contingent liabilities can be estimated. **Cebotari's paper on Government Contingent Liabilities** (Cebotari 2008, 32–41) describes international guidelines for how contingent liability exposure should be disclosed—including those under PPP programs—and provides examples from several countries.

Cebotari's paper also describes how some countries have interpreted these standards in practice. For example, New Zealand and Australia disclose contingent liabilities—including to PPPs—in notes to financial statements, available online. Since 2007, **Chile's Budget Directorate of the Ministry of Finance** has published an **annual contingent liabilities report** (CL 2016), which initially presented information on contingent liabilities from revenue and exchange rate guarantees to PPPs. This report has since been expanded to cover other types of government contingent liability.

IMF's Fiscal Transparency Code (IMF 2014c) is the international standard for disclosure of information about public finances—it comprises a set of principles built around four pillars: fiscal reporting, fiscal forecasting and budgeting, fiscal risk analysis and management, and resource revenue management. Fiscal transparency evaluations (FTE) now include PPPs as a main object. FTE reports from all continents—e.g. Peru (IMF 2015b), Kenya (IMF 2016), Portugal (IMF 2014d), and the Philippines (IMF 2015c)—demonstrate the relevance of fiscal transparency on PPPs.



Did you know....?

Italy implemented a modern irrigation PPP in 1870

The Villoresi irrigation canal was designed, financed, and built entirely with private capital between 1877 and 1890. The King of Italy granted a 90-year concession only 15 days after receiving the investment proposal from the original investors. Whereas the Villoresi family provided seed capital, capital for the main infrastructure was raised on the financial markets. The water was sold to farmers for irrigation. The original structure of the concession contract included the option for the water off-takers to buy out the concession. This option was called in 1918 when the farmers formed a consortium of water users and took over the concession and the infrastructure. Operated for many years by private investors, the Villoresi irrigation canal is now successfully owned and operated by a consortium of public entities.

Source: Handshake Issue #1. IFC, March 2011, page 45.

Key References: Public Financial Management for PPPs

Reference	Description
Polackova, Hana. 1998. "Contingent Government Liabilities: A Hidden Risk for Fiscal Stability." Policy Research Working Paper 1989. Washington, DC: World Bank.	Provides the conceptual structure used by many subsequent articles to describe different types of government liabilities—distinguishing between contingent and direct liabilities, and explicit and implicit liabilities.
Schwartz, Gerd, Ana Corbacho, and Katja Funke, eds. 2008. *Public Investment and Public-Private Partnerships: Addressing infrastructure challenges and managing fiscal risks*. Washington, DC: International Monetary Fund.	A collection of papers on managing the fiscal impact of PPPs, drawing form an IMF conference held in Budapest in 2007. Part Two: "Fiscal Risks from PPPs," and Part Four: "PPP Accounting, Reporting, and Auditing" are particularly relevant to public financial management for PPPs.
OECD. 2008a. *Public-Private Partnerships: In Pursuit of Risk Sharing and Value for Money*. Paris: Organisation for Economic Co-operation and Development.	Identifies best practices for maximizing value-for-money for PPP projects, including accounting for fiscal impacts and affordability. The book also covers issues with regulatory reform, governance, and developing institutional capacity.
IMF. 2007. *Manual on Fiscal Transparency*. Washington, DC: International Monetary Fund.	Manual for public sector disclosure of fiscal reporting. The manual provides a framework for responsibilities for transparency, the transparency of the budget process, and openness and integrity of information. The 2014 Fiscal Transparency Code elaborates on this further (IMF 2014c).
Irwin, Timothy C., and Tanya Mokdad. 2010. *Managing Contingent Liabilities in Public-Private Partnerships: Practice in Australia, Chile, and South Africa*. Washington, DC: World Bank.	Describes the approach in the State of Victoria, Australia, Chile, and South Africa, to approvals analysis, and reporting of contingent liabilities (and other fiscal obligations) under PPP projects, and draws lessons for other countries.
Irwin, Timothy C. 2007. *Government Guarantees: Allocating and Valuing Risk in Privately Financed Infrastructure Projects*. Directions in Development. Washington, DC: World Bank.	Covers topics relating to fiscal impacts of PPP projects and provides frameworks to guide policymakers. Offers lessons learned in managing liabilities, direct or contingent, and case studies.
Liu, Lili, and Juan Pradelli. 2012. "Financing Infrastructure and Monitoring Fiscal Risks at the Subnational Level." Policy Research Working Paper 6069. Washington, DC: World Bank.	Proposes a more rigorous monitoring framework of fiscal risks imposed by PPP debt by using a minimum set of five subnational debt indicators which also considers the SPV's debt.
Posner, Paul L., Shin Kue Ryu, and Ann Tkachenko. 2009. "Public-Private Partnerships: The relevance of budgeting." *OECD Journal on Budgeting* 2009 (1).	Examines the budgetary treatment and issues raised by PPPs. Reviews the unique budgetary and accounting issues posed by privately financed capital services.
WB. 2012a. *Best Practices in Public-Private Partnerships Financing in Latin America: The Role of Subsidy Mechanisms*. Washington, DC: World Bank.	Provides a framework for why subsidies are sometimes needed for PPPs. The report includes case studies of PPP subsidy programs in Brazil, Colombia, Mexico, and India.
Cebotari, Aliona. 2008. "Contingent Liabilities: Issues and Practice." IMF Working Paper WP/08/245. Washington, DC: International Monetary Fund.	A seminal paper on managing contingent liabilities, including to PPP projects. Includes case studies to illustrate management challenges and practices from different countries and issues. Case studies also highlight best practices.
Kim, Jay-Hyung, Jungwook Kim, Sunghwan Shin, and Seung-yeon Lee. 2011. *Public-Private Partnership Infrastructure Projects: Case Studies from the Republic of Korea. Volume 1, Institutional Arrangements and Performance*. Manila: Asian Development Bank.	Reviews the PPP program in Korea, including case studies of BTO and BTL PPP projects.
IMF. 2014b. *Government Finance Statistics Manual 2014*. Washington, DC: International Monetary Fund.	IMF guidelines on how to report government fiscal statistics.
OECD. 2015a. *Recommendation of the Council for Budgetary Governance*. Paris: Organisation for Economic Co-operation and Development.	A tool designed to help countrie increase transparency in their budget process, based on best practices.

Reference	Description
Akitoby, Bernardin, Richard Hemming, and Gerd Schwartz. 2007. "Public investment and public-private partnerships." *Economic Issues* 40, Washington, DC: International Monetary Fund.	A short booklet describing the implications of PPPs for public investment, including how PPP commitments should be managed and controlled.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	Module 4, Part 6: "Demonstrate Affordability" describes the methodology and requirements to demonstrate affordability of a PPP project.
VIC. 2016. *Partnership Victoria Requirements*. Melbourne, Australia: State of Victoria, Department of Treasury and Finance.	These PPP guidelines set out the objectives, principles, and processes for the PPP program in the State of Victoria. The guidelines highlight the need for a comprehensive test of affordability for the project before project is considered.
CO. 1998. *Ley 448 de 1998*. Bogotá: Congreso de Colombia.	Establishes the Contingent Liabilities Fund, defines where the resources will come from, states how its operative costs will be covered, and describes how it will monitor the contingent liabilities throughout the duration of the project.
PE. 2014. *Ley No. 30167: Ley que Modifica el Decreto Legislativo 1012*. Lima: Presidente de la Republica del Peru.	Sets out the entire PPP process (from appraisal to tendering and the implementing the contract), and it also defines the institutional framework for PPPs in infrastructure—this includes defining the role of the Ministry of Finance and the PPP promotion Agency Proinversion).
BR. 2004. *Lei No. 11.079 de 30 de dezembro de 2004*. Brasília: Presidência da República, Casa Civil.	Sets out the tendering process and assigns roles for the Ministry of Finance, the Ministry of Planning, and establishes the Federal PPP Management Council. The law also sets the limits of the government´s financial commitments.
SP. 2004a. *Lei No. 11.688 de 19 de maio de 2004*. São Paulo: Governo do Estado de São Paulo.	Establishes how the CPP is funded, its composition, organizational structure, and its role.
SP. 2004b. *Decreto No. 48.867 de 10 de agosto de 2004*. São Paulo: Governo do Estado de São Paulo.	Defines in detail the specific duties of the CPP, including the management of the CPP fund.
KR. 2011. *Basic Plan for Public Private Partnerships*. Seoul: Korea Development Institute, PIMAC.	Sets the PPP policy, identifies the areas of PPP project development, and specifies the legal framework governing the PPP procurement process.
IFAC. 2011. "IPSAS 32 - Service Concession Arrangements: Grantor." Including amendments issued up to January 15, 2013. New York: International Federation of Accountants.	Sets out the accounting requirements for the government party to a PPP contract. Specifies when and how PPP assets and liabilities should be recognized as assets and liabilities of the government.
IFAC. Accessed March 7, 2017. "International Federation of Accountants website." Website.	Provides an overview of the IPSAS Standard 32 described above.
CL 2016. *Informe de Pasivos Contingentes 2016*. Santiago: Gobierno de Chile, Ministerio de Hacienda, Dirección de Presupuestos.	Describes the conceptual framework for assessing contingent liabilities and the government's contingent liability exposure in the given year. This includes quantitative information (maximum value and expected cost) on government guarantees to PPPs.
EPEC. 2010. *Eurostat Treatment of Public-Private Partnerships: Purposes, Methodology and Recent Trends*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Clarifies the process for determining the impact of PPPs on government debt and deficit, for EU countries.
IMF and WB. 2016. *PPP Fiscal Risk Assessment Model (PFRAM)*. Washington, DC: International Monetary Fund and World Bank.	Evaluates the fiscal impact of PPPs and allows users to identify and assess their fiscal risks, and corresponding mitigation strategy.

2.5 Broader PPP Program Governance

The executive branch of government is largely responsible for implementing PPP projects. The processes and institutional responsibilities described in *Section 2.3 - PPP Processes and Institutional Responsibilities* aim to create checks and balances within the executive branch on how those decisions are made. This section describes the broader governance of the PPP program—how other entities and the general public participate in the PPP process, and hold the executive accountable for its decisions and actions.

A cornerstone of these accountability mechanisms is the timely and comprehensive **disclosure of information about PPP programs**. The entities and groups outside the executive with a role to play in ensuring good governance of the PPP program include:

- **The public**—the public can directly participate in PPP project design through consultation processes (discussed in *Section 2.5.1 - Stakeholder Communication and Engagement*), and in providing feedback on service quality. Contract disclosure and transparency of the PPP process as a whole, as discussed in *Section 2.5.2 - Disclosure of PPP Project and Program Information*, can help ensure improve project design and service performance.
- **Supreme auditing institutions**—many jurisdictions have independent audit entities, which can play a role in ensuring good governance of PPP programs. Their usefulness is more effective when they are truly independent. They may consider PPP commitments as part of their regular audit responsibilities as detailed in *Section 2.5.3 - Role of Supreme Auditing Institutions*—for example in auditing government financial statements. They may also review PPP project performance or investigate particular points of concern, or review the value for money of the program as a whole. These reviews, in turn, enable the legislature and the public to check on PPP program performance.
- **The legislature**—the legislative branch of government often defines the PPP framework, bypassing PPP legislation. In some cases, the legislature may be directly involved in the PPP process, approving PPP projects. More commonly, it exercises ex-post oversight by scrutinizing reports on the government's PPP commitments. The role of legislative bodies is outlined in *Section 2.5.4 - Role of Legislative Bodies*.
- **Independent regulators**—used in several countries to transfer regulatory responsibilities to entities protected from political interference as described in *Section 2.5.5 - Role of Independent Regulators*.

Creating mechanisms through which the legislature, audit bodies, and the public can engage in the PPP process strengthens accountability and helps make the PPP program more participatory, transparent, and legitimate. An example of a well-established positive feedback mechanism which involves all three oversight bodies can be seen in the United Kingdom—PPP audit reports are often used in legislative hearings where all their written recordings are available to the public on the National Audit Office's website (NAO).

2.5.1 Stakeholder Communication and Engagement

Stakeholder engagement is an inexpensive and efficient way of creating a better operational environment for a project. The consultation process reduces risks and increases its chance of success. Most large infrastructure projects will have a wide range of stakeholders, including those that support the project, and those that oppose it. Stakeholder engagement plays two important roles throughout the project cycle:

- The information gained by consulting stakeholders confirms or reassesses whether a project will deliver value to society—consultation often improves the initial project concept.
- Governments can mitigate risk by disseminating project information, thereby learning of potential project issues, and establishing a dialogue with a range of stakeholders.

The capacity of the procurement agency to conduct stakeholder engagement is an important factor. Broad constituencies of stakeholders often need to be consulted, and agents do not always convey the opinions of beneficiaries effectively. This is a challenge in advanced economies and developing countries alike. Direct consultation is always beneficial. The timeframe during which the consultation is conducted is particularly critical.

Benefits of engaging stakeholders

Stakeholder engagement helps governments identify critical issues and prepare effective strategies. In particular, it can frame discussions with beneficiaries, clarify project impacts and objectives, and ultimately increase public support for a given project. In certain circumstances, creating space for dialogue and allowing

stakeholder participation in project decision-making can increase its endorsement in the national political arena and strengthen its sustainability. The process can enhance the social capital between the government and the public, generating long-term benefits for the effectiveness of policy reforms. Moreover, stakeholder engagement is one of the ten **Equator Principles** (EP 2017); a thorough consultation is a requisite to receive funds from Equator Principle Financial Institutions.

The engagement process can also give governments the opportunity to explain how a PPP differs from privatization. In modern PPPs, the government retains control over the use of the asset; it defines minimum service quality and maximum user costs. This is fundamentally different from older concessions wherein the operator acted as a local monopolist with limited accountability to the contracting agency.These factors underline the critical importance of identifying an accountable public spokesperson for any project. Before any consultations, it is good practice to appoint a project spokesperson, preferably a senior figure within government. This is critical for establishing and maintaining a regular flow of information about a project, addressing and being perceived as addressing public questions and concerns, and correcting any misinformation in the media. This spokesperson lends his or her credibility to the project throughout the project cycle.

Identifying stakeholders

Identifying stakeholders requires thinking carefully about those who may be affected by, have a legitimate interest in, or the ability to influence the project. Identifying stakeholders too broadly may be cumbersome and open a project to risks. However, defining stakeholders too narrowly may result in potentially influential stakeholders being overlooked, and undermine local ownership and support.

The **IFC stakeholder engagement handbook** (IFC 2007, 10) defines stakeholders as "persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively." This definition is broad. It demonstrates the inclusiveness needed when mapping stakeholders—but not the range of stakeholders that should be consulted in each phase of the PPP cycle. In some phases, it is crucial to include a broader set of stakeholders; in others, it should only be the core stakeholders—the users and the affected persons—that should be consulted.

The same **IFC handbook** (IFC 2007, 14-16) recommends two parallel approaches to identify stakeholders based on the project's geospatial sphere of influence. First, identify those stakeholders that are likely to be impacted by the primary project facilities and the related facilities, such as transportation routes and areas. The analysis should focus on socio-economic and environmental consequences for those directly affected by the project, such as end-users, homeowners or specific professional categories, as well as groups that appear peripheral but perceive that they may be impacted by the project.

The second component of IFC's parallel approach for identifying stakeholders applies to those that have interests in the project but are not affected by it geospatially. These include institutions such as political parties, trade unions, chambers of commerce, think tanks, community leaders, professional associations, or local and international civil society organizations. Analysis and mapping of motivations and influence patterns can help identify these stakeholders. Cost effective solutions, such as websites or newsletters, may provide an efficient method of establishing and maintaining communication.

It is important to note that **over the PPP life-cycle, stakeholder communication and engagement will address different categories of stakeholders**—and, as the goals will not be the same, the consultation mechanism will vary. Consider the main phases of the PPP cycle:

- **PPP program definition**—engaging citizens (as taxpayers and as potential users) during the identification phase of the government's infrastructure program. Infrastructure programs are designed, developed, publicly presented, and tested through formal and informal feedback-collection mechanisms. The emphasis is on demonstrating the program's ability to serve user needs—instead of simply listing projects and amounts—The process ensures that investment programs serve the public interest and reward politicians that promote them.
- **Project assessment and preparation**—engaging potential users and populations likely to be affected by the project. This engagement tests the quality of the project and provides elements for its optimization. The process is critical—the intensity of engagement with **users** and genuinely **affected persons** should be high. Extensive communication with relocated persons should be organized and publicized; and efforts to mitigate the impact on the environment should be communicated exhaustively.

- **Contract tendering**—no stakeholder consultation should take place during the tender process to avoid introducing undue pressure on the selection of the PPP operator. An **initial market consultation**, before the Call for Tender, will be highly relevant for assessing market interest and for receiving feedback that can help optimize the project, the draft contract, and the tender regulations. A competitive tender should avoid creating opportunities for collusion and force the procuring authority to deal independently with each bidder, and only with bidders.
- **Project implementation and evaluation**—requires **full proactive disclosure** of the contract, followed by periodic dissemination of information on project performance, and continuous collection of feedback from users using contractually-prescribed (or regulator-defined) communication channels.

Careful mapping to determine who is genuinely affected by the project is important to ensure the right stakeholders are consulted and to avoid legitimizing vested interests. The consultation process may attract groups of individuals to the discussion arena who are not directly or significantly affected by the project. The government's efforts to give voice to genuine stakeholders may be perceived by these individuals as an opportunity to obtain undue benefits if they are able to become actors in a process that does not concern them. In an improperly conducted engagement process, vested interests may garner too much power and derail a project.

For instance, unions representing employees of State-Owned Enterprises who see services transferred to PPP concessionaires may try to block projects that reduce their power. Engaging with them will be critical, However, it is equally important to engage directly with employees. Safeguarding the interests of workers is an essential part of project sustainability, but it should not be given priority over the public interest and the needs of users.

Risks of disregarding stakeholders

Technocrats are often tempted to focus on technical issues and rush to finish projects. However, this approach can be dangerous—some influential stakeholders may have deeply-rooted ideological opposition to private provision of public services, and fears and suspicions of government capture and/or abuse of a local monopoly may be easily spread and difficult to diffuse.

Moreover, people may have strong apprehensions that a project will degrade their quality of life. Constituencies—including small ones—that feel threatened by a project may be powerful enough to stop it, even when the overwhelming majority of people would benefit. Disregarding such considerations, and not building stakeholder consensus for a project, has led to many PPPs being abandoned or failing to achieve expected results.

Even if a project can be demonstrated to be economically advantageous and welfare-enhancing for society as a whole, some stakeholders may be negatively affected by it—environment and social assessments, discussed in *Section 3.2.5 - Assessing Fiscal Implications*, should identify these stakeholders and propose whether they should be compensated. Legitimate claims for compensation, for example, due to expropriation, need to be recognized and publicized in the consultation process—claims that do not lead to compensation also need to be identified and explained.

For example, a **project to develop infrastructure and local capacity and institutions at the village level in Lao PDR** (IEG 2015) did not achieve optimal results because it focused on provision of infrastructure instead of engaging stakeholders in participatory processes. Such suboptimal results could have been avoided by preparing and implementing a well thought-through strategy for stakeholder engagement.

The **World Bank working paper on strategic communications** (Calabrese 2008, 25) also provides examples of how some stakeholder opposition can arise when the project is structured as a PPP.

Formulating a stakeholder engagement strategy

Upon completing the identification of stakeholders and the analysis of their interests, concerns, information needs, communication channels, and likely impact of the project, governments should then map key influencers to identify important entry points for their engagement and formulate context-specific strategies. These strategies need to be approached systematically; they should cover all consultation activities. The **IFC stakeholder handbook** (IFC 2007, 8) emphasizes that they require clear objectives, budget, and allocation of responsibilities.

Calabrese's paper on strategic communications (Calabrese 2008, 11) recommends that governments begin the formulation of their project engagement strategy by highlighting the government's national economic development and poverty reduction objectives and other relevant strategic priorities. The engagement strategy can then demonstrate how the specific objectives of the project are aligned with the overarching national policy.

Governments should customize their level of engagement with each category of stakeholders according to their relative ability to impact the project and availability of government resources to engage. Attempting to engage all identified stakeholders at the same level may lead to project delays.

The following resources provide two more in-depth methodologies for formulating stakeholder engagement strategies:

- The **European Commission guidelines on stakeholder consultation** (EC 2015, Section 6.1)
- The **IFC stakeholder engagement handbook** (IFC 2007, 34-46)

The preliminary consultation process

In the preliminary consultation period, governments should begin by disclosing all relevant information, including identified socio-economic and environmental risks. This leads to transparency and gives an informed view of the project to stakeholders. Opinions and points of contentions can then be collected. **Calabrese's paper on strategic communications** (Calabrese 2008, 2) explains that this consultation process fleshes out the understanding of the perceptions that stakeholders hold about the project, enables governments to improve their communication efforts by directly addressing stakeholder concerns, and may provide solutions for critical project issues. It also functions as a feedback mechanism to continually improve the overall strategy. Integrating feedback into the project design has the additional benefit of demonstrating that stakeholders' input is being considered.

There is a broad consensus among policy makers and practitioners that the consultation should be as inclusive as possible. This does not necessarily mean that the level of engagement will be the same, as discussed previously, but it will ensure that all stakeholders are able to contribute their voice and thus avoid negative sentiment toward the project through feelings of exclusion.

The **European Commission guidelines on stakeholder consultation** (EC 2015) provide the following five minimum standards for conducting effective consultations:

- **Clarity**—All communication and the consultation documents should be clear, concise and include all necessary information to facilitate responses.
- **Targeting**—All relevant groups should have an opportunity to express their opinions regarding the project.
- **Publicize broadly and effectively**—Adequate awareness-raising publicity is essential; the specific consultation's communication channels should be adapted to meet the needs of all target audiences.
- **Time limits for participation in the consultation period**—Sufficient time should be provided for planning and responses to invitations and written contributions.
- **Feedback**—Receipt of contributions should be acknowledged and contributions published.

These principles provide a solid framework for conducting engagement. However, there are times when governments will need to moderate their usage. For example, in the **United Kingdom** (UK 2015b), after the authority in charge of a runway expansion at Heathrow Airport committed to responding to all comments received from the public, more than 70,000 comments were received.

An article in the **Engineers Journal** (Morrissey 2015) suggests that following the preliminary consultation, it remains important to communicate regularly around the critical milestones of the project, as well as when relevant information becomes available. This will feed the continuous feedback loop, identify concerns from stakeholders throughout the project cycle, and enhance stakeholder participation in the process. This reinforces the need for a project spokesperson to be appointed who can provide regular and timely information to stakeholders and have regular interaction with the media at key project milestones.

Stakeholder engagement post-contract award

Once the project contract has been awarded the nature of stakeholder engagement will shift largely to managing stakeholders' expectations, maintaining relationships, and obtaining user feedback. The **IFC stakeholder engagement handbook** (IFC 2007, 135–147) presents a series of recommendations for the construction and operation phases.

For the construction phase of infrastructure projects, engagement will involve notifying those local stakeholders that will be affected by the construction. The nature of the construction, its duration, potential impacts such as noise or traffic, and information on whom they may consult regarding grievances should be provided at this stage.

Upon transitioning to the operations phase, stakeholder engagement will focus upon management of established stakeholder relationships as well as continued user feedback. This may be accomplished through retaining community liaison officers or by having an overlapping period with old and new staff, in which liaison officers with established rapports may introduce newer officers.

As operations progress, it is important to continue to review and update stakeholder information at regular intervals. Disclosure of pertinent information as well as stakeholder consultations should continue as well. This will ensure that the any new issues or changes in the perception of the project may be integrated into the overall strategy. Stakeholders during this phase may shift, and, as such, the strategy may need to be adapted to include them as well.

Role of the public

PPPs are meant to provide value to the public. Getting the right level of public involvement in the PPP process and program can enhance the legitimacy of PPP as a procurement tool, and contribute to good governance as defined in *Box 2.1 - Good Governance for PPPs*. As described above, direct public participation—by service users or other stakeholders—at various points in the PPP process can improve project design and performance. Equally important, making PPP projects and processes transparent enables PPP performance to enable informed policy debate.

User feedback mechanisms can be structured in various ways, as described further in *Section 3.6 - Managing PPP Contracts*—some projects provide a web portal for continuous user-based input, others conduct regular user surveys. A specific mechanism may also be needed for user grievances. In **Chile**, the Ministry of Public Works collects and measures user feedback statistics on their website (CL-Proyectos).

2.5.2 Disclosure of PPP Project and Program Information

Transparency and timely access to information are important to the principles of accountability and governance. Many governments, therefore, **proactively disclose** information about PPP projects or contractual information to the public, without receiving a specific request, making it freely accessible to anyone interested. This proactive disclosure can be achieved in various ways, for example, by:

- Sharing an online project database with key pieces of contract information
- Creating a library of PPP contracts, often with accompanying project summaries
- Publishing press releases

Proactive disclosure of project and program information is often the responsibility of a PPP unit—for instance, Chile's PPP unit located in the Ministry of Public Works provides information on contracts, contract variations, and monthly performance reports.

In many countries, disclosure of PPP project contracts is mandatory to comply with legislation. Disclosure practices—for example, what information should be disclosed and when—are not uniform across countries. For example, Chile and Peru disclose the full contract, as does the state of Minas Gerais in Brazil. Other countries, such as the United Kingdom, redact PPP contracts before they are made available to the public, with a view to protecting commercially sensitive information—although the definition of 'sensitive information' is not well defined. The **Center for Global Development report on public procurement** (CGDev 2014) discusses the meaning and implications of commercial secrecy, noting how it has been used to avoid scrutiny. A British Parliament's Public Accounts Committee report (UK 2014b) concluded that government departments should not "routinely use commercial confidentiality as a reason for withholding information about contracts with private providers." Even in countries without mandatory proactive disclosure, responsible sector ministries or agencies may proactively disclose information about PPPs—for instance, India discloses information about road contracts.

Certain countries, such as South Africa, provide **reactive disclosure**—that is, make information available only in response to a specific request by a member of the public. Procedures for making requests are outlined in legislation. The terms of such reactive disclosure vary by country—including the cost (which may range from nominal to substantial) and the required timeframe, which may be as much as a month or more in many cases.

Disclosing PPP contracts may not be enough for the public to understand them—some additional information on the projects, and a plain-language description of the main contract provisions, is useful. For example, the **Victorian Freedom of Information Act of 1982** requires that, besides publishing all PPP contracts on Victorian Government Purchasing Board website (VIC-GPB), a project

Box 2.11 The Delhi Water Project

In 2004, the Government of Delhi decided to reform its water sector with support from the World Bank. Delhi had access to a sufficient supply of water for its population but lacked adequate transmission and distribution systems. These deficiencies largely stemmed from political, institutional and governance issues that resulted in sub-optimal performance for the system. The project sought to increase accountability in the sector by separating the responsibilities for ownership and policy-making and provision of services while establishing a transparent mechanism between the two.

The Government of Delhi engaged stakeholders at various levels to learn their concerns and formulate an implementation mechanism. A willingness to pay survey was also conducted, which found that consumers were willing to pay more for improved service quality. This led to an increase in water tariffs for the first time in six years.

A pilot project was proposed in two of Delhi's 21 zones to be conducted under a management contract. In July 2005, before the consultation on the pilot project could be completed, a local NGO, Parivartan, made public its opposition to the project.

It made several claims about the project, including that it would lead to even higher tariffs, create inaccessibility to water for the poor, and gradually privatize the water sector. Additionally, Parivartan suggested that the World Bank was manipulating the Delhi Water Board, the entity in charge of water and sanitation services. It spread these claims widely through media and by seeking to influence important players in civil society, government, and academia.

Parivartan's claims against the project were unfounded. However, no one in either the Delhi Water Board or the Government of Delhi stepped forward to refute them. Additionally, there was already a public outcry over power privatization, adding to antipathy toward the project. Because of this unaddressed popular sentiment against the project, it was eventually suspended in November 2005 and fell into a perpetual hiatus.

Source: (Odugbemi and Jacobson 2008)

summary is published, providing information on the key project features and commercial terms of the project.

The **World Bank's 2013 report on Disclosure in PPPs** (WB 2013c) presents the above-mentioned diversity of disclosure practices. The report identifies a gradual trend towards broader disclosure, with several countries supplementing contract disclosure with project summaries presenting the main contract provisions, its origination, its procurement, and other relevant information on the project.

Additionally, a completely transparent competitive procurement process should include disclosure of the reasons behind procurement decisions. This means disclosure of which bidders presented expressions of interest, proposals for each project, which were awarded the contract and why they received it.

2.5.3 Role of Supreme Auditing Institutions

Supreme audit entities, such as courts of accounts and top audit offices, are an important link in the chain of accountability for public expenditure decisions. They provide independent reviews of government finances and performance to parliaments and the public. The International Organization of Supreme Audit Institutions (INTOSAI) provides an online list of its member audit entities.

The mandate of supreme audit entities varies by jurisdiction, but often includes two types of audit:

- Regularity audits, which can include auditing the financial statements of government entities and of government as a whole, and auditing decision-making processes for compliance and probity
- Performance, or value for money audits—reviewing the government's effectiveness and efficiency

Other entities may play a similar role—for example, government procurement agencies may be responsible for checking that procurement processes have been followed, as does the Contractor General in Jamaica.

Supreme audit entities can also play a role in PPP programs. In some jurisdictions, audit entities must sign off on PPP contracts before they can be implemented. Audit entities may then need to consider PPP commitments and processes as part of regular audits

of contracting authorities and of the government as a whole. Audit entities may also conduct performance audits of PPP projects, or review the value for money of the program as a whole.

This section describes each of these elements of auditing PPP programs. Audit institutions performing these roles can help improve PPP program governance. However, to be effective in doing so—rather than simply introducing delays, or saddling PPP programs with requirements that are not appropriate for the specific needs of PPP—audit entities often need training and support. INTOSAI, supported by the World Bank and by several Courts of Audits, delivers training activities for auditors, and produced a series of manuals on PPPs, e.g. (INTOSAI 2007).

For further examples of how PPP supreme auditing works in practice, see the articles on PPP Audits in Portugal, and Hungary's audit experience with PPPs, in the **IMF publication on Public Investment and PPPs** (Schwartz et al. 2008, Chapters 17 and 18).

Regularity auditing for PPPs

When carrying out regularity audits of contracting authorities, audit entities may need to check that PPP commitments are appropriately reflected in accounts, and that PPP processes have been followed.

For example, the **National Treasury of South Africa's PPP Manual** (ZA 2004a, Module 7) describes how the scope of the Auditor General's annual regularity audits applies to PPPs. This includes:

- Checking compliance—the Auditor General is required to check that the requirements of PPP Regulations have been met, for example, that the appropriate treasury approvals were sought and granted.
- Checking financial reporting—the Auditor General must also check the financial implication of the PPP for the institution. This includes checking that information on PPPs in *notes to the financial accounts* is correct, and that commitments to PPPs have been accounted for appropriately. For more on accounting requirements for PPPs, see *Section 2.4.4 - Fiscal Accounting and Reporting for PPPs*.

According to the guidelines, the Auditor General in South Africa may also carry out forensic audits (should the regular audits raise any suspicion of fraud or corruption), or performance audits, as described further in the following section.

Box 2.12 Audit Entity Access to PPP Company Information

While the authority of supreme audit entities vary, it typically extends only to government agencies and entities wholly or majority-owned by government. Some supreme audit entities therefore do not have the right or responsibility to audit PPP companies. Nonetheless, the private company often holds a lot of relevant information. Lack of clarity on the access of the audit entity to information held by the private party, and needed for effective auditing, has the potential to create conflict.

The Public Auditing Guidelines for PPPs issued by the Comptroller and Auditor General of India (CAG 2009) discuss this issue in Section III: *Scope and Objectives of PPP Audit*. The guidelines suggest that access rights for the CAG in carrying out PPP projects may need to be defined in the public audit statute. In the meantime, the guidelines note that the audit entity is likely only to have access to information held by the contracting authority given its contract monitoring role (CAG 2009, Section 3, 29–38). In the United Kingdom, this type of access is provided through mechanisms in the PPP contract itself.

INTOSAI has published guidelines for audit PPP projects, which note that the audit entity must be clear about its access rights to the private company associated with the PPP (INTOSAI 2007, Section 1, Guideline 1).

Performance auditing of PPP projects

Auditing agencies may also carry out performance, or value for money audits, of particular PPP projects. **INTOSAI published guidelines for auditing PPP projects** in 2007 (INTOSAI 2007) with the aim to help audit entities carry out thorough performance audits of PPP projects, leading to recommendations for improved performance, and the spread of good practice.

INTOSAI guidelines recommend that the audit office review a PPP project soon after procurement and carry out further reviews over the project life cycle. The guidelines recommend that the review cover all major aspects of the deal that have a bearing on value for money. They provide guidance for reviewing how the PPP was identified, how the transaction process was managed, the tender

process adopted, how the contract was finalized, and ongoing management of the PPP contract.

Auditors and other similar bodies may review particular projects where there is concern over whether processes have been appropriately followed, or whether the project is providing value for money.

The following are examples of PPP project performance audits:

- In the State of New South Wales, Australia, the **Auditor-General audited the Cross City Tunnel through Sydney** (NSW 2006). The 2006 report included an analysis of the process in which the PPP contract was awarded, how the contracted was amended, and whether the costs of the project to citizens were justified. The project was criticized for its high tolls, lower-than-expected levels of traffic, and the lack of transparency in the amendment of the initial contract. The Auditor-General provided opinions on each of these issues based on the analysis.
- The franchises awarded for the tram and train system in the city of Melbourne ran into financial difficulties, as described in *Box 1.11 - Example of a Thinly-Capitalized PPP*. Because of the concerns this raised for the resulting value for money, the government committed to carrying out an ex-post value for money audit of the concessions and renegotiations. The report, published in 2005, focused on the effectiveness of the responsible agency, transparency of the process, proper risk allocation of the project, the development of public sector benchmarks, and adequate monitoring systems.

Auditing the PPP program

In some countries with well-developed PPP programs, audit entities have undertaken value for money reviews of the PPP program as a whole. For example, in the UK, audit entities have compared PPPs and traditionally-procured public projects to assess whether and how PPPs provide value for money, and feed back into PPP decision-making.

In 2011, the National Audit Office published a **review of the PFI program and other large procurement projects** and provided key lessons from the UK's experience (NAO 2011). The NAO assessed various aspects of the program, including value for money, project preparation and implementation, and accountability. Based on this analysis, the NAO offered recommendations for future improvements to the PFI program. The findings were discussed in *Section 1.3.4 - Third Party Risk Mitigation and Credit Enhancement*.

2.5.4 Role of Legislative Bodies

The legislative branch of government—that is, the elected, law-making parliament or assembly—may engage in the PPP process in several ways. These include:

- **Defining the PPP framework**—the PPP Framework is often established in specific PPP legislation. As described in *Section 2.2 - PPP Legal Framework*, one rationale for introducing a PPP law is to enable the legislative branch of government to set rules for how PPPs will be developed and implemented, against which those responsible can be held accountable.
- **Defining limits on PPP commitments**—as described in *Section 2.4.2 - Controlling Aggregate Exposure to PPPs*, the legislature may limit total PPP commitments, or the amount taken on in a year, or otherwise govern the risk and inter-generational equity issues that PPPs can create.
- **Approving PPP projects**—PPP projects may require parliamentary approval, as described in *Section 2.3.3 - Institutional Responsibilities: Review and Approval*. This requirement can be limited to PPP projects above a certain size. For example, the **Hungarian PPP Act** (1992) stated the government must seek Parliament's approval before signing a contract creating multi-year payment obligations with a present value of more than $230 million. In Guatemala, on the other hand, all PPP contracts require approval from Congress. In the United States as of 2010, nine states require some individual projects to be approved by the state legislature.
- **Receiving and reviewing reports on the PPP program**—as described in *Section 2.4 - Public Financial Management Frameworks for PPPs*, many governments include information on the PPP program in budget documents and other financial reports. This gives Parliament the opportunity to scrutinize the government's commitments to PPPs, and hold the decision-makers responsible after the event. Parliaments may also commission and receive auditors' reports on the PPP program and processes, as described further in *Section 2.5.3 - Role of Supreme Auditing Institutions*.

An example of a legislative review of PPP programs is described below:

- The Public Accounts and Estimate Committee in the Parliament of Victoria, Australia reviewed Partnerships Victoria, the PPP program, in the context of governance, risk allocation, ac-

countability, protecting the public interest, economic benefits and value for money, and international accounting standards for PPPs. Recommendations were then made to improve PPP policies and strengthen governance of the projects (VIC 2006).

2.5.5 Role of Independent Regulators

PPPs and sector regulation

PPPs often supply essential services in monopoly (or near-monopoly) conditions, for example, in the water, electricity, gas, telecommunications, airports or highways sectors. Private providers of such public services are typically overseen by government to control tariffs and service standards—often by assigning responsibilities to an independent regulatory agency—to protect customers from possible abuse of market power. Sector regulation may also govern the terms under which providers in a sector deal with each other; entry to the sector through licensing; and control over sector investment decisions. Governments looking at options to improve performance of existing public assets and services in natural monopoly sectors may consider a PPP as an **alternative sector reform option** to privatizing and establishing a regulatory regime. While there are similarities in the processes of establishing a PPP and privatizing, and some of the guidance in this book may be applicable in both cases, the nature of the resulting relationship is distinct:

- **Regulation by contract** through a PPP. The PPP contract itself can define tariffs, tariff adjustments, and service standards to protect customers' interests as an alternative to establishing a regulatory regime. Some of the implications for PPP contract design are described further in *Section 3.3 - Structuring PPP Projects*.
- **PPP** alongside sector regulation. Some countries establish sector regulatory regimes when introducing a PPP for service provision in a sector; including, in some cases, acting as government party to the contract. In other cases, sector regulation may already be in place. In either case, the PPP agreement and sector law and regulations need to be carefully harmonized to ensure there is no conflict between the PPP contract and regulatory requirements, and to establish clear roles and responsibilities. *Section 2.3.2 - Institutional Responsibilities: Implementation* provides more examples of the roles of sector regulators in developing, implementing, and managing PPPs**.**

The Body of Knowledge on Infrastructure Regulation (PURC 2012) is an online resource that provides detailed guidance and further reading on a wide range of regulation topics. The following references also discuss regulation, including how it relates to PPPs:

- **Yong** discusses regulatory frameworks for PPPs—box 4.4 in section 4.1.3 provides an overview of the different approaches to regulation of infrastructure (Yong 2010).
- The **note on regulation of water and sanitation** (Groom et al. 2006) cover a wide range of topics in water sector regulation, including guidance on assigning regulatory functions, and the options of regulation by contract or by an independent agency.
- **Eberhard's paper on hybrid and transitional models of regulation in developing countries** (Eberhard 2007) provides an overview of different regulatory models and the advantages and potential pitfalls of each model. The paper also provides recommendations on how to improve the performance of regulatory models.

Regulation is not limited to sectors involving the provision of essential services in monopoly or near-monopoly conditions. Regulatory frameworks can also be used to overcome other market failures, such as ensuring responsible management of limited natural resources. In some cases, the processes and structures can resemble a PPP—for example, a concession for mining or petroleum exploration or exploitation, or for management of a tourism site. There can also be some muddy ground between these types of regulation, where some aspect of provision of essential services through a competitive market requires access to limited resources—such as allocation of radio spectrums for mobile telecommunications, or access to hydropower or other resources for electricity generation in the context of a competitive market.

While there are some similarities between such concessions or licensing procedures and PPPs, for the most part the contractual structures involved in such cases are distinct. The material in this *Reference Guide* is of limited relevance in such cases.

Key References: Broader PPP Program Governance

Reference	Description
IFC. 2007. *Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets*. Washington, DC: International Finance Corporation.	Provides an eight-component description of conducting and implementing stakeholder engagement throughout the project cycle.
Morrissey, Billy. 2015. "The Importance of Stakeholder and Community Engagement in Engineering Projects." Engineers Journal (blog). April 21. Website.	Discusses the benefits that stakeholder engagement will bring to the planning and implementation of infrastructure projects.
Calabrese, Daniele. 2008. "Strategic Communication for Privatization, Public-Private Partnerships, and Private Participation in Infrastructure Projects." World Bank Working Paper No. 139. Washington, DC: World Bank.	Explains the design and implementation of a strategic communications program for consultation with stakeholders.
EC. 2015. *Better Regulation: Guidelines on Stakeholder Consultation*. Strasbourg: European Commission.	Provides a thorough description of how to conduct a stakeholder consultation.
WB. 2013c. Disclosure of Project and Contract Information in Public-Private Partnerships. Washington, DC: World Bank.	Reviews disclosure practices for PPP projects and contracts from 11 jurisdictions at the national and sub-national level, representing eight countries, and presents recommendations on proactive disclosure.
UK. 2015b. *Consideration of Consultation Responses*. Report addressing the expansion options for Heathrow and Gatwick airports. London: UK Government, Airports Commission.	Outlines the 70,000 responses received regarding the consultation for the Heathrow airport expansion.
IEG. 2015. *Lao People's Democratic Republic: Poverty Reduction Fund*. Project Performance Assessment Report. Washington, DC: World Bank Group, Independent Evaluation Group.	Describes the implementation and ultimate performance of the Poverty Reduction Fund project in Lao PDR.
Yong, H.K., ed. 2010. *Public-Private Partnerships Policy and Practice: A Reference Guide*. London: Commonwealth Secretariat.	This report provides a comprehensive review of PPP policies worldwide, including guidance to practitioners about key aspects of designing and implementing PPP policy and projects. Chapter 4.1 outlines key issues for a PPP legal framework, and principles for PPP legislation.
Groom, Eric, Jonathan Halpern, and David Ehrhardt. 2006. "Explanatory Notes on Key Topics in the Regulation of Water and Sanitation Services." Water Supply and Sanitation Sector Board Discussion Paper 6. Washington, DC: World Bank.	A series of notes covering topics related to governance of infrastructure with focus on water and sanitation. Topics include a conceptual framework for regulation, design of regulation, institutional arrangements, regulation by contract, regulating government-owned utilities, and regulation of wastewater in developing countries.
Eberhard, Anton. 2007. "Infrastructure Regulation in Developing Countries: An Exploration of Hybrid and Transitional Models." Working Paper No. 4. Washington, DC: Public-Private Infrastructure Advisory Facility.	Provides an overview of different regulatory models and the advantages and potential pitfalls of each model. The paper also provides recommendations on how to improve the performance of regulatory models.
Bakovic, Tonci, Bernard Tenenbaum, and Fiona Woolf. 2003. "Regulation by Contract: A New Way to Privatize Electricity Distribution?" World Bank Working Paper No.14. Washington, DC: World Bank.	Describes the key features of "regulation by contract"; how different countries have handled key regulatory issues through this mechanism; describes the strengths and weaknesses of different approaches, drawing on international experience.
Akitoby, Bernardin, Richard Hemming, and Gerd Schwartz. 2007. "Public investment and public-private partnerships." *Economic Issues* 40, Washington, DC: International Monetary Fund.	A collection of papers on managing the fiscal impact of PPPs, drawing from an IMF conference held in Budapest in 2007. Part Four: PPP Accounting, Reporting, and Auditing examines the role of different institutions to ensure accountability.

Reference	Description
CAG. 2009. *Public Private Partnerships (PPP) in Infrastructure Projects: Public Auditing Guidelines*. New Delhi: Comptroller and Auditor General of India.	These draft guidelines outline the regulatory framework in which the Comptroller and Auditor General of India audit PPP projects. Provides a justification for audits under the PPP law and an overview of the methodology and evaluation criteria for the audit.
INTOSAI. 2007. *ISSAI 5220 - Guidelines on Best Practice for the Audit of Public/Private Finance and Concessions*. Vienna: International Organization of Supreme Audit Institutions.	Provides guidelines on best practices for evaluating PPP projects throughout the entire life cycle.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	A comprehensive PPP manual outlining the PPP procurement process for South Africa. Provides technical guidance for value for money and affordability analysis. Module 7 provides guidelines for auditing PPP projects.
NAO. 2010b. *From Private Finance Units to Commercial Champions: Managing Complex Capital Investment Programmes Utilizing Private Finance - A Current Best Practice Model for Departments*. London: National Audit Office and HM Treasury.	A best practice model for departments engaged in PPP/PFI programs by the National Audit Office in partnership with Infrastructure UK.
NAO. 2011. *Lessons from PFI and other projects*. Report by the Comptroller and Auditor General, HC 920. London: National Audit Office.	An extensive review of the PFI program and other large infrastructure projects by the National Audit Office to evaluate value-for-money of the program and the performance of government units. The content of this report is discussed in HC 1201 (UK 2011c).
NAO. 2010a. *The Performance and Management of Hospital PFI Contracts*. Report by the Comptroller and Auditor General, HC 68. London: National Audit Office.	National Audit Office's report on the performance and management of hospital PFI contracts.
NAO. 2006. *A Framework for Evaluating the Implementation of Private Finance Initiative Projects: Volume 1*. London: National Audit Office.	This report provides a more specialized project performance matrix for PFI projects.

2.6 Municipal and other subnational PPPs

Subnational governments including states, provinces, and municipalities provide many essential and basic infrastructure services, especially in water and sanitation and urban transport. Some subnational governments, for instance, Australian and Brazilian states and Canadian provinces, have put solid PPP programs together—their fiscal self-sufficiency, credit ratings, and execution capabilities are not far from those of central governments. The same cannot be said about municipalities. Municipal governments are closer to the populations they serve, and therefore better able to identify projects that satisfy local needs. However, they face additional challenges and raise particular issues:

- Municipal governments often have limited project development and procurement capacity. This lack of capacity may be exacerbated by frequent changes of personnel triggered by electoral outcomes. However, there are examples of municipalities that succeeded in building such capacity. There are other cases where central government worked with subnational governments to build capacity and provide knowledge and technical support.
- Most municipal governments do not benefit from the same credit ratings as central governments. They need to build their credit ratings gradually over time. However, in the short term, most will need central government support in the form of payment guarantees or public finance—but moral hazard concerns are leading central governments to move away from guaranteeing subnational governments fiscal decisions, as described by Canuto and Liu in the **World Bank book on subnational debt** (Canuto and Liu 2013). Moral hazard arises from subnational borrowers having an incentive not to repay their creditors, or to engage in too risky or poorly-structured projects, if they perceive that defaulting debtors could be bailed out by the central government. **Charbil and Gamper's article on coordination**

of infrastructure investment (Frank and Martinez-Vazquez 2015) notes that in a sample of OECD countries hardly any subnational infrastructure investment is carried out in isolation of central government—partial funding often flows from national or supra-national authorities as in many developing countries. In other developing countries, state governments can fund infrastructure on their own, but municipalities often need state government support.

- Municipal governments often do not have an efficient legal framework for procuring PPPs, reducing investors' appetite for their projects.
- Decentralization, when not accompanied by increased subnational accountability and transparency, may sometimes bolster corrupt practices, as noted by **Shah** (Frank and Martinez-Vazquez 2015). However, by bringing the decision-making process closer to the people directly affected by the project, decentralization may instead combat corruption. Often the natural geographical segmentation of construction in which local projects are only bid upon by local contractors, as identified by the **Charbonneau Commission in Québec** (Charbonneau and Lachance 2015), creates additional challenges in setting up an effective competitive framework. It also makes it more difficult to maintain integrity in PPP procurement at the local level.
- Many cities and subnational governments have fragmented and overlapping jurisdictions. For example, some public services may be managed by the regional government whereas others are administered by the municipality. This can generate problems of coordination in policy formulation and implementation. In addition, PPPs are sometimes selected without an efficient fiscal responsibility framework in place. Clear fiscal rules allow decentralization of decision-making without jeopardizing local and national fiscal sustainability. Lack of clarity on these rules either discourages subnational governments from using PPPs or encourages free-riding with no regard to fiscal sustainability.

This section addresses these five issues one-by-one with references and examples.

Box 2.13 Municipal Water PPPs in Benin

In 1999, Benin went through a reorganization of its public administration leading to the introduction of decentralized, financially autonomous municipalities or communes. The country's 77 municipalities own the water supply facilities and pipe networks and are responsible for the provision of water and sanitation services to their populations.

To support the Government's decentralization program and strengthen the quality of water services in small towns and rural areas, IFC, in close cooperation with the Water Sanitation Program (WSP), a multi-donor partnership administered by the World Bank, provided advisory services and technical assistance. The contribution of the WBG included advice on the structuring and implementation of a PPP pilot scheme for the delivery of improved and expanded water services to the households of three municipalities, through the participation of small domestic private operators.

The project required the private operators to design, engineer, rehabilitate, operate, and maintain systems, without increasing the price of water. This included rehabilitating equipment, extending the network, installing private water connections, and partially financing these activities. The concessions were structured with an output/result-based subsidy payable to private operators upon verification of delivery. The subsidy ensures the profitability of the operations and creates an incentive for delivery. The output-based subsidy also permitted private operators to raise financing from local commercial banks.

From 2007 to 2014, the number of piped water systems managed by private operators in Beninese municipalities increased from one to 269, providing water services to 28 percent of the population. As of February 2015, approximately 77 private operations were functioning all over Benin. Initially, the municipalities demonstrated a dearth of technical capabilities to prepare and financially close such PPP transactions. However, their effectiveness improved gradually through a combination of institutional reforms and provision of technical assistance by the World Bank. The piped water systems performance has improved significantly, leading to approximately 32 kilometers of additional network pipes and 1,071 new household water connection pipes installed. Given the success of the pilot projects, the Government of Benin decided to scale up this approach countrywide through a World Bank lending project involving more than 180 piped water systems.

Source: (Adokpo Migan and Tremolet 2015)

Despite the challenges, PPPs are now fairly common at the state level in advanced and developing economies in countries such as Brazil, Mexico, and Australia; and at the provincial and municipal level in South Africa and Canada. Large municipalities in Brazil and China have increasingly been using PPPs. Small municipalities have also experimented with PPPs for the procurement of their infrastructure projects; in India, PPPs have been used by local executive bodies like the Gram Panchayats for the provision of urban amenities in rural areas. **The World Economic Forum report on Accelerating Infrastructure Delivery** (Maier and Jordan-Tank 2014) refers to a portfolio of €6.1 billion with more than 300 municipal projects financed by EBRD between 1994 and 2014—of this amount, 20 percent was debt or equity in privately-financed infrastructure.

Capacity challenges at subnational level

While decentralization is theoretically a sound principle of good governance, it cannot function efficiently unless central and subnational governments develop new institutional arrangements and regulations, and build capacity. Subnational governments usually face capacity constraints of scale and governance. Traditionally, subnational governments, particularly municipalities, have been less involved in infrastructure policy and procurement than central governments. Exceptions are seen in federal countries where state/provincial governments have been responsible for infrastructure, such as **Brazil, Canada**, and **Australia**—examples are the Minas Gerais PPP Unit, Sao Paulo's Companhia Paulista de Parcerias, British Columbia's Partnerships BC, and Partnerships Victoria. These state/provincial units developed significant PPP knowledge and experience, even before the national PPP teams of their respective countries were established.

However, decentralization, in terms of devolution of responsibilities, seems to be spreading globally. Some countries, such as **Kenya**, **Turkey**, and **Kazakhstan** are shifting their legal regime toward decentralization; even without legislative changes, the responsibility for infrastructure procurement is increasingly transferred from central to subnational governments. Thus, a growing number of subnational governments are actively procuring PPPs. This trend increases the need for capacity building in procurement and project management.

Frank and Martinez-Vazquez, in their **book on decentralization and infrastructure** (Frank and Martinez-Vazquez 2015), insist on the need to create **intergovernmental** capacities for public investment—institutional capacities, whether in financial management, human resources or procurement, can benefit from shared approaches which go beyond individual levels of government, particularly in the design of procurement systems, monitoring arrangements, and ex-post reviews. Training provided by commercial and academic entities may be complemented by the **APMG Certification Program** sponsored by MDBs (APMG 2016). *Box 2.7 - PPP Training* describes several Massive Open Online Courses (MOOCs) developed by the World Bank and the Inter-American Development Bank, which may also be helpful.

Knowledge interchange inside a national or multi-national practitioners' network has been used, not only by national governments, but also by subnational governments. **Rede PPP** (Rede PPP 2017), a network created to promote PPP collaboration in Brazil, has fostered cooperation between states and municipalities. **EPEC**, the **European PPP Expertise Centre** (EPEC)—based in Luxembourg and funded by the European Investment Bank and EBRD's Infrastructure Project Preparation Facility (IPPF)—has many subnational governments among its members and beneficiaries, and several of them participated in secondment programs at EPEC, allowing staff members to spend time at EPEC, working with other European governments. In line with the National PPP Capacity Building program for civil servants organized by the Government of India, PPP cells have been created within various state governments—those PPP cells offer assistance to line departments in the development of projects through PPP arrangements.

For complex projects, capacity constraints may induce subnational governments to hire private companies to manage complex project preparation and implementation—they can provide expert advice in the elaboration of PPP contracts, joint ventures, management contracts, or operations and maintenance (O&M) contracts. However, procuring private investment will still require capacity building within the subnational government for managing external consultants and advisors during project preparation and tendering, and for contract management.

Subnational creditworthiness and access to finance

The financial challenges of subnational governments are discussed in an **Inter-American Development Bank concept note on financing sustainable urban infrastructure** (UN-Habitat/IDB 2016). The note highlights the link between municipal PPP opportunities and cities' creditworthiness. Creditworthy local govern-

ments can generally attract private sector investment; those that are not creditworthy will require central government guarantees for their financial commitments. Sound financial management is often critical to the creditworthiness of subnational entities. Failure on the side of central governments to honor commitments towards subnational entities jeopardizes chances of attracting quality investors for subnational PPP projects.

Multilateral organizations provide technical assistance programs to strengthen the capacity of local governments to design and plan infrastructure projects, including PPPs. For example, **PPIAF's subnational technical assistance (SNTA) program** (PPIAF-Work) helps subnational entities improve their investment planning and project preparation skills, strengthen their financial management practices and processes, ensure fiscal responsibility, and ultimately improve their creditworthiness.

Creditworthiness depends on a credible, capital investment program. Investment programs provide a framework for PPPs to be identified, prioritized, and eventually approved and budgeted. A **World Bank toolkit on city creditworthiness** (WB 2017a) can be used to assess cities' preparedness for commercial-based transactions, allowing users to: (1) get a quick sense of their city's overall financial performance without burdening them with complicated studies; (2) verify their city's commitment to various financing schemes; (3) get a quick sense of its portfolio and pipeline of projects, including financing needs; (4) agree on action-plans that can help identify and prepare projects. A **World Bank book on subnational finances** (Canuto and Liu 2013) discusses fiscal incentives and insolvency risk in municipal and state governments, analyzing cases and experiences in many subnational governments.

Legislative and regulatory framework

The absence of a clear and efficient legislative and regulatory framework, including a procurement code and fiscal management guidelines, may restrict the ability of subnational governments to implement PPPs and create uncertainty for private investors. Several countries have taken some initiatives to share information on good practices across subnational entities. Other countries have endowed each state with their own PPP legislation—such as **Brazil**, **India**, **Australia**, and **Mexico**. In other instances, procurement at the municipal level is governed by national legislation. And in some countries, the central government provides uniform regulations for all government institutions—hence, in **South Africa**, the government provides one PPP manual for national and provincial institutions and a separate manual for municipalities. This is also true in almost all EBRD countries.

Brazil introduced hard-budget constraint legislation—the Fiscal Responsibility Law—in 2000. This law applies to all levels of government, and is reinforced by the PPP Law, which puts a cap on the volume of PPPs that each level (federal, state, municipal) can procure based on its expected revenue. **Frank and Martinez-Vazquez's book on decentralization and infrastructure** (Frank and Martinez-Vazquez 2015) highlights that national governments often pay insufficient attention to developing appropriate local authority procurement systems and capacity. Standard legal provisions and guidelines often reproduce the central procurement standards at the local level. For example, thresholds for project approval at the national level will apply at the local level.

Transparency and governance

Maintaining transparency and good governance may be challenging in subnational PPPs, particularly when the stricter oversight of central governments is removed. As the responsibility of subnational governments for resource allocation and service provision increases, so does the importance of commitment, coordination, transparency, and accountability. This is highlighted by the **International Budget Partnership** (Lawson and Alvarez 2013)—its pilot studies report a wide range of fiscal transparency levels, with many subnational governments exhibiting significant weaknesses. Where subnational governments are subject to strict balanced-budget rules, borrowing constraints, or restrictions on their power to increase spending or taxes, lack of fiscal transparency rules may invite decision-makers to opt for PPPs as a way to bypass fiscal rules. A report by the **Canadian Council for PPPs** (CCPPP 2011) provides guidelines for municipalities in this regard, including a critical path and a discussion on the specific challenges that may arise when implementing PPPs, depending on whether the municipality is large or small.

National central support to subnational governments

The **IADB report on Financing the New Urban Agenda** (UN-Habitat/IDB 2016) describes the experience of a Guatemalan municipality requiring central government support to upgrade its waste management facilities. In some countries with established PPP frameworks (e.g. South Africa and France), a major part of the activity of the central PPP Unit relates to supporting PPPs pro-

cured by subnational governments. In others (e.g. Brazil and Australia), several state governments already have more PPP experience than the central government. Often, the central PPP Unit acts as a knowledge center, leading the PPP processes at the central government level and helping subnational governments. **South Africa's National Treasury** provides guidance and training for municipalities; **Croatia** and **Tanzania** conducted municipal-level PPP training; **Colombia's Planning Department (DNP)** helps provinces and municipalities assess PPPs; **Peru's Proinversion** is mandate to assist structure projects at the subnational level; and **Canada's** central government provides funding support to provincial and municipal PPP projects. Central public sector institutions provide other forms of support: The **Indonesia Infrastructure Guarantee Fund (IIGF)** supports subnational PPPs and **Brazil's** BNDES and **Mexico's** Fonadin help subnational government structure and finance projects.

Key References: Municipal and other subnational PPPs

Reference	Description
FCM. 2008. *Innovative Mechanisms for Fiscal Transfers to Municipalities: The Canadian Experience in Municipal Financing*. Federation of Canadian Municipalities, Ottawa, Canada.	Highlights some of the innovative mechanisms used to transfer funds from the Canadian federal and provincial/territorial governments to Canadian municipalities.
UN-Habitat/IDB. 2016. *Financing the New Urban Agenda: The Challenges of Financing Sustainable Urban Infrastructure Concept Note*. Draft for Discussion Purposes. Washington, DC: United Nations Human Settlements Programme and Inter-American Development Bank.	Concept note was prepared with UN Habitat on the challenges of financing infrastructure projects in Latin America and the Caribbean.
PPPIRC. 2016. "India: State Sub-National PPP Policies." Public-Private Partnership in Infrastructure Resource Center. Website.	Presents subnational PPP policies for select Indian states.
PIAPPEM. Accessed March 6, 2017. "Leyes y Reglamentos." Programa para el Impulso de Asociaciones Público-Privadas en Estados Mexicanos. Website.	Highlights some of the subnational PPP policies for Mexico.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	Provides PPP policies for South Africa at the national and subnational levels.
Rede PPP. Accessed March 6, 2017. "Rede Intergovernamental PPP." Brazil: Rede Parceria Público-Privada. Website.	Provides an overview of Rede PPP, the Brazilian network of PPP practitioners.
CCPPP. 2011. *Public-Private Partnerships: A Guide for Municipalities*. Toronto: Canadian Council for Public-Private Partnerships	Presents some of the issues important or unique to municipal governments.
PPIAF-Work. Accessed March 9, 2017. "Our Work." Public-Private Infrastructure Advisory Facility. Website.	Highlights the objectives of the SNTA program, as well as the type of activities supported by PPIAF.
WB. 2017a. "City Creditworthiness Self-Assessment & Planning Toolkit." World Bank. Website.	This toolkit helps municipal-level units/ cities identify where they stand vis-à-vis investment grade, and undertake a self-assessment to help develop an action plan.
Canuto, Otaviano, and Lili Liu, eds. 2013. *Until debt do us part: Subnational debt, insolvency, and markets*. Washington, DC: World Bank.	Addresses guidance on fiscal solidarity.

Key References: PPP Framework

Reference	Description
UNECE. 2008. *Guidebook on Promoting Good Governance in Public-Private Partnerships*. Geneva: United Nations Economic Commission for Europe.	This guide for policymakers provides detailed instructions on how to improve governance for PPP programs. The guide also gives insight into what the key challenges are and possible frameworks for solutions.
Irwin, Timothy C., and Tanya Mokdad. 2010. *Managing Contingent Liabilities in Public-Private Partnerships: Practice in Australia, Chile, and South Africa*. Washington, DC: World Bank.	Describes the approach in the State of Victoria, Australia, Chile, and South Africa, to approvals analysis, and reporting of contingent liabilities (and other fiscal obligations) under PPP projects, and draws lessons for other countries.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	This guide for public sector practitioners describes how to develop and implement a PPP successfully by developing a marketable project and attracting the right private partners. Section 3 focuses on setting the PPP framework.
Yong, H.K., ed. 2010. *Public-Private Partnerships Policy and Practice: A Reference Guide*. London: Commonwealth Secretariat.	This report provides a comprehensive review of PPP policies worldwide, including guidance to practitioners about key aspects of designing and implementing PPP policy and projects. Chapter 4 provides guidelines for public sector appraisal of PPP projects.
EIU. 2014b. *Evaluating the Environment for Public-Private Partnerships in Latin America and the Caribbean: The 2014 Infrascope*. London: Economist Intelligence Unit.	This publication, Infrascope, sets out an index for assessing countries' readiness to carry out sustainable PPPs, and uses the index to evaluate the PPP environment in 19 countries in the region. See also the versions for Asia-Pacific, for Africa, and for Eastern Europe and CIS, based on similar methodologies.

Did you know....?

The first lines of the Paris Metro were PPPs

In 1898, Paris' city government appointed a Belgian entrepreneur, Édouard Empain, as concessionaire for the metropolitan railway concession. He established the Compagnie du Métropolitain Parisien (CMP), which built a power station and the rail superstructure within the tunnels (the tunnels had been built by the city), purchased electrical trains, and operated them from 1900 to 1947. In addition to defining performance requirements and level of user fees, the PPP contract provided social protection for CMP workers—including a pension plan, annual leave, paid sick days, and free medical care. In 1904, a second concession was established with Berlier, a company that constructed and operated a North-South metro line for 30 years.

Source: Xavier Bezançon, 2000 Ans d'Histoire du Partenariat Public-Privé (Paris: Presses de l'École Nationale des Ponts et Chaussées, 2004

Module 3

PPP Cycle

This module provides guidance on each stage of developing and implementing a PPP project—from identifying PPP candidates to managing contracts through the project life cycle. *Section 2.3.1 - PPP Process* introduced the overall PPP development and implementation process, also shown in *Figure 3.1 - PPP Development and Implementation Process*. This module describes each stage of the PPP process in more detail, providing links to resources, tools, and further guidance for PPP practitioners.

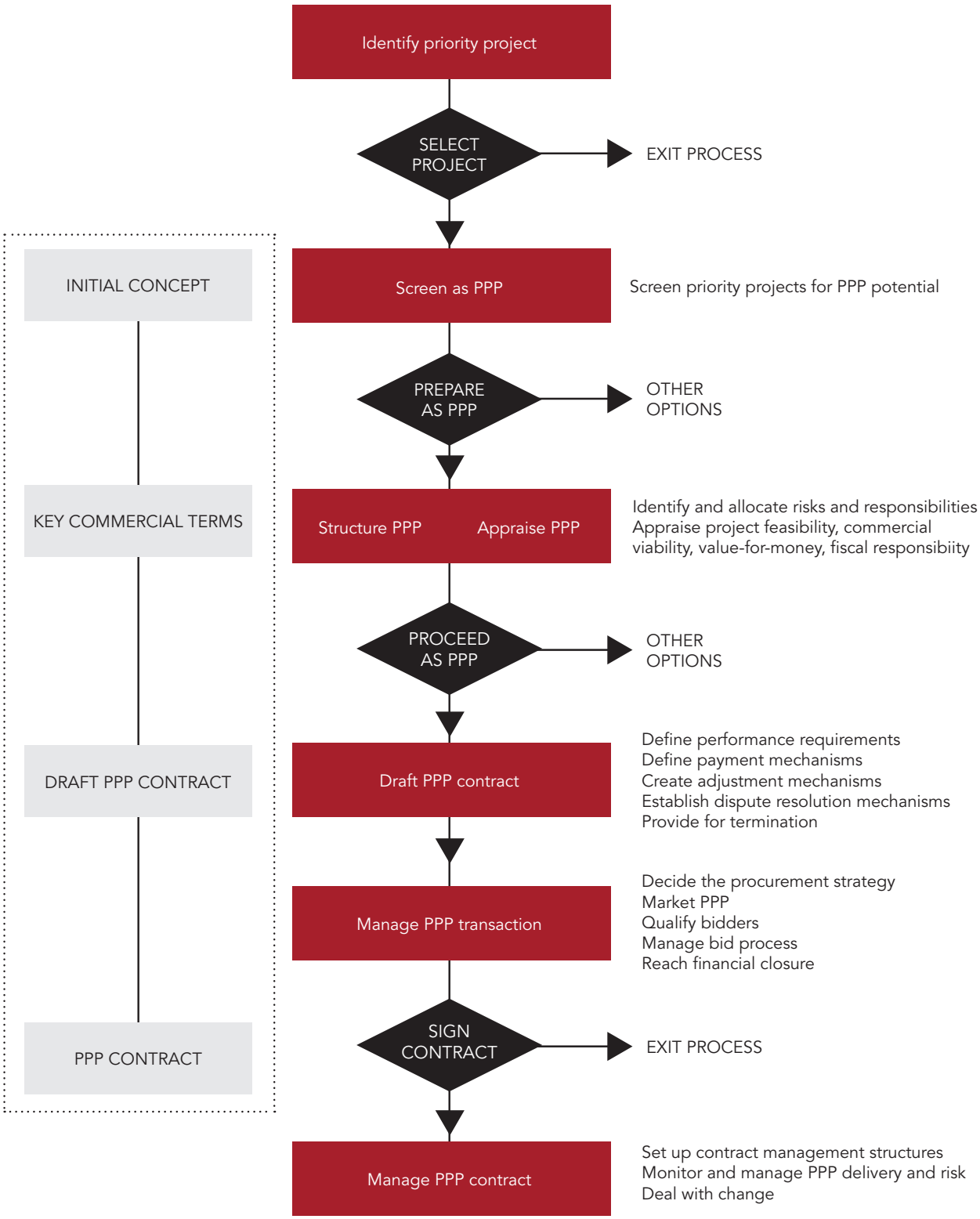
Governments should only develop PPP projects that are cost-benefit justified, provide better value for money than traditional public procurement, and are fiscally responsible. However, it is difficult to assess whether a project meets all these criteria until the project is fully designed, and the decision cannot be confirmed until bids are received. This creates a dilemma—government does not want to incur the considerable costs of developing a PPP unless it knows the project meets the criteria, but cannot tell if it meets the criteria until the project has been developed.

Successful PPP programs tackle this problem through an approach where projects are screened more rigorously at successive stage of development. A project must be a good candidate for development as a PPP before any public money is spent on it. Then, the process of preparation is broken into successively more intensive and expensive phases. Before each new phase, the project must be checked to provide assurance that it is likely to meet the criteria for successful PPPs as it develops.

This module describes the iterative process for developing a PPP, as follows:

- **Project identification and screening**—the process of developing and implementing a PPP is typically preceded by **identifying a priority public investment project**, typically through a public investment planning and project selection process. During this process, some or all proposed public investment projects are **screened for their potential as a PPP.**
- Candidate projects that survive this screening process are then **developed** and **appraised**. Again, this is a multi-stage process—hence appraisal and structuring are shown in parallel in *Figure 3.1 - PPP Development and Implementation Process*. Because appraisal and structuring are conceptually different, the *Reference Guide* discusses appraisal first (*Section 3.2 - Appraising Potential PPP Projects*) and then structuring (*Section 3.3 - Structuring PPP Projects*). Projects will typically be partially structured, then par-

Figure 3.1 PPP Development and Implementation Process



tially appraised, then more fully structured, and more fully appraised. Different countries break up these steps differently. The result, or the *business case* for the project, is typically the basis for approval to proceed with the PPP transaction.

- Before the PPP transaction can be implemented, the **draft PPP contract needs to be prepared**—further refining the PPP structure by setting out its details in appropriate legal language. *Section 3.4 - Designing PPP Contracts* sets out some key elements of PPP contract design.
- **Managing a PPP transaction** is a complex process. A well-designed and well-implemented transaction process is central to achieving value for money from the PPP. As described in *Section 3.5 - Managing PPP Transactions*, this includes marketing the PPP, checking the qualifications of bidders, inviting and evaluating proposals, interacting with bidders during the process, and identifying and finalizing the contract with the selected bidder. At the end of the transaction, after bids are received and the contract agreed, government will finally know the cost and risks in the PPP project. At this point it may be checked once more to ensure it still meets the PPP criteria.
- Having executed the contract, the PPP enters the final and longest stage—**managing the contract** throughout its lifetime, as described in *Section 3.6 - Managing PPP Contracts*.
- As an alternative approach to originating and developing PPP project ideas, some governments accept **unsolicited proposals** for PPP projects from private companies, as described in *Section 3.7 - Dealing with Unsolicited Proposals*.

This guidance module is not an exhaustive resource—developing a PPP is a complex process and every project has its own peculiarities.

Public officials should hire experienced advisors when implementing a PPP project. The **World Bank toolkit for hiring advisors for PPP in infrastructure** (PPIAF 2001) provides extensive guidance on engaging and managing advisors.

Overall guidance on implementing PPP Projects

As described in *Module 2 - Establishing the PPP Framework*, some governments and multilateral institutions, including the World Bank, have developed detailed guidance materials, manuals, and toolkits to help PPP practitioners develop and implement PPP projects. These include sector-specific materials. The Key References table on PPP on 'Other Guidance Material and Toolkits' list some of the best PPP guidance documents. Relevant sections are included as further resources for each PPP stage described in this *Reference Guide*.

3.1 Identifying PPP Projects

The first step towards a successful PPP is identifying a potential PPP project. Since a PPP is a public investment, most successful PPP projects originate from the broader public investment planning process as described in *Section 2.3.1 - PPP Process*. During this process, priority public investment projects can be screened for their potential to achieve better value for money if implemented as PPPs. Several governments have established tools and checklists to support this screening. The **online toolkit for PPPs in India** (IN) provides a good overview of the PPP project screening process.

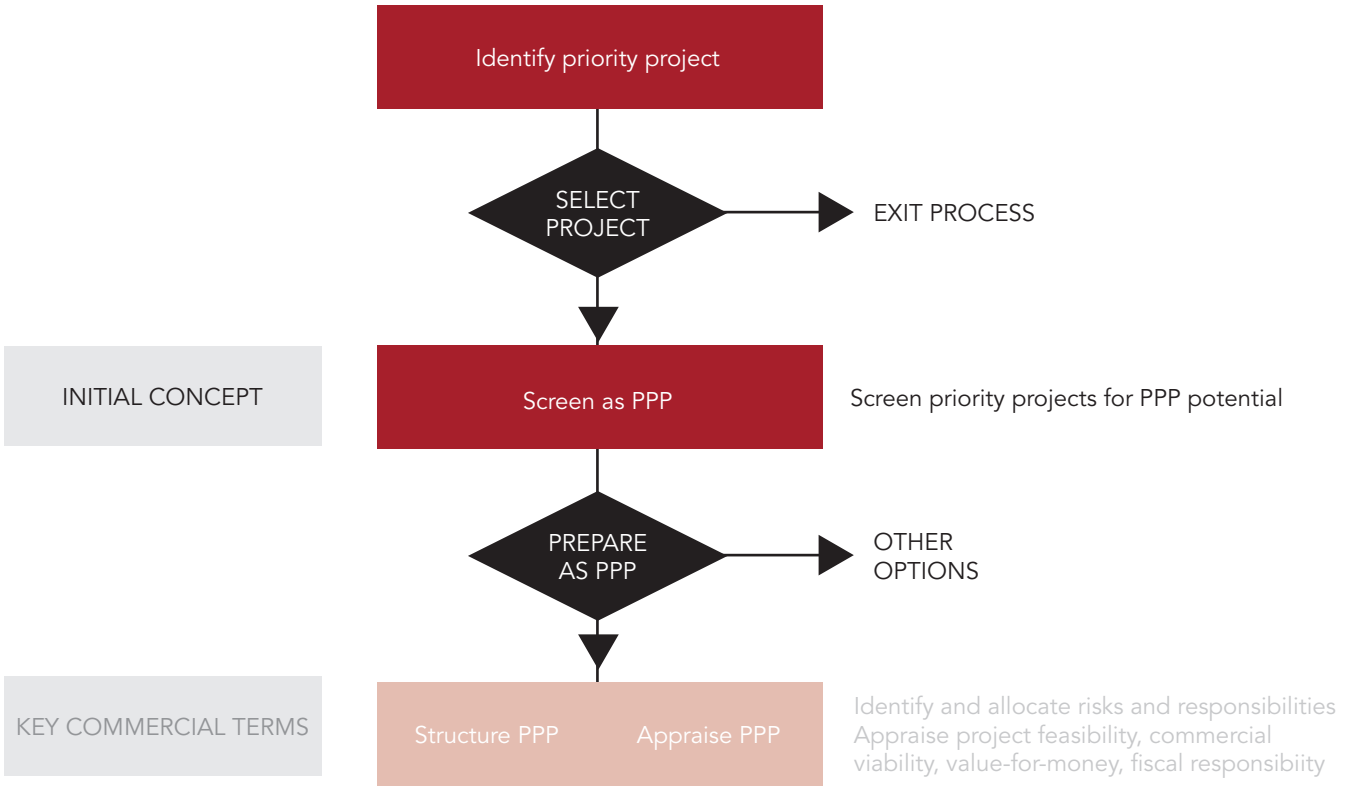
As shown in *Figure 3.2 - Identifying PPP Projects*, the output of the project identification stage is typically an initial concept and the *strategic* or *outline* business case for pursuing the project as a PPP. In many countries, the concept must be formally approved before developing the PPP further.

3.1.1 Identifying Priority Public Investment Projects

The starting point—or precursor—to identifying a potential PPP is identifying a priority public investment project. Many governments have well-defined processes and methodologies for public investment planning. These may extend from setting out sector or infrastructure strategies, assessing project options to meet objectives, conducting detailed feasibility and cost-benefit analyses, and prioritizing projects within an overall public investment plan or fiscal envelope.

Sound public investment planning and management are crucial components of the success of PPP projects. Like all public investment projects, a PPP needs to address clearly-identified socio-economic objectives that are central to sector needs—particularly since the long-term nature of PPP contracts effectively locks in asset and service specifications over a long-term period. Procurement skills are essential to deliver a well-structured PPP that meets public investment management standards. The **World Bank webpages on Public Investment Management** (PIM) (WB-PIM) provides a

Figure 3.2 Identifying PPP projects



wealth of resources and examples on this topic. **Rajaram et al's book on PIM** (Rajaram et al. 2014) presents a step-by-step approach and specifically addresses PPPs.

An **IMF report on infrastructure efficiency** (IMF 2015a) concluded that countries with stronger PIM institutions have more predictable, credible, efficient, and productive investments. This IMF research, by focusing on the quality of investment results (output)—instead of its volume (input)—suggests that better public investment decisions lead to higher economic growth, implying that strengthening PIM institutions could be as effective, in terms of output, as increasing investment by two-thirds of the estimated additional needs.

In some cases, PPP project ideas may also emerge from other sources than the standard public investment planning process. These could include:

- **Sector reform processes**. Governments undertaking reform of an under-performing infrastructure sector may consider PPPs among a range of options for introducing private participation to improve service delivery in that sector, as described in *Section 1.1.2 - What PPP is Not: Other Types of Private Involvement*. The **ADB's PPP Handbook** chapter on sector diagnostic analysis (ADB 2008, Chapter 3) describes how potential PPPs may emerge in this context.
- **Unsolicited proposals from businesses**. Most governments provide a legal framework to encourage businesses and other non-government entities to originate PPP project ideas that may be considered by government—as described in *Section 3.7 - Dealing with Unsolicited Proposals*. This approach can be a way to harness on the ideas of the private sector on how to solve infrastructure challenges.

However, wherever a PPP is developed outside the typical public investment planning process, this raises the risk that such ideas may not be well-integrated with broader sector and infrastructure plans and priorities. Such project ideas must be subject to the same analysis and screening as any proposed public investment and PPP.

3.1.2 Screening for PPP Potential

At some point in the process of identifying priority public investments, or sector reform options, projects may be **screened for their potential to be implemented as a PPP**. The objective of this screening is to identify—based on the available information—whether the project may provide better value if implemented as a PPP.

In practice, different governments do this PPP screening at different stages, as described in *Box 3.1 - PPP Selection in the Public Investment Planning Process*. Some may screen all projects, as part of a comprehensive procurement options analysis, as described in (Burger and Hawkesworth 2011, 47–50). Others may consider PPP only for certain project types—as may be established in the PPP Policy (see *Section 2.1.2 - PPP Program Scope*). In many countries, the initial impetus to develop a project as a PPP is left to the discretion of the implementing agency.

To support this screening process, many governments introduce criteria or checklists for PPP potential against which projects can be compared. *Box 3.2 - PPP Potential Screening Factors in South Africa* provides an example of such a checklist from the **South Africa PPP Manual** (ZA 2004a). Similar criteria may be also used for more detailed appraisal, as described in *Section 3.2.4 - Assessing Value for Money of the PPP*—at the screening stage, the idea is to check if the criteria are likely to be met for the project to proceed to the next level of development.

The following resources provide further suggestions and guidance on the factors to consider when screening potential PPP projects:

- **India's online PPP toolkit** (IN) includes a suitability filter that guides the user to consider the same issues described in *Box 3.2 - PPP Potential Screening Factors in South Africa*, as well as the support of the public sector for the project (including an assessment of the public sector capacities to implement the project as a PPP). It also considers potential barriers to project implementation (based on information from the pre-feasibility study) and other factors, such as the expected effort and resources needed to develop the PPP. For example, the availability of standard contracts should be assessed.
- In **Colombia**, the implementing agency must present an Executive Report to the PPP Unit, ANI, requesting authorization to implement the project as a PPP. The analysis in this report—such as pre-feasibility analysis—is described in the **PPP Manual** (CO 2014, 34–38).

Box 3.1 PPP Selection in the Public Investment Planning Process

The PPP process can be seen as a branch of the broader public investment management process—that is, at some point a project is selected as a potential PPP, and thereafter follows a PPP-specific process. However, this branching can occur at different points in the public investment process. For example, this could be:

- After budgeting as a public investment project, as is the case in Australia and the Netherlands, where procurement options (including PPPs) are assessed only after a project has been approved and budgeted for as a public investment project. If the project is subsequently implemented as a PPP, then budget allocations are adjusted accordingly.
- After project appraisal and approval as a public investment. In Chile, all public investment projects undergo a cost-benefit analysis by the National Planning Commission and must also meet a specified social return rate for public investments. PPP projects are also taken from this list.
- After pre-feasibility or strategic options analysis. In the Republic of Korea, a potential PPP is identified after a pre-feasibility analysis and a detailed project appraisal (such as technical feasibility studies or a cost-benefit analysis). These are part of the PPP appraisal process. A similar approach is followed in South Africa, where PPP implementation is part of an initial needs analysis and options assessment of a potential public investment project.

Well-defined PPP processes typically mirror public investment management processes—for example, requiring approvals by the same bodies, as described further in *Section 2.3.3 - Institutional Responsibilities: Review and Approval*.

Sources: Irwin & Moktad paper on managing Contingent Liabilities (for Chile and Australia) (Irwin and Mokdad 2010); PPP projects from the Republic of Korea (Kim et al. 2011, 63); South Africa PPP manual (ZA 2004a, Module 4, 1–13)

Box 3.2 PPP Potential Screening Factors in South Africa

The South Africa PPP Manual lists the following, as factors to consider when deciding whether a project could achieve value for money as a PPP:

- Scale of the project—are transaction costs likely to be justified? *Section 2.1 - PPP Policy* describes how some governments set a minimum size for their PPP projects.
- Outputs capable of clear specification—is there reason to believe we can write a contract that will hold provider accountable?
- Opportunities for risk transfer (and other PPP value drivers)—is there good reason to believe that a PPP will provide value for money compared to the alternative of traditional public procurement? That is: appropriate risk allocation should assign risks to the party best able to control or bear them—and capitalize on the PPP value drivers set out in *Box 1.2 - PPP Value Drivers*.
- Market capability and appetite—is there a potentially viable commercial project and a level of market interest in the project? Assessing market appetite may require initial market sounding with potential investors.

Source: South Africa PPP Manual (ZA 2004a, Module 4, 13)

- The **Government of Hong Kong's Guide to PPPs** (HK 2007, 31–32) describes a list of criteria that a PPP should meet at the initial screening stage (or *stage one business case*) to be considered as a PPP candidate.
- The **Caribbean PPP Toolkit** (Caribbean 2017, Module 3) provides guidance using Caribbean examples with global relevancy.

The **UNESCAP Qualitative Value-for-Money Toolkit** (UNESCAP 2017) contains a set of criteria that governments may use for prioritization and helps identify project weaknesses. Ministries, departments, or sector agencies often need support to overcome initial unfamiliarity or reluctance to adopt PPPs. A central PPP unit can play this role, as described in *Section 2.3.4 - Dedicated PPP Units*. Developing and implementing a PPP transaction is typically more expensive than the equivalent process for a traditional public investment project, which may deter agencies from identifying PPPs. Additional funding for PPP development can help level this playing ground. For example, the India Infrastructure Project Development Fund (IN 2013a) was established as a revolving fund, and can fund up to 75 percent of PPP project development expenses.

The outcome of this screening process is a pipeline of PPP projects set in the context of a national infrastructure program and sector strategic plans. Making this PPP pipeline public can be a good way to build private sector interest in investing in PPPs. The Chilean PPP unit, Coordinación de Concesiones de Obra Pública, shares all relevant information on their project pipeline on their website.

Farquharson et al describes the advantages of defining the investment framework for a PPP program—including the PPP pipeline and other planned infrastructure investments that complement it (Farquharson et al. 2011, 21–22).

3.1.3 Building an Initial PPP Pipeline

In countries with relatively new PPP programs, project selection often means sifting through the project concepts generated by sector agencies and screening them for PPP potential using the approach described in *Section 3.1.2 - Screening for PPP Potential*. In this context, governments may consider additional criteria in deciding which potential PPP projects to develop first. Often, at this stage, the priority is to build experience and momentum in the PPP program by achieving project successes in a relatively short timeframe.

Several factors may feed into this process. For example, the **Philippines PPP Center** notes that projects in its PPP program pipeline (on its PPP List) were selected based on the following criteria:

- **Project readiness and stage of preparation**—some projects were more developed than others before being proposed as PPPs, reducing the remaining project development costs.
- **Responsiveness to the sector's needs**—the order of implementation of PPP projects needs to be aligned with overall sector priorities within the strategic plan—in other words, PPPs should be central to the development of the sector, not peripher-

al projects whose benefits may turn out to be marginal, or which may distract from strategic priorities.

- **High implementability**—prioritizing PPP projects with a high likelihood of success, that are considered most likely to attract private sector interest, and for which there is a precedent in the local or regional market.

PPIAF (PPIAF 2017), in its Rapid Support Framework, includes consultancy services for pipeline diagnostic and project prioritization. The **Caribbean PPP Toolkit** (Caribbean 2017, Module 3, Section 4) presents guidance on pipeline identification and its common challenges.

In an **interview with the Reason Foundation** (Gilroy 2011), the Director of the Puerto Rico PPP Authority also describes how the Authority initially prioritized PPP projects that were most ready to go to market, as well as ensuring that these corresponded with overall policy priorities (such as brownfield school PPPs).

Key References: Identifying Candidate Projects

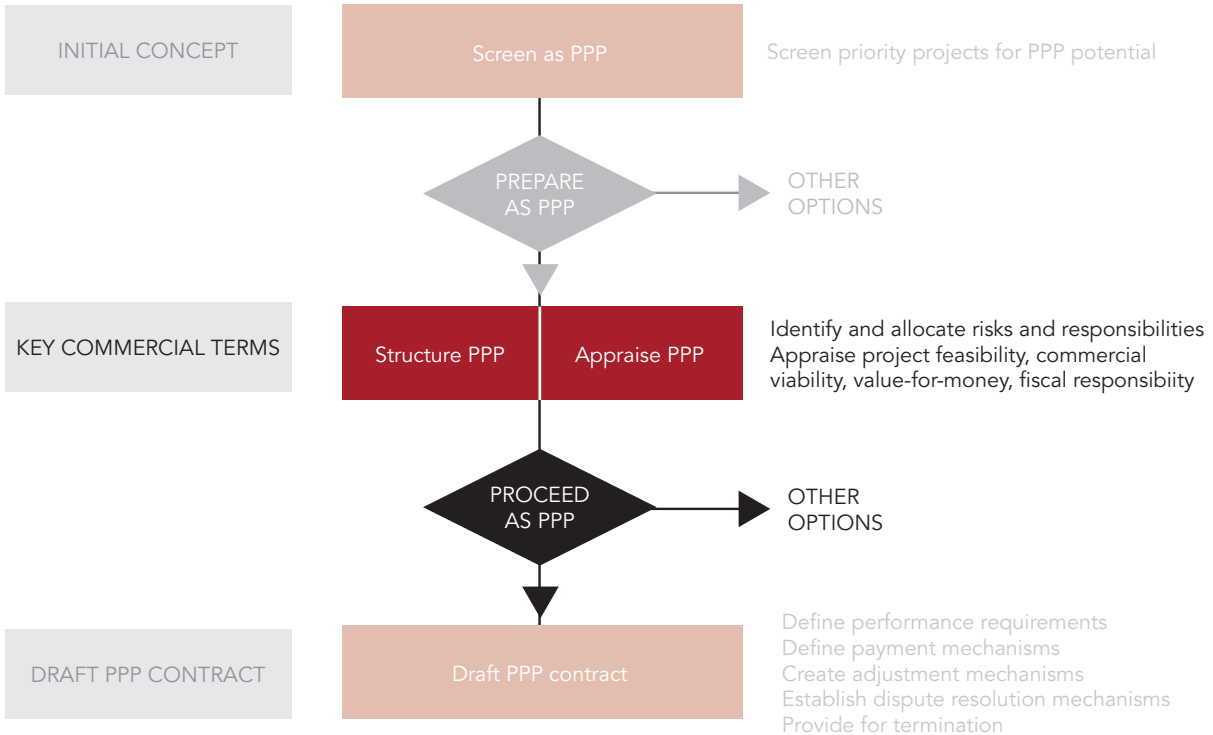
Reference	Description
IN. Accessed March 15, 2017. "PPP Toolkit for Improving PPP Decision-Making Processes." Public-Private Partnerships in India. New Delhi: Government of India, Ministry of Finance.	Module 2: "Work through the PPP Process, Phase 1: Identification" provides extensive guidance on identifying PPP projects.
CO. 2014. *Manual de Procesos y Procedimientos para la Ejecución de Proyectos de Asociación Público-Privada*. Bogotá: Gobierno de Colombia, Ministerio de Hacienda y Crédito Público.	The Process and Procedures Manual for PPP Projects describes (on pages 34–38) the information that an implementing agency must include in its initial report to the PPP Unit requesting that a project be implemented as a PPP.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	Module 4: "PPP Feasibility Study" describes needs analysis and options analysis as the first two stages of carrying out a feasibility study to "decide whether traditional public procurement of a PPP is the best choice for the proposed project."
IN. 2013a. *Scheme and Guidelines for Financial Support to Public Private Partnerships in Infrastructure*. New Delhi: Government of India, Ministry of Finance.	Describes the rationale for establishing the IIPDF to overcome barriers to PPP project identification, and the structure and operational arrangements for the fund.
PE. 2010. *Pautas para la Identificación, formulación y evaluación social de proyectos de inversión pública a nivel de perfil*. Lima: Ministerio de Economia y Finanzas.	Module 2: "Identification" within the Guidelines for the Identification, Formulation, and Social Evaluation of Public Investment Projects outlines the gap analysis approach to identifying investment needs and projects.
ADB. 2008. *Public-Private Partnership Handbook*. Manila: Asian Development Bank.	Chapter 3: "Structuring a PPP: Sector Diagnostic and Sector Road Map" sets out how identifying possible PPPs can be part of an overall strategic review of a sector.
HK. 2008. *An Introductory Guide to Public Private Partnerships*. Hong Kong, China: Efficiency Unit.	The first section of Chapter 4: "Making the Business Case" sets out the criteria for a project should meet to have a prima facie case to be implemented as PPP.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	The section on developing a PPP Investment Framework on pages 21–23 describes the importance of building a PPP project pipeline, together with clear public sector investment plans.
Caribbean. 2017. *Caribbean PPP Toolkit*. Washington, DC: World Bank, Inter-American Development Bank and Caribbean Development Bank.	Discusses methodology for PPP project pipeline identification as well as typical issues that arise during this process.

3.2 Appraising Potential PPP Projects

Potential PPP projects must undergo an appraisal process to ensure that developing and implementing them makes sense. For any proposed PPP project, there are five key criteria that governments should consider when deciding whether or not to pursue a project as a PPP:

- **Feasibility and economic viability of the project** (*Section 3.2.1 - Assessing Project Feasibility and Economic Viability*)—whether the underlying project makes sense, irrespective of the procurement model. First, this means confirming that the project fits in with national development and sector strategies, policy priorities, and sector and infrastructure plans. It then involves feasibility studies to ensure that the project is technically feasible, and the technology is easily available in the market and unlikely to become obsolete in the medium term; and economic appraisal to check that the project is cost-benefit justified, and represents the least-cost approach to delivering the expected benefits. Attention should be paid to **environmental and social issues (E&S)**, addressed in *Section 3.2.2 - Environmental and Social Studies and Standards*.
- **Commercial viability** (*Section 3.2.3 - Assessing Commercial Viability*)—whether the project is likely to attract good-quality sponsors and lenders by providing robust and reasonable financial returns. This is subsequently confirmed through the tender process.
- **Value for money of the PPP** (*Section 3.2.4 - Assessing Value for Money of the PPP*)—whether developing the proposed project as a PPP can be expected to best achieve value for money compared to other options. This includes comparing against public procurement (where that would be an option) and other possible PPP structures. Some countries, like Australia and India, mandate the development of a *public sector comparator* during the appraisal process. This is an estimate of the hypothetical, whole-of-life cost of the project if financed by government under traditional procurement. This ensures that the proposed structure provides the best value for money.
- **Fiscal responsibility** (*Section 3.2.5 - Assessing Fiscal Implications*)—whether the project's overall revenue requirements are

Figure 3.3 Appraising PPP Projects



Box 3.3 The Five Case Model

The United Kingdom has developed a methodology for project assessment called the *Five Case Model*. The methodology can be applied to every type of project, whether PPP or not. It provides a comprehensive framework for assessing projects. It consists of looking at a project through five different *lenses*, or cases, as follows:

- The Strategic Case—covers the rationale for the project, outlining its scope and objectives, and places it within an overall strategic and policy context; in short it should make the case for change.
- The Economic Case—this demonstrates that a wide range of options has been considered taking into account relevant political, economic, social, technical, legal and environmental factors. A cost-benefit analysis should be conducted on a short list of options to determine which one offers best value. For a PPP, it should demonstrate that using private finance offers best value for money for the public sector. In the United Kingdom, a qualitative evaluation and a numerical quantitative evaluation are used to test this.
- The Commercial Case—demonstrates that the project is commercially viable and bankable; that the supplier market has been tested; and that the contract is well developed with an appropriate risk allocation.
- The Financial Case—demonstrates that the project is affordable and explains what amount is to be funded by the contracting authority, what amount will be funded by the central government funding, and what user of the facility will pay.
- The Management Case—this should demonstrate that all arrangements are in place to ensure the successful delivery of the project, namely, that the project is properly staffed and resourced, with appropriate governance arrangements, advisers and timetable, so that it can be procured on time and on budget.

Guidance on this can be found in the United Kingdom Green Book (UK 2011a) and Five Case Model methodology (Flanagan and Nicholls 2007).

within the capacity of users and the public authority to pay for the infrastructure service. This involves checking the fiscal cost of the project—both in terms of regular payments and fiscal risk—and establishing whether this can be accommodated within prudent budget and other fiscal constraints.

- **Project management** (*Section 3.2.6 - Assessing the Ability to Manage the Project*)—whether the contracting agency has the authority, capacity, and fiscal resources to prepare and tender the project, and to manage the contract during its term.

These criteria (with some variations) are described in more detail in Chapter 5: "Public-Sector Investment Decision" in **Yescombe's book on PPPs** (Yescombe 2007); Chapter 4: "Selecting PPP Projects" in **Farquharson et al's book on PPPs** (Farquharson et al. 2011), Module 3 of the *Caribbean PPP Toolkit* (Caribbean 2017), and Chapter 1: "Project Identification" in the **EPEC Guide to Guidance** (EPEC 2011b).

Figure 3.3 - Appraising PPP Projects shows how project appraisal fits in to the overall PPP process. Initial assessment against each criterion is typically done at the project identification and initial screening stage, as described in *Section 3.1 - Identifying PPP Projects*. Detailed appraisal is usually first conducted as part of a detailed business case alongside developing the PPP project structure, as described in *Section 3.3 - Structuring PPP Projects*. For example, assessing the value for money of the PPP depends on risk allocation, an important part of PPP structuring.

PPP appraisal is typically re-visited at later stages. The final cost, affordability and value for money is not known until after procurement is complete, when the government must make the final decision to sign the contract. Many governments require further appraisal and approval at this stage.

3.2.1 Assessing Project Feasibility and Economic Viability

Implementing a project as a PPP only makes sense if the project itself is sound. Most governments therefore subject proposed PPP projects to the same technical and economic appraisal as any other major public investment project. There are typically two broad elements to this assessment:

- Developing and assessing the feasibility of the project concept
- Appraising whether the project is a good public investment decision based on an economic viability analysis

This assessment may take place prior to consideration of a project as a PPP as described in *Section 3.1 - Identifying PPP Projects*. In other cases, it may be undertaken as part of the PPP appraisal process. The project feasibility and economic viability analysis of a PPP should be as thorough as that of any other major public investment project.

This section describes such analyses as applied to potential PPP projects, highlighting key issues that would typically be addressed and providing a selection of sources that may supplement governments' existing guidance materials.

Defining a project and checking feasibility

A project must be clearly defined before it can be appraised. Project definition includes the description of the physical facilities that will be constructed, the technology to be used, the outputs to be provided, and the identification of the end-users. Capital, operating, and maintenance costs should be estimated over the life of the project, as well as any revenue expected to be generated. This definition should be sufficiently broad to apply to a project delivered as either a PPP or a traditional publicly financed project. The PPP contract should focus on output and refrain from specifying the technologies, inputs, and processes to be used. This should be the responsibility of the private operator. However, some technological definition is still needed for initial cost assessment.

The project can then be tested for feasibility across several dimensions:

- **Technical feasibility**—can the project be implemented as planned, using proven technologies, and without unreasonable technical risks?
- **Legal feasibility**—are there any legal barriers to the project? For a PPP, this includes due diligence to identify any legal constraint preventing the government to enter into a PPP contract.
- **Environmental and social sustainability**—at a minimum, does the project comply with national environmental and planning standards? In some cases, a higher bar may be set, such as compliance with the **Equator Principles**—a set of standards on managing environmental and social risk from project finance transactions, based on World Bank Group standards, set out in detail at (Engel et al. 2009). This is discussed in greater detail in *Section 3.2.2 - Environmental and Social Studies and Standards*.

Answering these questions involves engaging experts to undertake several detailed studies—for example, technical feasibility studies, legal due diligence, environmental, and social impact assessments. For further guidance, see for example the detailed manuals published by the governments of **Chile** (CL 2010b), **Germany** (DE 1998), **Peru** (PE Pasivos), **Philippines** (PH 2010), and the **United Kingdom** (UK 2011a) for carrying out feasibility studies for public sector investment projects. The **Caribbean PPP Toolkit** (Caribbean 2017, Modules 3 & 4) also provides guidance on carrying out feasibility studies, including checklists on legal and technical topics.

Creating and appraising options

Developing value for money in a project requires identifying delivery options and appraising them. Noting that establishing a range of options can be challenging, the **United Kingdom Green Book** (UK 2011a) suggests the following actions:

- Research existing reports, and consult widely with practitioners and experts, to gather the set of data and information relevant to the objectives and scope of the project.
- Analyze the data to understand significant dependencies, priorities, incentives and other drivers.
- From the research, identify best practice solutions, including international examples if appropriate.
- Consider the full range of issues likely to affect the objective.
- Identify the full range of policy instruments or projects that may be used to meet the objectives. This may span different sorts or scales of intervention; regulatory (or deregulatory) solutions may be compared with self-regulation; different financing and funding solutions may be considered as well as various tax options.
- Develop and consider radical options. These options may not become part of the formal appraisal but can be helpful to test the parameters of feasible solutions. Well-run brainstorming sessions can help to generate such a range of ideas.

The same **Green Book** (UK 2011a) provides examples of strategic and operational options. They include, among others:

- Varying time and scale
- Options to rent, build, or purchase

- Refurbishing existing facilities or leasing and buying new ones
- Changing locations or sites
- Co-locating, or sharing facilities with other agencies
- Changing the combination of capital and recurrent expenditure
- Varying the balance between outsourcing and providing services
- Varying quality targets

Appraising project economic viability

Many governments undertake some form of economic viability analysis (also known as socio-economic viability) to decide whether a proposed project is a good use of public resources. A project is economically viable if the economic benefits of the project exceed its economic costs, when analyzed for society as a whole.

The economic costs of the project are not the same as its financial costs—externalities and environmental impacts should be considered. Externalities (positive or negative) are economic impacts that affect persons who are not necessarily part of the project scope. The economic benefits are a measure of the value the project will deliver to society as a whole. The revenue a project will generate is usually a lower-bound estimate of its economic benefits; however, benefits can be much higher than revenues. For example, the benefits from improved transportation, for drivers, can far exceed the tolls paid on a highway—faster connections, reduced vehicle maintenance, lower accident rates, may be significant factors. In addition, the project may enhance regional economic activity and quality of life for the people living in the vicinity of the project. Similarly, the value of education at a high school should be measured by the enhancement in the lives and prospects of the children who attend that school, even if no school fees are charged. Economic viability analysis can also include a cost-effectiveness analysis to determine whether the project is the lowest-cost alternative to achieve the identified benefits.

There is a wide range of literature and guidance material available on project appraisal and economic cost-benefit analysis. The *Key References* for this section provide a selection, with examples of government guidance material, as well as resources from international institutions, and textbooks. The **United Kingdom Green Book** on appraisal (UK 2011a) states as the main purpose of appraisal guaranteeing that no project, program, or policy is adopted without answering two major questions: Are there better ways to achieve this objective? Are there better uses for these resources?

Application to PPP

Many countries require PPP projects to meet feasibility and economic viability criteria. For example:

- In the **Philippines**, all major infrastructure projects are required to undergo a feasibility and viability assessment process, as described in details in a reference manual (NEDA 2005a). The same process is required for PPP projects.
- In **Chile**, the 2010 Concessions Law states that the social impact evaluation of a potential PPP project must be approved by the Ministry of Planning. The Concessions Council must also review this document before allowing a project to be implemented as a PPP.
- In **Indonesia**, guidelines issued by the state-owned Indonesia Infrastructure Guarantee Fund specify the criteria to assess the opportunity cost of issuing guarantees to PPP investors. The criteria include technical feasibility, economic viability, and environmental and social desirability.

Optimism bias is a systemic issue relevant to all infrastructure projects including PPPs (see *Section 1.2.2 - Poor Planning and Project Selection*). It needs to be addressed at the time of appraisal as it is often the cause of project renegotiation. In addition, overly optimistic demand studies may induce governments to approve projects that ultimately generate more cost than benefit. The **United Kingdom Treasury has published guidance material** (UK 2013) on overcoming optimism bias.

Implementing agencies should bear in mind that the work undertaken in assessing project viability also lays the foundation for the rest of the PPP appraisal. The project definition provides the basis for developing the PPP financial model and commercial and fiscal viability analysis, as well as any quantitative value for money analysis. Assessment of technical feasibility, and environmental and social sustainability will provide a basis for the risk analysis. Cost and demand estimates developed for the economic viability assessment will also provide initial inputs to the financial modeling, and PPP value for money analysis.

Stakeholder engagement should be initiated as early as possible in the project cycle. The **IFC stakeholder handbook** (IFC 2007, 4) states that many private operators begin their consultation process around the pre-feasibility stage of the project. IFC's handbook also recommends beginning the consultation at the time of the project concept stage.

Early engagement has both its positive and negative aspects. It allows government to introduce the project in a positive light, lay out its development rationale publicly, and strike a balance between promoting the project and managing expectations. All projects have potential benefits but also uncertainties. Early engagement also signals to stakeholders that their needs and views are being taken into consideration (IFC 2007, 4–5). Establishing a positive relationship early generates social capital and creates a foundation of credibility with stakeholders if an issue were to arise.

The negative aspects of early engagement are connected to the danger of spreading of misinformation. As soon as disclosure on the project begins, the window for misinformation and rumors opens. As described in the **IFC stakeholder engagement handbook** (IFC 2007, 111–113), the ability to counteract these rumors is limited in the early stages of the project cycle, since many details will only become clear toward the end of the appraisal phase. It may therefore be difficult to reassure stakeholders or respond to questions in the absence of concrete details. This lack of information may cause stakeholders to speculate and prematurely condemn a project based on unconfirmed facts or false assumptions. Therefore, stakeholders for the initial consultation should be chosen strategically. Limited consultation with targeted stakeholders can be conducted during the project concept stage to receive important stakeholder input; but care is needed to avoid the spreading of unnecessary and potentially harmful misinformation that will raise alarms before a project is even given the go-ahead. After this initial consultation, stakeholders may then be more broadly identified and consulted when more project specifics are known. *Box 2.11 - The Delhi Water Project* provides an example of the consequences of misinformation remaining unchecked.

Having a solid project narrative in place may help countering such misinformation. Several useful steps in formulating a narrative are:

- Identify the current problem faced by the populations
- Explain the problem's impact on the lives of those affected
- Explain how the government is addressing the problem
- Explain why the government is choosing to address the problem with a PPP

The **European Commission guidelines on stakeholder consultation** (EC 2015) suggest a maximum of 12 weeks for this consultation process to occur. This period will vary based off the scale and scope of the project with only major projects necessitating the full 12-week consultation period.

Stakeholder engagement to assess project viability

Stakeholder engagement is a valuable tool for assessing the viability of a project and identifying risks. *Section 2.5.1 - Stakeholder Communication and Engagement* describes the process in detail.

Evaluating climate change-related and natural disaster risks

As policy makers and project developers gradually enhance their understanding of the risks posed by climate change, practitioners should be able to design the contractual obligations of private investors and adequate contract management mechanisms. The life cycle approach opens avenues for creating incentives for all stakeholders engaged in the PPP process and minimizing risks to investments. A **European Commission study: Guidelines for Project Managers** (CLIMATE-ADAPT 2012, 17–53) presents guidelines for integrating climate resilience into the asset lifecycle.

Downscaled models use macro information to predict climate outcomes at the local level. Although the data on climate and disaster risks for downscaled models is becoming more robust, the range of uncertainty regarding these risks and resulting impacts remains a challenge. Good practice consists of incorporating the concept of resilience in the risk allocation matrix and whole-asset-life-cost optimization approaches, instead of focusing only on the project implementation phase.

Procurement specialists need to develop incentive structures in PPP procurement to foster innovation in climate mitigation and adaptation while still operating within a competitive environment. For example, **evaluation criteria** for resilience could be introduced in tender documents, using the asset life costing approach—bidders could be invited to demonstrate how their proposals address resilience to risk, highlighting the costs as well as the benefits, and how they will manage the project when facing changes in the risk itself.

Two key resources enable non-specialists to consider the impacts of disasters on new development projects. These are:

- The **Climate Change Knowledge Portal** (WB-Climate)
- **Think Hazard** (GFDRR), a web-based tool, developed by the World Bank and other partners

Other innovative technical assistance available to procuring authorities are:

- The **Society for Decision Making under Deep Uncertainty (DMDU)** (Deep Uncertainty), an interactive platform that supports learning and dialogue about key aspects of long-term investment under uncertainty.
- **Making Informed Investment Decisions in an Uncertain World: A Short Demonstration** (Bonzanigo and Kalra 2014) seeks to motivate and equip analysts to better manage uncertainty in investment decisions.
- A **World Bank study: Robust decision-making in the water sector** (Kalra et al. 2015) helped SEDAPAL, the water utility serving Lima, Peru, make smart investments to ensure long-term water reliability by drawing on state-of-the-art methods for decision-making under deep uncertainty.
- A **World Bank publication** (WB 2016d) outlines the decision tree used in South Asia to procure climate resilient hydropower.

3.2.2 Environmental and Social Studies and Standards

Potential damage to the environment and the impact on populations are key issues when planning infrastructure projects. Besides the cost-benefit analysis that determines whether the expected benefits of a project outweigh potential detrimental environmental and social (E&S) impacts, there is increasing recognition that the success of a project depends on managing E&S risks and impacts effectively in addition to managing its technical and financial aspects.

Investment decisions increasingly include an assessment of the management of E&S risks and impacts—not only when MDBs and international financial institutions are involved but also when commercial banks and private equity funds are the source of financing. Furthermore, in many developing countries international players require compliance with both national laws and international E&S standards developed by MDBs, which are sometimes more stringent than those imbedded in national legislation.

A key element in E&S risk management is the *mitigation hierarchy*, whereby priority is given to avoidance and minimization of impacts. Where residual risks or impacts remain, a compensation or offset is provided to support relocated persons and affected communities, or to mitigate risks to the environment. E&S studies are necessary to determine how to mitigate these risks and impacts and how to compensate those affected by them. For example, if people living on or near a proposed construction site of a PPP project will be displaced, E&S studies should consider ways to minimize displacement and propose specific measures to compensate relocated persons fairly.

There are cases where the need for compensation is not as obvious as in the case of displaced people. For example, building a new bridge may benefit passengers, but could also prevent a ferry operator from collecting monopoly fees. Loss of a monopoly position does not necessarily require compensation. If the livelihood of ferry employees is greatly affected, solutions such as skills training and job search support could be provided to reduce social impacts, or ensure that they do not fall disproportionately on the most vulnerable.

The E&S studies should address the whole life cycle of the project, including design, construction, operation, and decommissioning. The assessment should consider sectoral and national policies, legislation and regulations, governance frameworks, and environmental capacity. These studies should be conducted early in the project preparation phase so that the findings can be considered in the decision-making process. In the PPP context, this translates into assessing E&S risks and developing mitigations during PPP preparation and procurement.

Introducing E&S risk management steps when structuring a PPP project can improve the quality of the project, help it achieve political, social and environmental sustainability, prevent conflicts, and avoid delays. Impacts to PPP timeline and related cost implication could be avoided when stakeholders impacted by the project (or perceived to be impacted) are adequately engaged and risks and impacts are recognized at a stage that allows integration of mitigation strategies in the project design. Examples of this include:

- **Manila Light Rail, Philippines, 2014**. The design, construction and operation of a 12-kilometer extension of railway transit and ancillary facilities in the densest part of Manila, and the operation of the existing line, implied the displacement of over 1,000 households with no land title and a significant number of small firms. IFC commissioned an analysis to identify gaps between relevant national legislation and IFC E&S Performance Standard 5 (PS5), estimate the costs of closing these gaps, and make recommendations on allocating associated risks (WB 2015b).
- **New port in Tibar Bay, Timor Leste, 2016.** A greenfield container port in a region with significant biodiversity, including

mangrove and coral habitats of protected species). The early E&S studies led to a change in site location within the selected harbor. A biodiversity offset program is being formulated by the concessionaire and the public authority to compensate for the impacts on mangroves and corals. The operator will apply IFC E&S Performance Standards (PS) to its construction and operation activities with third party monitoring (TL 2016).

Environmental and social assessments

Countries have found advantages in creating their own framework for E&S assessment in several stages of the PPP project cycle. These frameworks include provisions for:

- Assessing E&S impacts when selecting PPP projects to mitigate negative project impacts and optimize social welfare
- Engaging with stakeholders during project preparation to communicate government concerns and solutions regarding environmental and social impact, and to receive useful feedback and suggestions—*Section 2.5.1 - Stakeholder Communication and Engagement* discusses stakeholder engagement
- Defining the specific E&S standards to be included in the PPP contract
- Monitoring E&S issues during the contract term (design, construction, and operation)

Several countries have found it effective to define **E&S mitigation requirements** prior to tendering projects. This approach allows bidders to factor the cost of these measures into their bid. Good practice consists of including the E&S constraints in the Call for Tender documents, thereby allowing bidders and concessionaires to design and implement projects at their own risk, subject to the satisfaction of those constraints.

This approach is followed by IFC when providing advice to governments on structuring PPP projects. During the appraisal stage an **E&S due diligence** is undertaken to:

- Assess major E&S risks and impacts of the project
- Identify gaps between the relevant national legislation and international E&S standards
- Provide a preliminary indication of possible mitigation measures and associated high level costs
- Evaluate for each measure which party will be best placed for its implementation
- Map key stakeholder groups and design an engagement plan
- Develop Terms of Reference (ToRs) for further, detailed E&S studies, such as Environmental and Social Impact Assessment or a Resettlement Action Plan to be undertaken by the responsible party (usually included in bidding documents to ensure the responsible party adequately covers the identified risks and impacts)

E&S due diligence enables government officials, bidders, and other stakeholders to understand key E&S issues affecting PPP projects. It also supports development of projects in line with national legislation and international E&S standards.

The outcomes of the E&S due diligence also feed into specific steps of the PPP project appraisal stage such as the assessment of technical feasibility and the assessment of commercial viability which needs to include the cost estimate of identified mitigation measures. They also inform risk allocation during PPP structuring (see *Section 3.3 - Structuring PPP Projects*) and the E&S specific provisions of the draft contract.

E&S studies should distinguish between mitigation measures to be implemented by the PPP operator and by the contracting authority before contract award. For example, stakeholder engagement (see *Section 2.5.1 - Stakeholder Communication and Engagement*) should often be started by the contracting authority in the PPP preparation stage, and then taken over by the private partner.

A good example of this approach is found in the guidance notes on screening (EC 2001c), scoping (EC 2001b) and review (EC 2001a) of the **European Environmental Impact Assessment** (EIA) scheme. This requires governments to submit the EIA to the environmental authority before the project is implemented. Based on the assessment, the authority will issue an environmental license identifying the constraints affecting the project. In a second phase, a more detailed project design that explains how the constraints will be mitigated is submitted for approval. This process allows for the government to establish limits prior to tendering, and for the potential concessionaire to present the detailed project.

Effective use of environmental and social standards

It is good practice to include E&S standards in the draft PPP project agreement. Certain standards may be required by national legislation, or by international finance institutions and major commercial banks (for example, signatories of the Equator Principles) as a financing condition. The contracting authority will need to detail how the service provider will be monitored to ensure compliance with these standards. The consequences for failure to meet these standards also need to be established. The E&S-related provisions of the draft project agreement should reflect the allocation of responsibilities for the design and implementation of E&S mitigation. Depending on the level of E&S risks of the project, and complexity associated with the design and implementation of the mitigation measures, the (pre) qualification criteria might benefit from the introduction of E&S-related criteria.

For large projects, the contracting authority may also supplement the national environment-protection framework with contractual provisions in the PPP contract discouraging the service provider from damaging the environment.

IFC has developed a risk management methodology (IFC 2012) consisting of eight Performance Standards (PS). Compliance with these standards is required for projects financed by IFC. Since 2012, all PPP projects where the IFC had an advisory mandate are screened against the Performance Standards and, where gaps are identified, recommendations are made to align them with the standards. IFC's Performance Standards are a global benchmark to determine, assess, and manage E&S risks in project financing. Eighty-four private financial institutions in 35 countries have adopted the ten **Equator Principles** (EP 2017), which are based on IFC's Performance Standards. The Equator Principles have been accepted as a move towards establishing an industry norm for managing environmental issues.

In summary, a proper assessment and mitigation of E&S risks will likely have a significant impact on the perceived value of a project, increasing its probability of success. The value for several categories of stakeholders is highlighted below:

- **Directly impacted communities** will perceive the project more positively following the analysis of the E&S risks of a project and the presentation of proposed mitigation measures.
- **Donors and commercial banks** who are members of the **Equator Principles Association** (EP 2017) will discard projects that do not comply with international E&S standards. Project sustainability will be strengthened from this methodology, thereby improving the bankability of a project.
- **Bidders** concerned about the reputational risk posed by E&S issues, particularly international bidders, can be reassured by preliminary E&S assessment and will have less uncertainties to factor in their offer.
- **Governments** can protect the public interest by requiring bidders to adopt best practices for managing E&S issues. This approach allows for a leveling up of competition for both local and international bidders and guarantees that E&S standards rise for all stakeholders.

3.2.3 Assessing Commercial Viability

Once a project is established as viable, the next step is to determine whether it would be attractive to the market if structured as a PPP. Generally speaking, private parties will find a project commercially attractive if it offers good financial returns and requires the private party to bear reasonable levels of risk.

Assessing returns typically involves **financial analysis**—that is, building a project financial model and checking project cash flows, returns, and financial robustness. The **ADB's PPP Handbook** (ADB 2008, 17–18) gives a brief overview of typical financial analysis of a PPP. **Yescombe's chapter on financial structuring** (Yescombe 2007) provides a more comprehensive description.

Where revenue from user charges exceeds costs and yield sufficient returns to remunerate capital, the project will generally be commercially attractive provided risks are reasonable. Where user charges are not at this level, government can use the financial model to assess what government contributions will be needed. Such contributions need to be integrated in financial analysis to assess what government contributions that will be needed—which in turn needs to be assessed as part of the fiscal analysis discussed in *Section 2.4.1 - Assessing Fiscal Implications of a PPP Project*.

Governments often assess the **appetite of potential partners** for a proposed PPP before taking it to market. This can be determined by investigating whether similar projects have previous-

ly been implemented with private partners, in the country or the region. It can also include testing market interest through **market sounding**—that is, presenting the main parameters of the project to selected potential investors for questions and comments—typically the project concept and initial structure developed during the structuring phase described in *Section 3.3 - Structuring PPP Projects*. The following resources provide more guidance on market sounding:

- **Farquharson et al's chapter on managing the interface with the private sector** (Farquharson et al. 2011, Chapter 8), which includes top 10 tips for a successful market-sounding exercise
- **4ps paper on soft market testing** (4ps 2007), which includes tips, practical guidance, and a case study of a market sounding exercise for a PPP in the United Kingdom
- **Grimsey and Lewis' chapter on procurements options analysis** (Grimsey and Lewis 2009, 409–411), which describes a market sounding exercise for a hypothetical hospital PPP project
- **Singapore's PPP Handbook** (SG 2012, 56–57), which requires implementing agencies to conduct market sounding before pre-qualification, and describes the type of information that should be shared at this stage
- The **Caribbean PPP Toolkit** (Caribbean 2017, Module 5, Section 5), which offers guidance on marketing PPP projects

Market sounding may be done by government agencies directly or may be delegated to transaction advisors. Experienced transaction advisors tend to know the most likely bidders for many kinds of PPP projects—using them to assess market interest allows government to take advantage of these relationships. Market feedback can be more honest and specific when the consultation is conducted by transaction advisors. A government agency may not have the same industry expertise nor the same capacity to engage in a candid dialogue with market participants.

Where local experienced transaction advisors are not available, governments may hire international advisors that have a track record

Box 3.4 World Bank Environmental and Social Framework

MDBs and other international development institutions are attentive to E&S issues when they co-finance an infrastructure project. The World Bank's Environmental and Social Framework rules (WB 2016c) are often more stringent than the host country's national legislation. The World Bank may accept the country's E&S standards or require that the utilization of the Bank's own E&S safeguards standards. Then they must apply over the entire project, even if they are only financing a portion of it. There are ten World Bank E&S standards:

- Standard 1: Assessment and Management of Environmental and Social Risks and Impacts
- Standard 2: Labor and Working Conditions
- Standard 3: Resource Efficiency and Pollution Prevention and Management
- Standard 4: Community Health and Safety
- Standard 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- Standard 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities
- Standard 8: Cultural Heritage
- Standard 9: Financial Intermediaries
- Standard 10: Stakeholder Engagement and Information Disclosure

These standards were approved by the Board in August 2016, to be implemented after a preparation and training period. According to the World Bank (WB-Safeguards), the new E&S framework introduces comprehensive labor and working condition protection; an over-arching non-discrimination principle; community health and safety measures that address road safety, emergency response and disaster mitigation; and a responsibility to include stakeholder engagement throughout the project cycle. Other MDBs have their own corresponding standards. For example, the Asian Development Bank (ADB-Safeguards) and Asian Infrastructure Investment Bank (AIIB 2016) use three safeguard categories: (1) Environment; (2) Involuntary Resettlement; and (3) Indigenous Peoples.

of closing transactions in the specific sector, or perhaps multilateral financial organizations, such as **IFC PPP advisory services.** Transaction costs may be financed by the various preparation facilities, such as the **Multilateral Investment Fund** PPP advisory facility of the Inter-American Development Bank (MIF) or the **Global Infrastructure Facility** (GIF 2017). These facilities offer advisory services in preparing and structuring PPPs to both attract private sector investment in emerging markets and uphold government project objectives.

3.2.4 Assessing Value for Money of the PPP

A key objective of governments in implementing PPPs in infrastructure is to achieve value for money (VFM). *Value for money* means achieving the optimal combination of benefits and costs in delivering services users want. Many PPP programs require an assessment of whether a PPP is likely to offer better value for the public than traditional public procurement—often called *value for money analysis*.

A VFM analysis can be done for a specific PPP project, and at a program level, for projects with common characteristics. For example, the **United Kingdom Treasury's manual on assessing value for money** (UK 2011b) described how value for money should be assessed at both the program and project levels (that methodology was later considered biased and recalled by government).

VFM analysis typically involves a combination of qualitative and quantitative approaches. **Qualitative VFM analysis** consists of sense-checking the rationale for using a PPP. This involves asking whether a proposed project is of a type likely to be suitable for private financing, and whether the conditions are in place for the PPP to achieve value for money—for example, that the PPP has been structured well, and that competitive tension is expected during the bidding process. This often takes place at a relatively early stage of PPP development—as such, qualitative VFM analysis may constitute part of the PPP screening described in *Section 3.1.2 - Screening for PPP Potential*.

Some PPP programs also require **quantitative assessment** of value for money. This typically involves comparing the chosen PPP option against a *Public Sector Comparator* (or *PSC*)—that is, what the project costs would look like if delivered through traditional procurement. This comparison can be made in different ways. The most common is to compare the **fiscal cost** under the two options—comparing the risk-adjusted cost to government of procuring the same project through traditional procurement, to the expected cost to government of the PPP (pre-procurement) or the actual PPP bids (post-procurement). An alternative is to compare the two options with an **economic cost-benefit basis**—that is, to quantitatively weigh the expected benefits of a PPP over traditional procurement against its additional costs.

Value for money analysis—particularly using quantitative public sector comparator methodologies—has been widely debated. Some question the value and relevance of a PSC approach, which can appear to be more scientific than is the case, potentially misleading decision-makers; or conversely, may simply come too late in the process to be a genuine input to decision-making. A **World Bank report on Value for Money** (WB 2013a) analysis presents evidence on practices from several countries, and on trends regarding the scope of value for money analysis and the relative advantages of quantitative and qualitative approaches.

For more discussion on approaches to assessing value for money, and their relative advantages and disadvantages, see also:

- **Farquharson et al's** section on selecting projects (Farquharson et al. 2011, 41–43), which briefly describes value for money and cost benefit analysis, and considers the value of qualitative versus quantitative approaches.
- **Grimsey and Lewis's article on PPPs and Value for Money** (Grimsey and Lewis 2005, 347–351) includes a section on approaches to value for money describing examples of different countries' approaches.
- The **OECD's publication on PPPs** (OECD 2008a, 71–72), which also describes the range of methods used by different countries, on a *spectrum* of complexity, from simply relying on competition, to full cost-benefit analysis of different procurement options.
- The **PPIAF Toolkit for PPP in Roads and Highways** has a section on value for money and the PSC (WB 2009a), which describes the logic behind value for money analysis, and how the PSC is used.
- The **European PPP Expertise Centre (EPEC)** value for money assessment report (EPEC 2015) outlines and compares value for money assessment methodologies in several European countries.

The remainder of this section briefly describes and provides further resources for readers on qualitative and quantitative value for money assessment methodologies.

Qualitative Value-for-Money assessment

Qualitative VFM analysis involves sense-checking the rationale for using PPP as a delivery mechanism—that is, asking whether a proposed project is of a type likely to be suitable for private financing; as well as whether the conditions that are necessary to achieve value for money are in place, as described in **Farquharson et al**, (Farquharson et al. 2011, 42–43). This often takes place at a relatively early stage of PPP development—as such, qualitative VFM analysis may overlap with the PPP Screening process described in *Section 3.1.2 - Screening for PPP Potential* above—but may be repeated throughout the project development process.

Some jurisdictions have clearly-defined criteria for this analysis. For example:

- The **UK Treasury** has defined criteria for assessing suitability, and unsuitability, for a Private Finance Initiative (PFI)—the UK's availability payment PPP model. Suitability criteria include the long-term, predictable need for the service; the ability to allocate risk effectively—including through performance-related payments and ensuring sufficient private capital at risk; the likely ability of the private sector party to manage risk and take responsibility for delivery; presence of stable and adequate policy and institutions; and a competitive bidding market. *Unsuitability criteria* include projects that are either too small or too complicated; sectors where needs are likely to change or there is a risk of obsolescence (for example, PFI projects are no longer used in the ICT sector in the UK); or where the contracting authority is inadequately skilled to manage PPP (WB 2013a).
- In **France**, preliminary analysis of a PPP includes checking against several criteria under three categories: PPP relevance—for example, appropriateness of an integrated, whole-of-life approach to managing a project; commercial attractiveness; and the potential for optimal risk allocation (WB 2013a).
- In the **Commonwealth of Virginia, United States**, assessment of a potential PPP at high level and detailed screening stages also considers proposed road projects against specific criteria to determine if the project is delivered under the Public-Private Transportation Act (PPTA)—that is, as a PPP. These criteria include whether a project is sufficiently complex to benefit from private sector innovation; whether a PPP can achieve appropriate risk transfer; and the degree of stakeholder support. The extent to which a project can generate revenues from tolls is also taken into consideration when assessing possible PPP structures (WB 2013a).
- The **Caribbean PPP Toolkit** (Caribbean 2017, Module 4, Section 8) presents **Jamaica**'s methodology for assessing value for money, and other globally-relevant guidance.

The **EPEC Guide to Guidance** also includes a list of key conditions that should be met to have a higher probability of achieving value for money (EPEC 2011b, Chapter 1.2.4).

Public Sector Comparator: Comparing Fiscal Cost

The most common quantitative tool for value for money assessment of a PPP project is derived from the approach originally used in the United Kingdom's PFI program in the early 1990s as described in **Leigland and Shugart's Gridlines article on the PSC** (Leigland and Shugart 2006). It involves comparing the fiscal cost of a PPP delivery option with that of a conventional public delivery option—not a single conventional option, but a range of infrastructure options as noted in the **2011 Treasury Guidance on Valuing Infrastructure Spend** (UK 2015a). **NAO evidence presented in the House of Commons 2014 report** (UK 2014a) discusses several shortcomings in the identification of PSCs.

The focus of the Fiscal Cost approach to value for money analysis is the construction of a PSC—the cost to government of implementing the project through traditional public procurement. Calculating the PSC can be complicated, as several adjustments are needed to ensure a fair comparison. *Box 3.5 - How the Public Sector Comparator is calculated*, highlights some methodological debates.

This type of PSC can be used at two stages of the procurement process, as described in the **OECD book's chapter on the economics of PPPs** (OECD 2008a, 71–72). These are:

- **Before the bidding process**—the PSC can be compared with a shadow or reference PPP, or market comparator—a model of the expected cost of the project under the PPP option. This can help identify whether the PPP can be expected to provide value for money, before deciding to go ahead with detailed preparation and procurement. The reference PPP model would be the same as the financial model described in *Section 3.2.3 - Assessing Commercial Viability*.

Box 3.5 How the Public Sector Comparator is calculated

Calculating a PSC can be complex. The starting point is typically the best estimate of the capital cost and lifetime operations and maintenance cost of implementing the project under public procurement. This is typically adjusted, to enable a fair comparison between the PSC and the PPP. The Infrastructure Australia guidance note on PSC (AU 2011b, Section 2.3) describes two types of adjustment:

Risk adjustments—one of the main differences between traditional procurement and the PPP approach is that the PPP transfers more risks to the private party. The return on investment expected by the private party will consider these transferred risks. This means that to make a fair comparison, the PSC should also consider the cost of these risks.

'Competitive neutrality' adjustments—a public sector project or enterprise may have cost advantages or disadvantages compared to a private company, which creates costs or benefits to the government that are not normally considered when considering the cost of a traditionally procured project. For example, the tax liabilities under the two options may be different. These differences should be corrected for in calculating the PSC.

There are also differences in the timing of payments between the PPP option—where payments are often spread over time—and traditional procurement, where the government must meet construction costs upfront. The streams of payments are usually converted into net present values, to give a single value for comparison. This requires defining the appropriate discount rate to apply to future cash flows in both the PPP and PSC models.

The following provide further descriptions and examples of how the PSC is used and calculated in different countries:

The Treasury of the United Kingdom's detailed guidance for quantitative PSC assessment was recalled in 2013, and guidance on qualitative assessment was developed.

South Africa's PPP Manual's module on the PPP Feasibility Study includes a detailed description of how to calculate and use the PSC (ZA 2004a, Module 4, 17–49).

Methodological differences and challenges

Although the PSC has been widely used, the methodology differs between countries, and there is ongoing debate on several methodological points. For example, Shugart's article on the PSC (Shugart 2006) highlights two related issues: which is the appropriate discount rate to use when calculating present values, and how the cost of risk should be considered. Grimsey and Lewis (Grimsey and Lewis 2004) and Gray, Hall and Pollard (Gray et al. 2010) both focus on the choice of discount rate, and its relationship with risk allocation under PPP and traditional procurement. In IFC's report on lessons learned (IFC 2010, 7-13), José Luis Flores presents a concrete case of "value for money" assessment.

Some countries in Latin America, such as Colombia and Peru, have developed guidelines for implementing the PSC methodology. However, due to lack of capacity and or trustworthy information to implement such a complex methodology, none of these countries have implemented the full methodology in practice.

The World Bank report on Value for Money assessment practices (WB 2013a, 23–28) reviews methodological evolution and practices in several governments with significant PPP experience, including the United Kingdom, France, India, Chile, the U.S. state of Virginia, and British Columbia, Canada.

- **During the bidding process**—the PSC can also be compared with actual PPP bids received, to assess whether the bids provide value for money. This approach is used in **Australia**, and is described in a PSC Technical Note (AU 2016a).

Despite the appealing logic of the concept, there have been many criticisms of the usefulness of the PSC and fiscal cost comparison approach in countries where it has been used frequently, such as the United Kingdom and Australia. A **United Kingdom House of Lords' review of the PPP program** (NAO 2013a), for example, argued that shortage of relevant data and methodological issues limit the value of the PSC. The government's response to the review agrees that the PSC provides only a partial picture, and highlights that its use is balanced with qualitative analysis, as described above.

Leigland's Gridlines article on the PSC (Leigland 2006, 2–3) summarizes these criticisms, which include the inevitable inaccuracy of estimates over a long-term project, lack of consensus on methodology, and so the possibility of manipulation to reach the desired conclusion. **Grimsey and Lewis** (Grimsey and Lewis 2005, 362–371) describe some of these criticisms in more detail. Given these challenges, **Leigland's Gridlines article** (Leigland 2006,

3–4) also discusses whether and how the PSC approach could make sense in a developing country context.

Economic cost-benefit comparison of PPP and public procurement

One of the criticisms sometimes leveled at the PSC is that it focuses solely on the financial cost to government of PPP or traditional procurement. A more comprehensive approach would also consider the differences in expected benefits, and compare the net economic benefit under PPP or under public procurement. On the other hand, as **Grimsey and Lewis** note (Grimsey and Lewis 2004, 353), this adds further complexity to the value for money analysis over the PSC approach, and could risk making the results even more subjective.

For example, the **EPEC's note on non-financial benefits of PPP** (EPEC 2011c) suggests how some of the benefits of PPP—as described in *Section 1.2 - Infrastructure Challenges and How PPPs Can Help*—could be quantified, and added to a more typical PSC analysis.

Few countries have introduced this kind of analysis in practice. **New Zealand**'s new PPP program is an exception. Cost-benefit analysis is the main tool for assessing procurement options. **New Zealand's PPP guidance material** (NZ 2016, 6–12) asks practitioners to identify the possible benefits of PPP over traditional public procurement and where possible to assign dollar values to each benefit.

In many developing countries' PPP programs, the aim is not just to reduce cost, but to transform service delivery. For example, governments hope that roads will be better maintained, thus delivering additional trade and economic benefits. These changes in service levels and quality cannot be captured by comparing fiscal costs of PPP and public procurement. Where these expected benefits are deemed important, and quantitative value for money analysis is desired, economic cost-benefit analysis may be the better approach.

3.2.5 Assessing Fiscal Implications

A proposed PPP project may be feasible and economically viable, and value for money analysis may show that the PPP is the best option to procure it. Nonetheless, the government also needs to decide whether the PPP project is affordable and fiscally responsible, given its fiscal constraints.

Many governments have entered into PPPs not fully understanding their potential costs. This can create significant fiscal risk for governments (see *Section 1.2.1 - Insufficient Funds*). To avoid this pitfall, governments need to assess fiscal affordability when they appraise a PPP project so that they do not go to market with projects they cannot afford.

Fiscal commitments can be either direct or contingent.

- Direct commitments are those the government knows it will have to make if the PPP project goes ahead—for example, the availability payments for a school PPP.
- Contingent payments are ones that will only be made if certain events occur—for example, payments that may have to be made under a minimum traffic guarantee if traffic levels are below projections on a PPP highway, or compensation in the event of early termination.

For more on these concepts, see *Box 2.8 - Types of Fiscal Commitments to PPPs*.

Governments need to assess the likely costs of both types of commitments. Once likely fiscal costs are identified, governments need to assess whether they are affordable. *Section 2.4.2 - Controlling Aggregate Exposure to PPPs* describes how governments can assess the affordability of those commitments. For example, by comparing annual cost estimates against the budget of the contracting authority, considering the impact on debt sustainability under various scenarios, or introducing specific limits on different types of PPP commitment. A **World Bank note on managing fiscal commitments from PPPs** (WB 2013b) provides an overview of typical types of fiscal commitments to PPP projects, and how these can be assessed.

Assessing cost of direct fiscal commitments

Direct fiscal commitments may include up-front capital contributions or regular payments by government such as availability payments or shadow tolls, as described in *Box 3.6 - Types of Direct Payment Commitments to PPP Projects*.

The nature of the government's direct commitments will be defined during the structuring process described in *Section 3.3 - Structuring PPP Projects*. This highlights the importance of a back-and-forth process between appraisal and structuring. The government should have an idea of the level and type of support that will be needed to make a project bankable to assess fiscal affordability be-

fore investing large amounts in project preparation. Fiscal limits set in appraisal can then inform further structuring efforts until the project converges on a structure that is both fiscally responsible and attractive to the market. In fact, the value of the direct fiscal commitments is often a key bid variable, as described in *Section 3.5 - Managing PPP Transactions*. This means the fiscal cost cannot finally be known until after the tender process is complete.

During the appraisal stage, the value of the direct fiscal commitments required can be estimated from the project financial model, described in *Section 3.2.3 - Assessing Commercial Viability*. The value of these direct payment commitments is driven by the project costs and any non-government revenues. The value of the direct fiscal contribution required is the difference between the cost of the project (including a commercial return on capital invested) and the revenue the project can expect to earn from non-government sources such as user fees.

The fiscal cost can be measured in different ways:

- **Estimated payments in each year**—that is, the amount that the government expects to have to pay in each year of the contract, given the most likely project outcomes. This is the most useful measure when considering the budget impact of the project.
- **Net present value of payments**—if the government is committed to a stream of payments over the lifetime of the contract—such as availability payments—it is often also helpful to calculate the net present value of that payment stream. This measure captures the government's total financial commitment to the project, and is often used if incorporating the PPP in financial reporting and analysis (such as debt sustainability analysis). Calculating the net present value of future payments requires choosing an appropriate discount rate—the choice of discount rate to apply when assessing PPP projects has been a subject of much debate.

In both cases, it is also helpful to estimate how the payments might vary—for example, they may be linked to demand, or be denominated in a foreign currency and so be subject to exchange rate changes. **Irwin's paper on fiscal support to PPPs** (Irwin 2003, 16–17 and Annex) provides more detail on measuring the cost of different kinds of fiscal support.

Having estimated the cost of direct payment commitments, the government needs to decide if they are affordable. *Section 2.4.2 - Controlling Aggregate Exposure to PPPs* describes how some governments consider the affordability of direct payment commitments under PPPs—for example, this can include projecting current spending levels forward, or introducing specific limits on government payment commitments to PPPs. An **OECD publication on PPPs** (OECD 2008a, 36–46) provides a helpful overview.

Assessing the cost of contingent liabilities

Contingent liabilities arise in well-designed PPP projects because there are some risks that government is best placed to bear. These risks should be defined throughout project structuring—see *Section 3.3 - Structuring PPP Projects*.

Assessing the cost of contingent liabilities is more difficult than for direct liabilities, since the need for, timing, and value of payments are uncertain. Broadly speaking, there are two possible approaches, as described in the **Infrastructure Australia guidance note for calculating the PSC** (AU 2016b, 84–109):

- **Scenario analysis**—scenario analysis involves making assumptions for the outcome of any events or variables that affect the value of the contingent liability and calculating the cost to the government given those assumptions. For example, this could include working out the cost to government in a worst-case scenario, such as default by the private party on its debt obligations at various points in the contract. It could also include calculating the cost of a guarantee on a specific variable—for example, demand—for different levels of demand outturns.
- **Probabilistic analysis**—an alternative approach is to use a formula to define how the variables that affect the value of the contingent liability will behave and use a combination of mathematics and computer modeling to calculate the resultant costs. This enables analysts to estimate the distribution of possible costs, and calculate measures such as the median (most likely) cost, the mean (average) cost, and different percentiles (for example, the value within which the cost is likely to lie 90 percent of the time). However, producing useful results requires a lot of information on the underlying risk variables.

Scenario analysis is the simpler form of risk analysis, and gives a sense of the range of possible outcomes, but not their likelihood. In practice, most governments use scenario analysis, if anything, to assess the possible cost of contingent liabilities. A probabilistic approach requires more input data, and complex statistical analysis. In practice, only a few governments have used probabilistic analysis to assess a few types of contingent liabilities.

Irwin's book on government guarantees (Irwin 2007) provides a comprehensive discussion of why and how governments accept contingent liabilities under PPP projects by providing guarantees, and how the value of these guarantees can be calculated. The following resources provide more guidance and example of how particular countries approach this problem:

- **Colombia's Ministry of Finance** has defined its approach to assessing the financial and economic implications of contingent liabilities; accounting, budgeting and assessing the fiscal implications of contingent liabilities; and identifying, classifying, quantifying and managing contingent liabilities. This approach is set out in a presentation on management of contingent liabilities (CO 2012b).
- In **Chile**, the Ministry of Finance has developed a sophisticated model for valuing minimum revenue and exchange rate guarantees to PPPs. This valuation is updated on an ongoing basis for all PPP projects, and reported in an annual report on contingent liabilities (CL 2016). The report includes a brief description of the techniques used in Chile to analyze and value guarantees extended to PPP projects. **Irwin and Mokdad's paper on managing contingent liabilities from PPP projects** (Irwin and Mokdad 2010, Appendix 1) also describes the Chilean methodology in more detail.
- **Peru's Finance Ministry** has also published a methodology for valuing contingent liabilities under PPPs—available on the Ministry's website section on managing contingent liabilities (PE Pasivos).

Defining and publishing a methodology for valuing contingent liabilities from PPPs is only part of the solution—implementing such methodologies in practice can be demanding. Governments may need to strike a balance between building capacity in risk analysis, and adopting sufficiently straightforward and simple approaches to this assessment that can be implemented in practice.

Having estimated the cost of contingent liabilities, the government can assess whether they are affordable given fiscal constraints. For example, as described in *Section 2.4.2 - Controlling Aggregate Exposure to PPPs*, this could include considering the implications of PPP contingent liabilities in the context of overall debt sustainability analysis, or specific limits on PPP liabilities. A few countries, such as Indonesia, have introduced contingent liability funds to ringfence and budget for these liabilities. The **EPEC publication on State Guarantees in PPPs** (EPEC 2011a) also provides a helpful overview of different approaches to managing the fiscal implications of PPP contingent liabilities.

Box 3.6 Types of Direct Payment Commitments to PPP Projects

Direct liabilities are payment commitments that are not dependent on the occurrence of an uncertain future event (although there may be some uncertainty regarding the value). Direct liabilities arising from PPP contracts can include:

Upfront viability gap payments—an up-front capital subsidy (which may be phased over construction, or against equity investments).

Availability payments—a regular payment or subsidy over the lifetime of the project, usually conditional on the availability of the service or asset at a contractually specified quality. The payment may be adjusted with bonuses or penalties related to performance.

Shadow tolls, or output-based payments—a payment or subsidy per unit or user of a service—for example, per kilometer driven on a toll road.

For more on types of payment commitments, see *Section 2.4 - Public Financial Management Frameworks for PPPs.*

3.2.6 Assessing the Ability to Manage the Project

A less common but still highly relevant component of project assessment focuses on the ability of the procuring authority to manage the delivery of the project, i.e. project preparation, tendering, and contract management over the term of the PPP contract.

This requires an appraisal of the **current** capacity of the procuring authority including its leadership, and the identification of **future** needs. The exercise should lead to the formulation of a credible plan drawing upon the resources of other government agencies, and including the costs of hiring external experts and transaction advisors, and of strengthening the leadership of the project team.

This assessment of the procuring authority should demonstrate that the project is appropriately resourced and that appropriate governance arrangements are in place. The project should have gone through a detailed planning exercise with a realistic timetable; advisers should have been hired; and a risk register should have been prepared showing the primary risks faced by the procurement and how they will be mitigated. There should also be a benefits realization plan. This plan should explain how the project will be evaluated, and how project outcomes will be captured and monitored during the operational phase of the project.

In the United Kingdom, the **Five Case Model methodology** (Flanagan and Nicholls 2007) includes in this assessment (the *management case*) the following components:

- Program and Project Management Methodology and Structure
- Program and Project Management Plans
- Use of Specialist Advisers
- Change and Contract Management Arrangements
- Benefits Realization
- Risk Management
- Monitoring during Implementation
- Post Implementation Evaluation Arrangements
- Contingency Arrangements

Key References: PPP Project Appraisal

Reference	Description
Yescombe, E.R. 2007. *Public-Private Partnerships: Principles of Policy and Finance*. Oxford: Butterworth-Heinemann.	Chapter 5: The Public-Sector Investment Decisions describes the factors that a public authority should consider when deciding to invest in new public infrastructure via a PPP, and how these can be assessed.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Chapter 4: Selecting PPP Projects describes how governments can assess whether a project can and should be developed as a PPP, including considering affordability, risk allocation, value for money, and market assessments.
EPEC. 2011b. *The Guide to Guidance: How to Prepare, Procure, and Deliver PPP Projects*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Chapter 1: "Project Identification, Section 1.2: Assessment of the PPP Option" describes and provides links to further references on how governments assess whether a proposed PPP is affordable, whether risks have been allocated appropriately, whether it is bankable, and will provide value for money.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury	Module 4: "PPP Feasibility Study" describes in detail the analysis required to support a business case for a PPP project. This includes needs and options analysis, project due diligence, value for money analysis, and economic valuation.

Key References: Commercial Viability Analysis

Reference	Description
ADB. 2008. *Public-Private Partnership Handbook*. Manila: Asian Development Bank.	Chapter 3.5 on assessing commercial, financial and economic issues, includes an overview of a typical financial model of a PPP project, and how it is used to assess commercial viability.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Chapter 8: "Managing the Initial Interface with the Private Sector" describes how to prepare and carry out a market sounding exercise.
4ps. Accessed March 16, 2017. "Public Private Partnerships Programme (4Ps) website." Website.	Provides tips and guidance on implementing market sounding, and a case study on the experience of market sounding for a hospital in the United Kingdom.

Reference	Description
Grimsey, Darrin, and Mervyn K. Lewis. 2009. "Developing a Framework for Procurement Options Analysis." In *Policy, Finance and Management for Public-Private Partnerships*, edited by Akintola Akintoye and Matthias Beck. Oxford, England: Wiley-Blackwell.	Describes the advantages of market sounding and sets out a market sounding exercise for a hypothetical example hospital PPP project.
SG. 2012. *Public Private Partnership Handbook. Version 2*. Singapore: Government of Singapore, Ministry of Finance.	Requires implementing agencies to conduct market sounding before pre-qualification, and describes the type of information that should be shared at this stage.

Key References: Value for Money Analysis

Reference	Description
UK. 2011b. *Quantitative assessment: User Guide*. London: UK Government, HM Treasury.	Provides detailed guidance and a worked example on the quantitative approach to value for money assessment—calculating the Public Sector Comparator, and comparing it to the PPP reference model, as well as an excel spreadsheet tool for carrying out the analysis.
Grimsey, Darrin, and Mervyn K. Lewis. 2005. "Are Public Private Partnerships value for money?: Evaluating alternative approaches and comparing academic and practitioner views." *Accounting Forum* 29(4) 345-378.	Describes approaches to assessing value for money in PPPs, and sets out in detail the PSC approach and its pros and cons.
OECD. 2008a. *Public-Private Partnerships: In Pursuit of Risk Sharing and Value for Money*. Paris: Organisation for Economic Co-operation and Development.	Chapter 3: "The Economics of Public-Private Partnership: is PPP the Best Alternative" describes the determinants of value for money in a PPP, and how it is typically assessed.
WB. 2009a. "Toolkit for Public-Private Partnerships in Roads and Highways." World Bank. Website.	Section on value for money and the PSC describes the logic behind value for money analysis, how the PSC is used, and some of its shortcomings.
Leigland, James, and Chris Shugart. 2006. "Is the public sector comparator right for developing countries? Appraising public-private projects in infrastructure." Gridlines Note No. 4. Washington, DC: Public-Private Infrastructure Advisory Facility.	Summarizes common criticisms of PSC analysis, and describes whether and how using PSC analysis may make sense in developing country contexts.
AU. 2016a. *National Public Private Partnership Guidelines - Volume 4: Public Sector Comparator Guidance*. Canberra: Commonwealth of Australia.	Provides detailed guidance on calculating the public sector comparator, and a worked example, including extracts from the excel model used.
CO. 2010. *Nota Técnica: Comparador público-privado para la selección de proyectos APP (Borrador para Discusion)*. Bogotá: Gobierno de Colombia, Ministerio de Hacienda y Crédito Público.	Introduces the PSC methodology, explains all the analytic steps, and provides a worked example.
Shugart, Chris. 2006. *Quantitative Methods for the Preparation, Appraisal, and Management of PPI projects in Sub-Saharan Africa*. Midrand, South Africa: NEPAD.	Describes some methodological inconsistencies and challenges with the PSC—focusing on two related issues: which is the appropriate discount rate to use when calculating present values, and how the cost of risk should be considered.
Grimsey, Darrin, and Mervyn K. Lewis. 2004. "Discount debates: Rates, risk, uncertainty and value for money in PPPs." *Public Infrastructure Bulletin* 1(3).	Describes the implications of the choice of discount rate in comparing PPP and public procurement, and the relationship between discount rates and risk allocation.
Gray, Stephen, Jason Hall, and Grant Pollard. 2010. *The public private partnership paradox*. Brisbane, Australia: University of Queensland.	Provides a more theoretically-driven discussion of the choice of discount rate for evaluating PPPs, compared with public procurement projects—emphasizing the difference between discounting future cash outflows and inflows.

Reference	Description
EPEC. 2011c. *The Non-Financial Benefits of PPPs: A Review of Concepts and Methodology*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Describes the shortcomings of standard PSC analysis, which assesses fiscal costs but does not consider non-financial costs and benefits. Suggests an alternative approach incorporating non-financial benefits in the PSC.
NZ. 2016. "Public Private Partnership (PPP) Guidance." The Treasury. Website.	Chapter 5: "Procurement Options" sets out the logic and analysis for assessing whether procuring a project as a PPP is likely to provide value for money. This includes a simple, quantitative cost-benefit comparison of PPP and public procurement.

Key References: Fiscal Analysis

Reference	Description
Irwin, Timothy C. 2003. "Public Money for Private Infrastructure: Deciding When to Offer Guarantees, Output-Based Subsidies, and Other Fiscal Support." Working Paper No. 10. Washington, DC: World Bank.	Section 6: "Comparing the Cost of Different Instruments" describes how governments can assess the cost of various types of fiscal support to PPPs—including output-based grants, in-kind grants, tax breaks, capital contributions, and guarantees.
OECD. 2008a. *Public-Private Partnerships: In Pursuit of Risk Sharing and Value for Money*. Paris: Organisation for Economic Co-operation and Development.	Chapter 3: "The Economics of Public-Private Partnership: is PPP the Best Alternative" describes how the affordability of a PPP can be assessed.
EPEC. 2011a. *State Guarantees in PPPs: A guide to better evaluation, design, implementation, and management*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Sets out the range of state guarantees used in PPPs—encompassing finance guarantees, and contract provisions such as revenue guarantees, or termination payments. Describes why and how they are used, how their value can be assessed, and how they can be best managed.
AU. 2016a. *National Public Private Partnership Guidelines - Volume 4: Public Sector Comparator Guidance*. Canberra: Commonwealth of Australia.	Section 16: "Identifying, allocating, and evaluating risk" describes in detail different methodologies for valuing risk (and contingent liabilities) in PPPs.
Irwin, Timothy C. 2007. *Government Guarantees: Allocating and Valuing Risk in Privately Financed Infrastructure Projects*. Directions in Development. Washington, DC: World Bank.	Comprehensively describes why and how governments accept contingent liabilities under PPP projects by providing guarantees. Describes in detail how the value of these guarantees can be calculated, with examples.
CO. 2012b. *Obligaciones Contingentes: Metodologías del caso colombiano*. Bogotá: Gobierno de Colombia, Ministerio de Hacienda y Crédito Público.	Presentation by the Ministry of Finance of Colombia on the conceptual and legal frameworks, and methodologies used in Colombia for managing contingent liabilities.
CL 2015. *Informe de Pasivos Contingentes 2015*. Santiago: Gobierno de Chile, Dirección de Presupuestos.	Describes the conceptual framework for assessing contingent liabilities and the government's contingent liability exposure. This includes quantitative information (maximum value and expected cost) on government guarantees to PPP projects (concessions).
Irwin, Timothy C., and Tanya Mokdad. 2010. *Managing Contingent Liabilities in Public-Private Partnerships: Practice in Australia, Chile, and South Africa*. Washington, DC: World Bank.	Describes the approach in the State of Victoria, Australia, Chile, and South Africa, to approvals analysis, and reporting of contingent liabilities under PPPs. Appendix 1 describes in detail the methodology used in Chile to value revenue and exchange rate guarantees.
PE Pasivos. Accessed March 8, 2017. "Pasivos Contingentes." Peru, Ministerio de Economía y Finanzas. Website.	Presents a methodology, results, and background reports on the value of contingent liabilities under PPP projects in Peru.

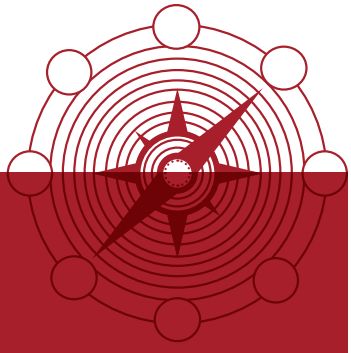
Key References: Environmental and Social Studies and Standards

Reference	Description
WB. 2016c. *Environmental and Social Framework: Setting Environmental and Social Standards for Investment Project Financing*. Washington, DC: World Bank.	Highlights the World Bank E&S safeguards for investment project finance.
EP. Accessed March 6, 2017. "Equator Principles." Essex, England: The Equator Principles Association. Website.	Risk management framework adopted by financial institutions for determining, assessing and managing environmental and social risk in projects.
ADB-Safeguards. Accessed March 2, 2017. "Safeguards." Asian Development Bank. Website.	Presents an overview of ADB's E&S safeguards, including frameworks and relevant publications.
AIIB. 2016. *Environmental and Social Framework*. Beijing: Asian Infrastructure Investment Bank.	Presents an overview of AIIB's E&S policies and safeguards.
IFC. 2012. *Performance Standards on Environmental and Social Sustainability*. Washington, DC: International Finance Corporation.	Presents the IFC's sustainability framework which applies to all investment and advisory clients.
EC. 2001c. *Guidance on Environmental Impact Assessment: Screening*. Luxembourg: European Commission.	Presents EU guidance on EIA screening.
EC. 2001b. *Guidance on Environmental Impact Assessment: Scoping*. Luxembourg: European Commission.	Presents EU guidance on EIA scoping.
EC. 2001a. *Guidance on Environmental Impact Assessment: EIS Review*. Luxembourg: European Commission.	Presents EU guidance on EIA, and is designed principally for use by authorities, developers and EIA practitioners.

Key References: Project Feasibility and Economic Viability Analysis

Reference	Description
EP. Accessed March 6, 2017. "Equator Principles." Essex, England: The Equator Principles Association. Website.	Describes the Equator Principles framework for managing the social and environmental impact of project finance investments, and provides guidance material on best practices.
CO. 2006. *Metodología general ajustada para la identificación, preparación y evaluación de proyectos de inversión*. Bogotá: Gobierno de Colombia, Departamento Nacional de Planeación, Dirección de Inversiones y Finanzas Públicas.	Pages 79–84 in the General Adjusted Methodology for the Identification, Preparation, and Evaluation of Projects provide guidelines for the Technical Feasibility Studies that should be carried out at this stage to estimate the capital, machinery, labor, materials, and other inputs required to implement the PPP project.
CL. n.d. *Metodología General de Preparación y Evaluación de Proyectos*. Santiago: Gobierno de Chile, Ministerio de Planificación.	The General Methodology for Preparing and Evaluating Public Investment Projects provide guidance for preparing projects—identifying the problem, producing a diagnosis of the current situation, identifying possible alternatives—and evaluating projects—including cost-benefit analysis, cost-efficiency analysis.
PE. 2010. *Pautas para la Identificación, formulación y evaluación social de proyectos de inversión pública a nivel de perfil*. Lima: Ministerio de Economia y Finanzas.	The Guidelines for the Identification, Formulation, and Social Evaluation of Public Investment Projects provides guidelines for identifying public investment projects, and for carrying out detailed feasibility studies and economic viability analysis.
NEDA. 2005a. *Reference Manual on Project Development and Evaluation*. Manila: National Economic Development Authority.	Provides detailed guidance on feasibility and economic evaluation analysis required for all public investment projects.

Reference	Description
UK. 2011a. *The Green Book: Appraisal and Evaluation in Central Government*. London: UK Government, HM Treasury.	Provides guidance on appraisal of projects, programs and policies, by combining economic, financial, social and environmental assessments to guide analysis of the options available, along with detailed technical annexes. The Green Book is used as a guide by many other governments.
EC. 2013. *Evalsed Sourcebook: Method and Techniques*. Brussels: European Commission.	Online sourcebook covering all aspects of socio-economic evaluation as part of their Resource for the Evaluation of Socio-Economic Development. Includes sections on cost-benefit analysis and cost effectiveness analysis; in each case describing the approach, when it is used, its strengths and weaknesses, and provides a bibliography with further reading.
WB. 1998. *Handbook on Economic Analysis of Investment Operations*. Washington, DC: World Bank.	A detailed handbook, starting with an introduction to economic analysis, and going on to describe in detail how to assess economic costs and benefits. The handbook includes chapters on estimating economic benefits specific to the health, education, and transport sectors.
Boardman, Anthony, David Greenberg, Aidan Vining, and David Weimer. 2010. *Cost Benefit Analysis: Concepts and Practice*. 4th ed. Cranbury, New Jersey: Pearson.	Comprehensive reference textbook on cost-benefit analysis issues.
ADB. 1999. *Handbook for Economic Analysis of Water Supply Projects*. Manila: Asian Development Bank.	Provides detailed guidance on appraising water supply projects—including demand analysis and forecasting, least cost analysis, financial and economic cost-benefit analysis, and sensitivity and risk analysis.
Hine, John. 2008. *The Economics of Road Investment*. Washington, DC: World Bank.	This presentation provides an overview of specific issues in cost-benefit analysis for road sector projects.
Khatib, Hisham. 2014. *Economic Evaluation of Projects in the Electricity Supply Industry*. 3rd ed. Stevenage, England: The Institution of Engineering and Technology.	Chapter 7: "Economic Evaluation of Projects" focuses on economic cost-benefit analysis. Other chapters cover financial analysis, describe how to build environmental considerations into project appraisal, and describe risk analysis.
EIB and EC. 2005. *RAILPAG: Railway Project Appraisal Guidelines*. Luxembourg: European Investment Bank and European Commission.	Chapter 4: "Financial and Economic Analyses" includes guidance for the development of the financial and cost-benefit analyses and sector relevant aspects.



Did you know....?

The Roman Empire used PPPs

At its peak, the Roman Empire financed some of its large infrastructure projects through concessions and private finance. In those projects, the public sector was mainly responsible for building roads, ports, lighthouses, and upstream water mains, while the private sector, through concessions and private finance, built thermal facilities, theaters and circus, canals, and even roads (including sewage pipes and water mains). The projects were paid by users and municipalities, but also rich donors. The latter had the right to put their names on the works, and have a better chance of being elected for public functions.

Source: Xavier Bezançon, 2000 Ans d'Histoire du Partenariat Public-Privé (Paris: Presses de l'École Nationale des Ponts et Chaussées, 2004

3.3 Structuring PPP Projects

"Structuring a PPP project" means allocating responsibilities, rights, and risks to each party to the PPP contract. This allocation is defined in detail in the contract. Project structuring is typically developed through an extended process, rather than by drafting a detailed contract straight away. The first step is to develop the initial project concept into key commercial terms—that is, an outline of the required outputs, the responsibilities and risks borne by each party, and how the private party will be paid. The key commercial terms are typically detailed enough to enable practitioners to appraise the proposed PPP, as described in *Section 3.1 - Identifying PPP Projects*, before committing the resources needed to develop the draft PPP contract in detail.

Figure 3.4 - Structuring PPP Projects shows how PPP structuring—to the level of key commercial terms—fits into the overall development process. Information from the feasibility study and economic viability analysis is a key input to PPP structuring—for example, identifying the key technical risks, and providing estimates for demand and users' willingness to pay for services. The PPP structure then feeds into commercial viability, affordability and value for money analysis—which may find that changes are needed to the proposed risk allocation. The aim is typically to structure a PPP that will be technically feasible, economically and commercially viable, fiscally responsible, and provide value for money.

The starting point for PPP structuring is the project concept: that is, the project's physical outline, the technology it is expected to use, the outputs it will provide, and the people it will serve. These are often developed before deciding whether to implement the project as a PPP, as described in *Section 3.1 - Identifying PPP Projects*.

The specification of output requirements in the PPP contracts is described in *Section 3.4 - Designing PPP Contracts*. PPP project structuring focuses on identifying and allocating risks. This makes sense since appropriate risk allocation is behind many of the PPP Value Drivers described in *Box 1.2 - PPP Value Drivers*. Following this approach, the other elements of the PPP structure—such as the allocation of responsibilities and the payment mechanism—stem from the risk allocation. For example, construction risk may be allocated to the private party, on the basis that it is best qualified to manage construction. This means that the private party should also be allocated the responsibility and right to make all construction-related decisions. The mechanism for allocating commercial risk to the private party may take the form of a user-pays payment mechanism.

This section follows the literature, starting with identifying and prioritizing project risks (*Section 3.3.1 - Identifying Risks*) then describing how risks are allocated (*Section 3.3.2 - Allocating Risks*) then explaining how the risk allocation relates to the other aspects of project structure (*Section 3.3.3 - Translating Risk Allocation into Contract Structure*).

3.3.1 Identifying Risks

The first step toward structuring the PPP is often to put together a comprehensive list of all the risks associated with the project. Such a list is known as a *risk register*. In this context, a *risk* is an unpredictable variation in the project's value—from the point of view of some or all stakeholders—arising from a given underlying *risk factor*. For example, *demand risk* is the risk that the project value, and project revenues, will be lower (or higher) than expected because demand for the output is lower (or higher) than expected. **Irwin's book on PPP guarantees and risk** defines risk in more detail (Irwin 2007).

PPP risks vary depending on the country where the project is implemented, the nature of the project, and the assets and services involved. Nonetheless, certain risks are common to many types of PPP project. These are usually grouped into risk categories that are often associated with a particular function (such as construction, operations, or financing), or with a particular project phase (such as termination), as discussed in *Box 3.7 - PPP Risk Categories*.

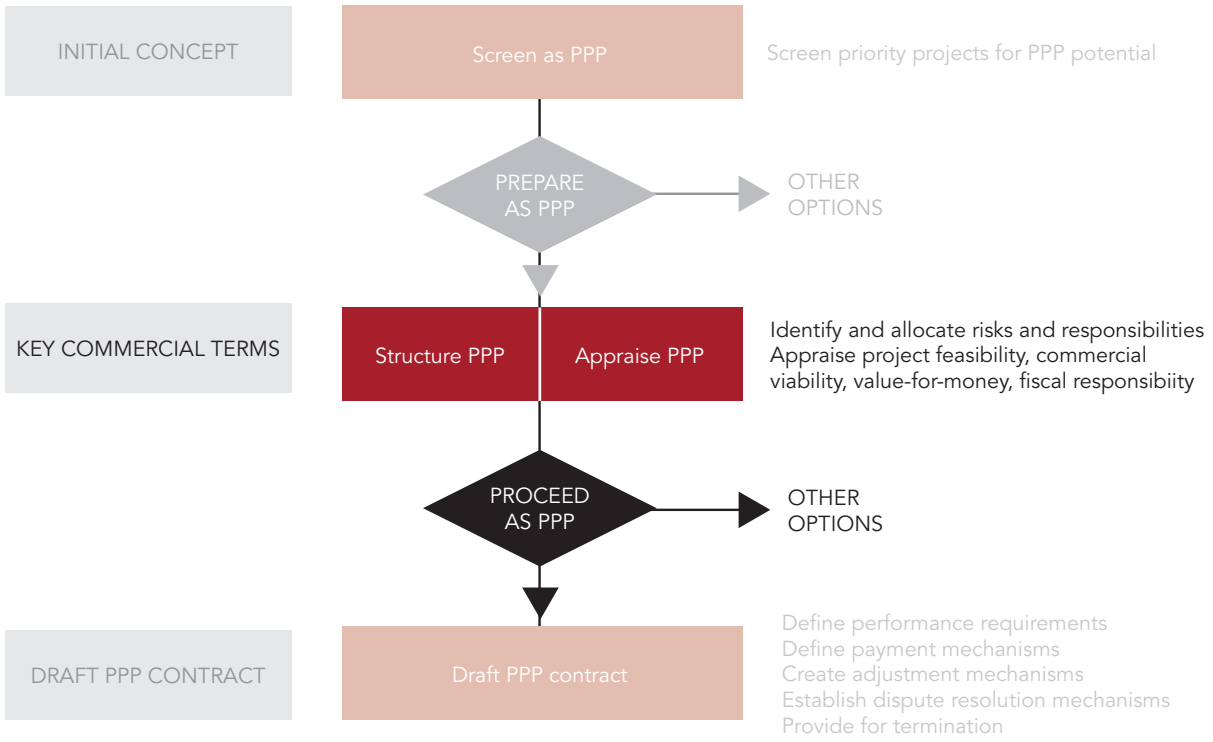
Many resources provide standard risk lists and preferred risk allocations, in some cases for specific project types. Several examples are provided in *Section 3.3.2 - Allocating Risks*. These standard lists can be useful resources when identifying project risks for a particular PPP. However, PPP projects often have unique features or circumstances—for example, the specific geological conditions on the route of a proposed road. This means that implementing agencies should make use of experienced advisors to help identify a comprehensive list of project risks.

Assessing and prioritizing risks

To focus efforts when allocating risks, it is often helpful to consider their importance. Some risks will be more significant than others in terms of likelihood and severity of impact on project outcomes, or both. Risk can be assessed either quantitatively or qualitatively.

The **Infrastructure Australia guidance note on calculating the PSC** (AU 2016a, 84–109) provides detailed guidance both on

Figure 3.4 Structuring PPP Projects



identifying risk, and using various quantitative techniques to evaluate risks. An **ADB handbook for risk analysis in project evaluation** (ADB 2002, 9–28) also includes a chapter describing quantitative techniques for assessing risk. **PFRAM, the PPP Fiscal Risk Assessment Model** (IMF and WB 2016) designed by the IMF and the World Bank, identifies a large set of risks that may have a fiscal impact.

In practice, many implementing agencies take a more qualitative approach at this stage. **Guidance on risk management by the Victoria Managed Insurance Authority** (VIC 2015, 79–83) provides helpful guidance on a *risk heat map*—a qualitative risk assessment approach, in which risks are categorized according to their likelihood of occurrence, and impact. **Farquharson et al** (Farquharson et al. 2011, Appendix B) provides an example 'risk register' for a PPP project, which also takes a qualitative approach. Each risk is categorized as being low, medium, or high for both risk status (likelihood) and impact. Most effort should be directed to managing those risks identified as being both high likelihood, and high impact.

Mitigating risks

After full identification of project risks, a mitigation process should occur—wherein, based on a cost-benefit analysis, some project characteristics or procedural steps may be adjusted. For instance, additional geological surveys or traffic studies may be conducted before the tender to reduce uncertainty and contain bidding costs. Performance requirements that are not critical to project success and may create unacceptable risk to private operators may be eliminated.

3.3.2 Allocating Risks

Allocating risk, in the context of a PPP, means deciding which party to the PPP contract will bear the cost (or reap the benefit) of a change in project outcomes arising from each risk factor. Allocating project risk efficiently is one of the main ways of achieving better value for money through PPPs. **Iossa et al** (Iossa et al. 2007, 20) describe two main goals of risk allocation. The first is to create incentives for the parties to **manage risk well**—and thereby improve

Box 3.7 PPP Risk Categories

The following categories of risk are common to many PPPs:

- Site—risks associated with the availability and quality of the project site, such as the cost and timing of acquiring the site, needed permits or assuring rights of way for a road, the effect of geological or other site conditions, and the cost of meeting environmental standards.
- Design, construction and commissioning—risk that construction takes longer or costs more than expected, or that the design or construction quality means the asset is not adequate to meet project requirements.
- Operation—risks to successful operations, including the risk of interruption in service or asset availability, the risk that any network interface does not work as expected, or that the cost of operating and maintaining the asset is different than was expected.
- Demand, and other commercial risk—the risk that usage of the service is different than was expected, or that revenues are not collected as expected.
- Regulatory or political—risk of regulatory or political decisions that adversely affect the project. For example, this could include failure to renew approvals appropriately, unjustifiably harsh regulatory decisions, or in the extreme, breach of contract or expropriation.
- Change in legal or regulatory framework—the risk that a change in general law or regulation adversely affects the project, such as changes in general corporate taxation, or in rules governing currency convertibility, or repatriation of profits.
- Default—the risk that the private party to the PPP contract turns out not to be financially or technically capable to implement the project.
- Economic or financial—risk that changes in interest rates, exchange rates or inflation adversely affect the project outcomes.
- *Force Majeure*—risk that external events beyond the control of the parties to the contract, such as uninsurable natural disasters, war or civil disturbance, affect the project.
- Asset ownership—risks associated with ownership of the assets, including the risk that the technology becomes obsolete or that the value of the assets at the end of the contract is different than was expected.

For more detail, see Yescombe's chapter on risk evaluation and transfer (Yescombe 2007), and Delmon's chapter on risk allocation (Delmon 2015, Chapter 5), both of which start with descriptions of typical types of PPP risk.

project benefits or reduce costs. The second is to reduce the overall cost of project risk by insuring parties against risks they are not happy to bear. *Box 3.8 - Allocating Land Acquisition Risk*—commonly a significant risk for PPP projects.

Risk allocation principles

A central principle of risk allocation is that each risk should be allocated to whoever can manage it best. **Irwin's book on guarantees and PPP risk** (Irwin 2007, 56–62) defines this principle more precisely, stating each risk should be allocated to the party:

- **Best able to control the likelihood of the risk occurring**—for example, the private party is usually in charge of project construction because it has the most expertise in that area. This also means it should bear the cost of construction cost over-runs or delays.
- **Best able to control the impact of the risk on project outcomes**, by assessing and anticipating a risk well and responding to it. For example, while no party can control the risk of an earthquake, if the private firm is responsible for project design, it could use techniques to reduce the damage should an earthquake occur.
- **Able to absorb the risk at lowest cost**, if the likelihood and impact of risks cannot be controlled. A party's cost of absorbing a risk depends on several factors, including: the extent to which the risk is correlated with its other assets and liabilities;

Box 3.8 Allocating Land Acquisition Risk

Land acquisition can be one of the most challenging aspects of developing a PPP project. Delays in obtaining land have created significant hurdles or even blocked some promising PPP projects. There are many options for dealing with risk associated with land acquisition delays or difficulties. Some governments adopted a policy of freeing land before launching a project to the market, thereby accepting and taking this risk out of the contractual equation—such as for transport projects in India. Others allocate to the private party the responsibility for identifying the plots of land that will be needed for the project, and for undertaking the necessary processes to acquire that land and free it from occupancy. Still others prepare carefully the land acquisition process, detailing the need for land and the identification of owners, but then transfer to the private partner the responsibility for obtaining the land. The best option may depend on circumstances—not least the prevailing legislation regarding compulsory acquisition of land.

India's Toolkit for Highways (IN, Module 3), in its Module 3: *Tools and Resources*, presents several good and bad examples of how to handle land acquisition. Jonathan Lindsay's paper (Lindsay 2012) discusses compulsory land acquisition in detail.

its ability to pass the risk on (for example, to users of the service through price changes, or to third parties by insuring); and the nature of its ultimate risk bearers. For example, the ability of governments to spread risk among taxpayers means they may have lower risk-bearing cost than private firms, whose ultimate risk-bearers are their shareholders.

As described in the **OECD's publication on risk sharing and value for money in PPPs** (OECD 2008a, 49–50), applying these principles does not imply transferring the maximum possible risk to the private sector. Transferring to the private party the risks that it is better able to control or mitigate can help lower the overall project cost, and improve value for money. However, the more total risk transferred to the private party, the higher the return—or risk premium—the equity investors will require, and the harder it will be to raise debt finance.

The principles and practice of risk allocation in PPPs is also increasingly the subject of academic research and literature. For example, **Ng and Loosemore's article on risk allocation in PPPs** (Ng and Loosemore 2007) describes PPP risk categories and allocation approach and provides a case study of risk allocation in the New Southern Railway project (an underground airport-city rail link) in New South Wales, Australia. **Bing et al's article on risk allocation in PPP/PFI projects** in the United Kingdom (Bing et al. 2005) assesses how risks have been allocated in PFI projects in practice, to identify risk allocation preferences. An **IDB review of the Spanish PPP experience** (Rebollo 2009) includes several examples of risk allocation used in different types of projects, from roads to hospitals. The World Bank Group's ***Report on Recommended PPP Contractual Provisions*** (WB 2017e) discusses several contractual clauses related to core risks such as Force Majeure and Change in Law.

Limitations on risk allocation

There are some limits to how risks can be allocated in a PPP project. These include the following:

- **Level of detail of risk allocation**—in theory, every project risk could be identified and allocated to the party best able to bear it, thereby improving value for money. In practice, as **Irwin** describes (Irwin 2007, 63–65) the cost of doing so would be high, and likely outweigh the benefits in the case of less significant risks. In most cases, risks are allocated in groups, sometimes with exceptions for certain significant risks. For example, the private party may bear all construction risks, except certain key geological risks, against which the government could provide an indemnity.
- **Risks that cannot be transferred**—certain types of risk cannot be transferred through the PPP contract. For example, the private party will always bear certain political risks—in particular, the risk that the government will renege on the contract or expropriate the assets. International institutions such as the Multilateral Investment Guarantee Agency (MIGA) provide political risk insurance to help mitigate this risk.
- **Extent of risk transfer to private party**—the equity holders of the private party to the PPP contract—the PPP company—are only exposed up to the value of their equity stake. Moreover,

lenders will typically only accept a relatively low level of risk, concomitant with their expected returns. In practice, this means that the extent to which risk can be transferred is limited by the level of equity in the project company, as described by **Ehrhardt and Irwin** (Ehrhardt and Irwin 2004). If losses due to a risk turn out to be greater than the equity stake, the equity holders can walk away from the project. Since the government is ultimately responsible for making sure services are provided, the remainder of the project risk remains with the government—as described by **Iossa et al** (Iossa et al. 2007, 25).

- **Incomplete contracts**—even well-designed contracts may suffer from the absence of certain necessary provisions. While PPP contracts cannot provide solutions for every possible situation, they should provide rules (templates or formulas) for the range of foreseeable scenarios, and a decision-making methodology for any other situation.

A combination of these limitations can mean that country characteristics affect the possibilities of risk transfer. **Ke et al's study of risk allocation** (Ke et al. 2010) demonstrates this in their comparison of risk allocation for projects in China, Hong Kong, Greece, and the United Kingdom.

Risk allocation matrices

The output of the risk allocation process at this stage is often a **risk allocation matrix**. The risk allocation matrix lists risks—often sorted by category—and defines who bears each risk. This risk allocation is then put into practice by including the appropriate clauses in the PPP contract as described in *Section 3.4 - Designing PPP Contracts*. **Farquharson et al** (Farquharson et al. 2011, Appendix B) provides an example risk register (or matrix) for a PPP project.

Some governments capture the risk allocation principles described above in preferred risk allocations, often presented in the form of a preferred risk allocation matrix. These preferred allocations may be generic, or specific to sectors or types of project. They are usually a starting point for allocating risk on a particular project, since projects often have specific characteristics where a different risk allocation would provide better value for money. Risk allocation matrices should be checked again prior to signing the contract to review the responsibilities of each party before it is legally binding. This final review could also serve as an additional gate-keeping mechanism.

The following are examples of preferred risk allocations and risk allocation matrices:

- **Infrastructure Australia** has produced standard commercial principles for both economic and social infrastructure projects (AU 2011b), which describe in detail how risks and responsibilities will be allocated.
- **Hong Kong's Introductory Guide to PPPs** (HK 2008, Annex E) provides a detailed example of a risk matrix for PPP of a water treatment plant.
- The **Government of Rio de Janeiro's PPP Manual** (RJ 2008, Annex 2) provides an example of a risk matrix for a PPP infrastructure project.
- **South Africa's PPP Manual**, Module 4: PPP Feasibility Study (ZA 2004a, Annex 4) includes a standardized PPP risk matrix—listing risks, and describing for each risk a typical risk mitigation mechanism and allocation.
- **The Global Infrastructure Hub (GI Hub)'s** report on *Allocating Risks in Public-Private Partnership Contracts* (GIH 2016a) **presents a series of 12 sample risk matrices** in different infrastructure sectors, specifically transport, energy, and water and sanitation. In each of the sample risk matrices, there is a detailed listing of project risks, along with a discussion of risk allocation, mitigation measures and government support arrangements. There is also a comparison of the different risk allocation arrangements in developed and emerging markets. The GI Hub website (GIH) also provides an interactive blog and Q&A forum.

3.3.3 Translating Risk Allocation into Contract Structure

Much of the PPP literature focuses on risk allocation. Some of it can give the impression that, once a preferred risk allocation has been settled, this can somehow translate smoothly into a detailed contract. Such an impression may be misleading. Many experienced PPP practitioners will go through an intermediate step in which they define other elements of the contract structure such as: "who will do what"?, and "how will the payments flow"? Unfortunately, relatively few resources describe how the risk allocation translates into an overall contract structure.

The **World Bank's Toolkit for PPP in Water Services** (PPIAF 2006, 97–124) is an exception. It sets out a process for allocating responsibilities and risks together—each responsibility being associated with a bundle of risks. For example, the private party may be

responsible for revenue collection, which carries the risk that some customers will not pay. The private party may be responsible for construction, which entails a series of risks. Labor costs, the timing of equipment delivery, and the cost and time to obtain permits can affect total costs and construction times, positively or negatively.

The toolkit sets out an approach to contract structuring, starting with identifying the major areas of responsibility, or functions: design and construction of new assets, finance, operations, and maintenance (for more on these functions see *Section 1.1 - What is a PPP: Defining 'Public-Private Partnership'*). For each function, specific responsibilities can then be defined, and risks identified that are associated with each responsibility.

The toolkit also describes the linkage between defining the details of the payment mechanism—in this case, tariff review mechanisms, since the toolkit focuses on user-pays projects—and risk allocation. *Section 3.4.2 - Payment Mechanism* goes into more detail.

Generalizing from this approach suggests that it may be helpful to think of arriving at a PPP type (see *Section 1.1 - What is a PPP: Defining 'Public-Private Partnership'*) from considering whether the public or private party is better able to carry out the key functions (*Design, Build, Operate, Maintain*, and *Finance*). This allocation of functions may be based on an analysis of which party is best able to bear the risks naturally associated with each function. Consideration of institutional linkages and political constraints will also come into play when deciding on which party can best perform which function.

Once a basic PPP type is chosen, the remainder of the risk allocation can be thought of as fine-tuning the basic function allocation. For example, if the private party is to be responsible for the *Build* function, but the public party is to retain geotechnical risk, this would be included in the contract design as an exception to the basic functional principle that all construction-related risks are for the private party to manage and absorb.

Beside allocation of functions, another key element in contract structure is how the payments flow. Payment mechanisms may follow from the allocation of functions and risks. For example, if the private party is better able to manage collection risks and demand risks, then the private party will likely be remunerated directly from user charges. However, if the private party can manage collection risk but is not asked to take demand risk, then the payment structure may involve the private party collecting user charges and remitting them to the public authority, while the public authority then pays the private party for asset availability, with a bonus for achieving high levels of collections.

Finally, a necessary complement to defining the payment mechanism is defining how performance will be measured, monitored, and enforced. For example, the government's payment may be conditional on the availability of the asset, with a view to transferring most operating risk to the private sector. This risk transfer can only be achieved in practice if the standards defining "availability" are clear and practicable. *Section 3.4.1 - Performance Requirements* provides more details.

The following resources provide further guidance on the linkages between responsibilities, risks, rights, and payment mechanisms, which can inform development of the contract structure:

- **Irwin** (Irwin 2007, 61) briefly describes how responsibilities, rights, and risks should be allocated together. This follows from the principle of risk allocation that a risk is allocated to the party best able to manage it: the rationale only holds if the party is also given the right and responsibility to make decisions related to that risk.
- **Iossa et al** (Iossa et al. 2007, 26–31) describes how different PPP contract types—with different functions allocated to the private party and different payment mechanisms—typically correspond to different risk allocations. The authors also describe (33–34) how output specifications, payment mechanisms, and risk allocations need to be closely aligned.
- **India's online PPP Toolkit** (IN) Module 1: *PPP Background* has a section on PPP model variants which describes typical risk allocations under different PPP contract types, thus giving a guide to how risk allocation can translate into choice of basic contract structure.

Key References: Structuring PPP Projects

Reference	Description
Irwin, Timothy C. 2007. *Government Guarantees: Allocating and Valuing Risk in Privately Financed Infrastructure Projects*. Directions in Development. Washington, DC: World Bank.	Chapter 4 defines risk, and explains the principles of allocating risk under PPP projects. Chapter 5 provides examples of putting those principles into practice for three risks: exchange-rate risk, insolvency risk, and policy risk.
Yescombe, E.R. 2007. *Public-Private Partnerships: Principles of Policy and Finance*. Oxford: Butterworth-Heinemann.	Chapter 14 on risk evaluation and transfer describes types of risk that are common to PPP projects.
Delmon, Jeffrey. 2015. *Private Sector Investment in Infrastructure: Project Finance, PPP Projects and PPP Frameworks*. 3rd edition. Alphen aan den Rijn, Netherlands: Wolters Kluwer.	Chapter 5 on risk allocation goes into more detail on PPP risk categories.
AU. 2016a. *National Public Private Partnership Guidelines - Volume 4: Public Sector Comparator Guidance*. Canberra: Commonwealth of Australia.	Section 16: Identifying, Allocating, and Evaluating Risk describes in detail different methodologies for quantitatively valuing risk in PPPs.
ADB. 2002. *Handbook for Integrating Risk Analysis in the Economic Analysis of Projects*. Manila: Asian Development Bank.	Chapter 2 describes quantitative techniques for assessing risk.
VIC. 2015. *Victorian Government Risk Management Framework*. Melbourne, Australia: Victorian Government, Secretary Department of Treasury and Finance.	A general guide on risk management frameworks, developed for public sector managers in the State of Victoria, Australia. Includes examples of risk assessment, and risk management templates.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Appendix B is risk register for a PPP project, providing an example of a risk allocation matrix, and of a qualitative approach to assessing and prioritizing risks.
Iossa, Elisabetta, Giancarlo Spagnolo, and Mercedes Vellez. 2007. *Best Practices on Contract Design in Public-Private Partnerships*. Washington, DC: World Bank.	Section 3: Risk Allocation Incentives, and Types of PPP describes typical types of risk in PPP contracts, the principles of effective risk allocation as well as its limitations, and typical risk allocations under different types of PPP contract.
OECD. 2008a. *Public-Private Partnerships: In Pursuit of Risk Sharing and Value for Money*. Paris: Organisation for Economic Co-operation and Development.	Chapter 3: "The Economics of Public-Private Partnership" includes a section on the role and nature of risk, which describes the concept of optimum risk transfer.
Ng, A., and Martin Loosemore. 2007. "Risk allocation in the private provision of public infrastructure." *International Journal of Project Management* 25(1) 66-76.	Describes classification and allocation of risk in PPP projects, and provides a case study of risk allocation for a railway PPP project in Australia.
Bing, Li, A. Akintoye, P.J. Edwards, and C. Hardcastle. 2005. "The allocation of risk in PPP/PFI construction projects in the UK." *International Journal of Project Management* 23 (1) 25-35.	Assesses how risks have been allocated in practice in PPP projects in the United Kingdom.
Rebollo, Andres, ed. 2009. *Experiencia española en concesiones y asociaciones público-privadas para el desarrollo de infraestructuras públicas: Marco general*. Research for Programa para el Impulso de Asociaciones Público-Privadas en Estados Mexicanos (PIAPPEM). Madrid: Deloitte España.	Review of the Spanish PPP experience. Includes a description of typical project structure divided by sectors and includes multiple examples of successful PPP projects.
Ke, Yongjian, ShouQing Wang, and Albert P. C. Chan. 2010. '"Risk Allocation in PPP Infrastructure Projects: Comparative study." *Journal of Infrastructure Systems* 16(4) 343-351.	Compares risk allocation for PPP projects in China, Hong Kong, Greece, and the United Kingdom, exploring how country characteristics affect the risk allocation that can be achieved in practice.

Reference	Description
AU Guidelines. Accessed March 20, 2017. "National Guidelines for Infrastructure Project Delivery." Canberra: Australian Government, Department of Infrastructure and Regional Development. Website.	Volumes 3 and 7 describe in detail how the risks and responsibilities will be allocated in social and economic infrastructure projects. The Roadmap describes how the principles should be used—as a starting point for developing contracts for particular projects.
HK. 2008. *An Introductory Guide to Public Private Partnerships*. Hong Kong, China: Efficiency Unit.	Section 6 provides guidance on managing risk. Annex E provides an example risk allocation matrix for a water treatment plant.
RJ. 2008. *Manual de Parcerias Público-Privadas - PPPs*. Conselho Gestor do Programa Estadual de Parcerias Público-Privadas. Rio de Janeiro: Governo do Estado do Rio de Janeiro.	Annex 2 provides an example of a typical risk matrix.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	Annex 3 provides guidance on how to calculate the value of risk. Annex 4 presents a standardized PPP risk matrix—listing risks, and describing for each risk a typical risk mitigation mechanism and allocation.
PPIAF. 2006. *Approaches to Private Sector Participation in Water Services: A Toolkit*. Washington, DC: Public-Private Infrastructure Advisory Facility.	Section 6: Allocating Risks and Responsibilities describes a process and principles for allocating both risks and responsibilities, as well as how the allocation can be defined in the contract, including through tariff rules.
IN. Accessed March 15, 2017. "PPP Toolkit for Improving PPP Decision-Making Processes." Public-Private Partnerships in India. New Delhi: Government of India, Ministry of Finance.	Module 1: PPP Background has a section on PPP modal variants that describes typical risk allocations under different PPP contract types.
ES. 2011. "Real Decreto Legislativo 3/20111, de 14 de noviembre, por el que se aprueba el texto refundido de la Ley de Contratos del Sector Público." *Boletín Oficial del Estado*, 276 (1) 117729-117913. Madrid: Gobierno de España, Ministerio de la Presidencia.	The Spanish Procurement law regulates the public procurement PPP contracts that can be used in Spain. Some of them are partially structured by the law and some of them have a flexible risk allocation.
Toro Cepeda, Julio. 2009. *Experiencia Chilena en Concesiones y Asociaciones Público-Privadas para el desarrollo de Infraestructura y la Provisión de Servicios Públicos: Informe Final*. Research for Programa para el Impulso de Asociaciones Público-Privadas en Estados Mexicanos (PIAPPEM). Santiago, Chile.	Review of the Chilean PPP experience. Includes a description of typical project structure divided by sectors and includes multiple examples of successful PPP projects.
GIH. 2016a. *Allocating Risks in Public-Private Partnership Contracts*. Sydney: Global Infrastructure Hub.	Outlines risk allocation and risk mitigation measures in several sectors, distinguishing between developed and emerging markets.

3.4 Designing PPP Contracts

The PPP contract is at the center of the partnership, defining the relationship between the parties, their respective rights and responsibilities, allocating risk, and providing mechanisms for dealing with change. In practice, the PPP contract can encompass several documents and agreements, as described in *Box 3.9 - What is the PPP Contract?*

Most PPP projects present a contractual term between 20 and 30 years; others have shorter terms; and a few last longer than 30 years. The term should always be long enough for the private party to adopt a whole-life costing approach to project design and service management, guaranteeing service performance at the lowest cost. The term depends on the type of project and on policy considerations—the project should be needed over the term of the contract, the private party should be able to accept responsibility for service delivery over its term, and the procuring authority should be able to commit to the project for its term. The availability of finance, and its conditions, may also influence the term of the PPP contract.

As shown in *Figure 3.5 - PPP Contract Design Stage*, the draft PPP contract is generally needed before a Request for Proposal (RFP) is issued. Detailed contract design takes significant time and resources—including from expert advisors. Approval is often required before embarking on detailed design and investing these resources.

The draft PPP contract is typically included with the RFP sent to prospective bidders. In some cases, the PPP contract issued with the RFP cannot be changed. In others, it may be changed because of interaction with bidders during the transaction process. **Australia National PPP Guidelines Roadmap** (AU 2015) and the **South Africa PPP Manual** (ZA 2004a) provide an overview of PPP contract development and how it progresses at each stage of implementing the PPP.

Aim of PPP contract design

A well-designed contract is clear, comprehensive, and creates certainty for the contracting parties. Because PPPs are long-term, risky, and complex, PPP contracts are necessarily incomplete—that is, they cannot fully predict future conditions. This means the PPP contract needs to have flexibility built in to enable changing circumstances to be dealt with as far as possible within the contract, rather than resulting in renegotiation or termination.

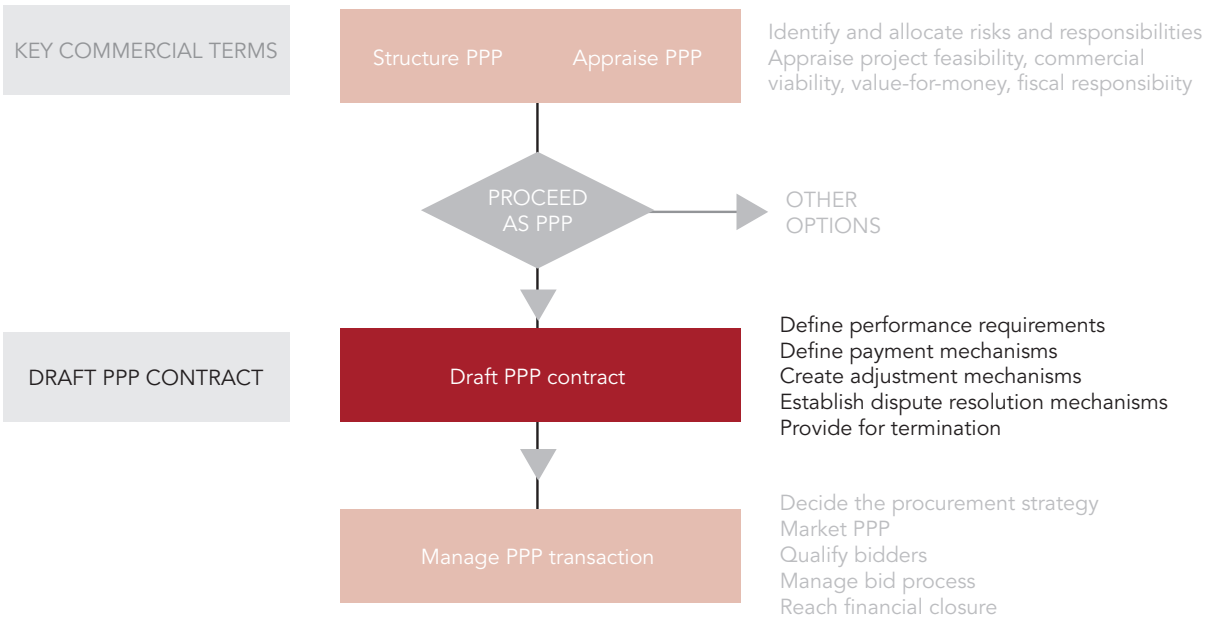
The aim of PPP contract design is therefore to create certainty where possible, and bounded flexibility where needed—thereby retaining clarity and limiting uncertainty for both parties. This is achieved by creating a clear process and boundaries for change. To implement this style of contract in practice requires strong contract management institutions, as described in *Section 3.6 - Managing PPP Contracts*. Where possible, involving the future contract manager in designing or reviewing the PPP contract can help ensure that change management processes are implementable in practice. PPP contract design is a complex task. This section briefly sets out some key considerations—and provides links to tools, examples, and further resources—in five areas of PPP contract design:

- **Performance requirements**—defining the required quality and quantity of assets and services, along with monitoring and enforcement mechanisms, including penalties
- **Payment mechanisms**—defining how the private party will be paid, through user charges, government payments based on usage or availability, or a combination, and how bonuses and penalties can be built in
- **Adjustment mechanisms**—building into the contract mechanisms for handling changes, such as extraordinary reviews of tariffs, or changing service requirements
- **Dispute resolution procedures**—defining institutional mechanisms for how contractual disputes will be resolved, such as the role of the regulator and courts, or the use of expert panels or international arbitration
- **Termination provisions**—defining the contract term, handover provisions, and circumstances and implications of early termination

Together, these sets of provisions define the risk allocation under the contract. Obviously, the aim must be to draft these provisions so that the risk allocation chosen (as set out in *Section 3.3 - Structuring PPP Projects*) is achieved. The provisions dealing with adjustment mechanisms and dispute resolution are intended to avoid the need for renegotiation, by allowing changes to be made, and problems resolved, within the framework provided by the contract.

Some countries have made efforts to standardize elements of PPP contract design to reduce the considerable time and cost frequently involved in preparing and finalizing a given PPP contract. They have developed standardized contractual provisions or even complete standardized PPP contracts—*Table 3.1 - Examples of Standardized PPP Contracts and Contract Clauses* provides some examples. Other countries have chosen to incorporate certain elements

Figure 3.5 PPP Contract Design Stage



of PPP contract design in legislation that governs all PPP contracts, as described in *Section 2.2 - PPP Legal Framework*.

For example, in Chile the dispute resolution mechanism is established in the Concessions Law. The World Bank Group's ***Report on Recommended PPP Contractual Provisions*** (WB 2017e) sets out and analyzes certain contractual provisions dealing with particular legal issues encountered in virtually every PPP contract, such as *force majeure*, termination rights and dispute resolution. Another useful resource is the World Bank's online PPP in Infrastructure Resource Center (PPPIRC 2017)—this website hosts a collection of actual PPP contracts and sample agreements for a range of contract types and sectors. To review the impact of contractual clauses on statistical classification, the **2016 Eurostat Guide to the Statistical Treatment of PPPs** (EPEC 2016) reviews a large set of PPP contractual provisions typical in European government-pays PPP contracts.

3.4.1 Performance Requirements

The PPP contract should clearly specify what is expected from the private party in terms of the quality and quantity of the assets and services to be provided. For example, this could include defining required maintenance standards for a road, or defining the required service quality and connection expansion targets for utility services provided directly to users. Performance indicators and targets are typically specified in an annex to the main PPP agreement.

A key feature of a PPP is that performance is specified in terms of required outputs (such as road surface quality), rather than inputs (such as road surfacing materials and design) wherever possible. This enables the private PPP company to be innovative in responding to requirements as described in **Farquharson et al** (Farquharson et al. 2011, 34). For more guidance and examples on the differences between output and input specification, see **Hong Kong's guidance on managing outsourcing contracts** (HK 2007, 32–33), and **Guidance on output specifications from the United Kingdom's Ministry of Defence** (UK 2010a), which also sets out a process for developing the specification for a PPP project.

Specifying outputs rather than inputs also keeps competition as open as possible and reduces the opportunities for corrupt practices. The **World Bank's sourcebook on governance in the electricity sector** describes a power sector procurement, in which a particular technology was specified in the RFP, with the intent of limiting competition and facilitating corruption.

Box 3.9 What is the PPP Contract?

This section uses the term *PPP contract* to mean the contractual documents that govern the relationship between the public and private parties to a PPP. In practice, the PPP contract may comprise more than one document. For example, a PPP to design, build, finance, operate, and maintain a new power plant, with power supplied in bulk to a government-owned transmission company may be governed by a power purchase agreement (PPA) between the transmission company and the PPP company, as well as an implementation agreement between the responsible government ministry and the PPP company. Each agreement may, in turn, refer to schedules or annexes to set out particular details—for example, detailed performance requirements and measures.

In addition to the PPP contract, there will also be numerous contracts between the SPV and its suppliers and financiers. Chief among them would be financing agreements between the SPV and its lenders, and shareholder agreements between equity investors (see *Section 1.3 - How PPPs Are Financed* for more on the PPP contractual structure). The PPP contract may not be effective until these other contractual agreements are in place. The EPEC Guide to Guidance (EPEC 2011b, 23) lists topics that should be covered in a typical PPP contract—the *Table 3.1 - Examples of Standardized PPP Contracts and Contract Clauses* provide further examples. The PPIAF Toolkit for PPP in Highways (WB 2009a) section on contracts describes the range of contractual agreements typically involved for different types of PPP.

The PPP contract should set out the following:

- **Clear performance targets or output requirements**. **Farquharson et al** (Farquharson et al. 2011, 34–36) note performance targets should be SMART—that is, Specific, Measurable, Achievable, Realistic, and Timely—and provides an example of SMART targets for a government accommodation PPP.
- **How performance will be monitored**—specifies what information must be gathered, by whom, and reported to whom and how frequently. This can include roles for the government's contract management team, the private party, external monitors, regulators, and users (see *Section 3.6 - Managing PPP Contracts*).
- The consequences for failure to reach the required performance targets, clearly specified and enforceable. This could include:
  - Specifying penalty payments, liquidated damages or performance bonds. **Iossa et al** (Iossa et al. 2007, 47–49) describe the pros and cons of these kinds of enforcement mechanism. The **United Kingdom's standardized PPP contracts** also include a chapter on protection against late service commencement (UK 2007, Chapter 4), describing when and how liquidated damages or performance bonds may be used.
  - Specifying payment deductions for poor performance (or bonuses for good performance), built into the payment mechanism (see *Section 3.4.2 - Payment Mechanism*).
  - Following a formal performance warning procedure, lenders will be allowed to exert their step-in rights, in order to improve performance and avoid contractual default. Persistent unsatisfactory performance can escalate into termination for default, as described in *Section 3.4.5 - Termination Provisions*.
- **Step-in rights for the public party**, to take control of the concession (typically temporarily) under certain well-defined circumstances. As described by **Iossa et al** (Iossa et al. 2007, 81–83), the intention is to enable the public party to resolve problems threatening service provision when it is better able to deal with these problems, such as a riot in a PPP prison.

The following resources provide more guidance and examples on these three elements of setting performance requirements:

- **Kerf et al's Guide to Concessions** (Kerf et al. 1998, 70–74) describes issues and provides examples of performance targets in the context of concession contracts for utilities.
- **4Ps paper on the United Kingdom's PFI experience** (4ps 2005, 7–10) presents lessons learned on specifying output requirements. These include the need for clarity to avoid differences in interpretation, leading to disagreement, and ensuring reporting requirements are adequate.
- The **South Africa PPP Manual** Module 6 *Managing the PPP Agreement* (ZA 2004a, Module 6, 25–26) briefly outlines how performance requirements, monitoring and enforcement mechanisms

Table 3.1 Examples of Standardized PPP Contracts and Contract Clauses

Jurisdiction	Standard	Links
Australia	Guidelines issued by Infrastructure Australia on standard commercial principles for social and economic infrastructure PPPs	Infrastructure Australia's PPP Guidelines (AU 2017): Volume 3 on social infrastructure and Volume 7 on economic infrastructure.
India	Descriptions of model agreements for PPP in a range of transport sectors	Former Planning Commission (IN 2014d), (IN 2009)
Netherlands	Standard PPP contract for DBFM in buildings and DBFMO in infrastructure	Ministry of Finance Publications (NL 2017)
New Zealand	Draft standard PPP contract	National Infrastructure Unit (NZ 2013)
Philippines	Sample contracts for PPP in bulk water supply, ICT, solid waste management, and urban mass transit. The PPP Center is currently developing standardized terms for broader application	Public-Private Partnership Center: PEGR Sample Contracts (PEGR 2009)
South Africa	Standardized PPP provisions published alongside the South Africa PPP Manual	National Treasury Standardized PPP Provisions (ZA 2004c)
United Kingdom	Standardized contracts for PFI projects; includes extensive guidance on each element of the contract	Her Majesty's Treasury: *Standardized contracts* (UK 2012c)

should be established; more detail is set out in South Africa's Standardized PPP Provisions on performance monitoring (ZA 2004a, Standardized PPP Provisions, 121–133).

- The **Scottish Government** has produced standard output-based performance requirements for PFI schools (SCT 2004), which also describe some key issues in defining performance requirements.
- The **United States Department of Transportation's Key Performance Indicators in Public-Private Partnerships** (US 2011) reviews the indicators used in several countries and their efficiency.

3.4.2 Payment Mechanism

The payment mechanism defines how the private party to the PPP is remunerated. Adjustments to payments to reflect performance or risk factors are also important means for creating incentive and allocating risk in the PPP contract, as described in the **EPEC Guide to Guidance** (EPEC 2011b, 24).

Iossa et al (Iossa et al. 2007, 41–49) provides a helpful overview of payment mechanisms for PPPs. The basic elements of PPP payment mechanisms can include:

- **User charges**—payment collected by the private party directly from users of the service
- **Government payment**—payment by the government to the private party for services or assets provided. These payments could be:
  - Usage-based—for example, shadow tolls or output-based subsidies
  - Based on availability—that is, conditional on the availability of an asset or service to the specified quality
  - Upfront subsidies based on achieving certain milestones
- **Bonuses and penalties, or fines**—deductions on payments to the private party, or penalties or fines payable by the private party, due if certain specified outputs or standards are not reached; or conversely, bonus payments due to the private party if specified outputs are reached

A PPP payment mechanism could include some or all of these elements, which should be fully defined in the contract—including specifying the timing and mechanism for making the payments in practice. Key considerations in each case are described briefly further in this section.

Defining user charges

When a concession is paid by charging users, the approach to tariff setting and adjustment becomes an important risk allocation mechanism. In some PPPs, the private party may be free to set tariffs and the tariff structure. However, in many cases, user-pays PPPs are in sectors with monopoly characteristics, and tariffs are typically regulated by government (along with service standards), to protect users. A **PPIAF note on tolling principles** (Bull and Mauchan 2014) discussed toll policy trade-offs and risks. The key question for risk allocation is how tariffs will be allowed to change—for example, with changes in inflation or other economic variables, or changes in different types of cost and who can trigger a tariff revision.

Tariffs can be controlled by establishing tariff formulae in the PPP contract, or by regulation, or a combination of the two. For example, a tariff formula may be set that establishes initial tariff levels, and a formula by which the tariff is allowed to regularly, automatically adjust in line with inflation. The contract may provide for regular tariff formula reviews, at which point other factors could be considered—as described further in *Section 3.4.3 - Adjustment Mechanisms*.

Kerf et al Guide to Concessions (Kerf et al. 1998, Sections 3.3 and 3.4) provides a helpful overview on price setting, and price adjustment for user-pays concessions contracts. The **World Bank's toolkit on water sector PPPs** (PPIAF 2006, 108–118) also discusses tariff indexation and resets as a risk allocation mechanism for user-pays PPPs.

For further information on tariff-setting and adjustment, there is a wide literature available on different approaches to tariff-setting for infrastructure regulation. The **World Bank's Body of Knowledge on Infrastructure Regulation**, available online (PURC 2012), includes a module on price setting (that is, setting the overall price level), and a module on tariff design (that is, how tariffs may vary for different customers or circumstances). Both modules describe key issues and provide extensive links to further resources.

Defining government payments

Key considerations when defining government payments include the following:

- **Risk allocation implications** of different government payment mechanisms. For example, under a usage-based mechanism, demand risk is either borne by the private sector or shared; whereas an availability payment mechanism creates an alternative reward mechanism not related to the level of demand. Providing an upfront capital subsidy means the private party bears less risk than if the same subsidy is provided on an availability basis over the contract lifetime. **Irwin's paper on fiscal support decisions** (Irwin 2003) describes some of the trade-offs between different types of subsidies to infrastructure projects (alongside user payments), and how governments can decide which is appropriate.
- **Linkage to clear output specifications and performance standards**—linking payments to well-specified performance requirements is key to achieve risk allocation in practice. See *Section 3.4.1 - Performance Requirements* for more resources on specifying output and performance targets in the contract. The section on defining bonuses and penalties provides more on how adjustments to payments should be specified.
- **Indexation of payment formulae**—as for tariff specification, payments may be fully or partially indexed to certain risk factors, so the government bears or shares the risk.

The **EPEC Guide to Guidance** (EPEC 2011b, 24) provides a helpful overview of how to define the payment mechanism for government-pays PPPs. **Yescombe** (Yescombe 2007) provides more detailed description of the different options and their implications for risk allocation and bankability. A **note developed by the Scottish Government** (SCT 2007) describes experience with defining and implementing payment mechanisms in PPPs.

Defining bonuses and penalties

Under both government- and user-pays PPPs, bonuses and penalties can be tied to particular outcomes. Under government-pays contracts, bonuses and penalties are typically adjustments to regular payments. Governments may also provide bonuses or charge penalties under user-pays contracts.

Iossa et al (Iossa et al. 2007, 46–47) provide an overview of performance-based payments. The **Scottish Government note on designing payment mechanisms for PPPs** (SCT 2007, 9–13) emphasizes the need to calibrate the payment mechanism—that is, to check the financial impact of penalties under different possible combinations of under-performance. The model contracts in *Table 3.1 - Examples of Standardized PPP Contracts and Contract Clauses* provide further examples of the use of bonuses or penalties. For example, the **United Kingdom's standardized PPP contracts** include a chapter on payment mechanisms (UK 2007, Chapter 7),

which also describes calibration of penalties and bonuses based on financial analysis.

3.4.3 Adjustment Mechanisms

PPP projects are long-term, and are often risky and complex. For example, a new toll highway faces obvious risks such as fluctuations in demand, but also hidden risks such as demand to provide more interchanges in the future, or install new traffic management technologies. More complex PPPs, such as water concession contracts, are even more exposed to unpredictable changes. Network assets may last more or less time than assumed. Demands for changes in treatment and distribution technologies may flow from new health research, while urban growth may create large investment demands, sometimes in unpredicted locations.

This means PPP contracts are necessarily incomplete—that is, they cannot fully specify all future possibilities. The PPP contract therefore needs to have flexibility built in—to enable changing circumstances to be dealt with as far as possible within the contract, rather than resulting in re-negotiation or termination. Such adjustment mechanisms typically aim to create a clear process and boundaries for change.

The concept of financial equilibrium, common in civil law systems, provides a broad mechanism for dealing with several different types of change. Other mechanisms are more specific—such as mechanisms for changes to service requirements, changes to tariff formulae, other cost adjustments in response to market changes, or dealing with refinancing gains.

As described in the **EPEC Guide to Guidance** (EPEC 2011b, 37–38), the administrative arrangements and processes for handling change are often further defined as part of the contract management framework and materials (see *Section 3.6.1 - Establishing Contract Management Structures*). While rules and processes can be specified for changes, room for discretion is likely to remain. The contract therefore needs to define a process that gives both public and private parties confidence that their interests will be respected.

Financial equilibrium clauses

Civil law systems commonly espouse a concept of financial equilibrium in contracting, which may be established in general administrative law, or defined in more detail in PPP-specific law or a particular contract. Financial equilibrium provisions entitle an operator to changes in the key financial terms of the contract to compensate for certain types of events beyond their control. Adjustments are based on a mutually-agreed financial model that is maintained over the lifetime of the contract. Three causes of unexpected changes that merit financial equilibrium revisions are typically defined as *force majeure* (major natural disasters or civil disturbances), *factum principis* (government action) and *ius variandi* (unforeseen changes in economic conditions). The **PPPIRC Website** (PPPIRC) provides more information and references on financial equilibrium clauses in the section on *Key Features of Common Law or Civil Law Systems*.

Changes to service requirements

It may be difficult for the contracting authority to accurately anticipate service requirements over the duration of the contract. Contracts typically build in approaches for handling changes to service requirements in response to changing circumstances (which could also include changing technology). For example, the **Hong Kong PPP Guide** (HK 2008, 68–71) describes how changes in circumstance can be dealt with. The **South Africa standardized contract provisions** (ZA 2004a, Part K: 50) provide for four categories of variation:

- Variations with no additional cost
- Small works variation
- Institutional variations (changes in service requirements), and
- Variations requested by the private party

Changes to tariff or payment rules or formulae

Tariffs or payments are often specified by formulae, as described in *Section 3.4.3 - Adjustment Mechanisms*, to allow regular adjustments for factors such as inflation. The PPP contract can also include mechanisms for reviewing these formulae—whether periodic, or one-off changes in extraordinary circumstances (with specified triggers). Since these processes are analogous to regulatory tariff reviews, regulatory guidance material may be useful. The **World Bank's body of knowledge on infrastructure regulation** (PURC 2012) section on price level regulation describes key issues in tariff regulation, and guides readers in accessing a wide range of references.

Market testing and benchmarking operating costs

Some PPP contracts require periodic market testing or benchmarking of certain sub-services in the contract, to allow costs to be adjusted to market conditions. This is typically done where a PPP includes provision of a long-lived asset (such as a school or hospital facility) together with soft services where market contracts are typically of shorter duration (such as cleaning). This approach is most common in PPP contracts in the United Kingdom Private Finance Initiative (PFI) tradition. One objective is that the price charged for the soft services should be kept in line with market conditions, through periodic challenges or benchmarking exercises. The other reason for market testing "soft" services is that service providers would normally be reluctant to provide a fixed price (with simple inflation indexation) for such services over a long period of time, because the actual costs are likely to get out of line with the indexation.

A **United Kingdom Operational Taskforce note** provides detailed guidance on benchmarking and market testing approaches (UK 2006a). The **United Kingdom's Department of Health** has also produced a code of best practice on benchmarking and market testing in hospital PFIs (NAO 2010b). This code provides guidance on how to manage the market testing process, focused on health facilities contracts—see also (NAO 2011).

Refinancing

During implementation, changes to the project risk profile or in capital markets may mean the PPP company can replace or renegotiate its original debt on more favorable terms. As described in *Section 1.3 - How PPPs Are Financed*, many PPP contracts set out rules for determining and sharing the gains from refinancing. For example, in 2004 the United Kingdom's Treasury introduced into its standard PFI contracts a 50:50 split of any refinancing gain between the investors and the government. The **EPEC Guide to Guidance** on PPPs (EPEC 2011b) also provides a succinct summary of how refinancing can be treated in the PPP contract.

3.4.4 Dispute Resolution Mechanisms

Because PPP arrangements are long-term and complex, contracts tend to be incomplete, as described in *Section 3.4.3 - Adjustment Mechanisms*. Where this creates room for differences in interpretation, disputes can arise. Defining a dispute resolution process helps ensure disputes are resolved quickly and efficiently, without interruption of service. Dispute resolution mechanisms can be built into the PPP contract. Some governments define dispute resolution mechanisms in international instruments (e.g. bilateral investment treaties or multilateral agreements), or in local PPP legislation, that may apply to all PPP contracts.

As described by **Kerf et al** (Kerf et al. 1998, Section 3.10) dispute resolution mechanisms for PPP can include the following:

- **Mediation and conciliation**—a neutral third party is appointed to resolve a dispute by helping the parties settle their disagreements. It may be used in the hope of not having to enter formal arbitration. A mediator typically acts as a facilitator, assisting the parties in identifying the best possible negotiated solution or settlement—the solution itself will be developed by the disputing parties themselves. A conciliator has a still neutral but more active role, also actively proposing solutions and settlement terms.
- **Recourse to a sector regulator**—for PPPs in sectors under the remit of an independent regulatory body, the regulator can be assigned responsibility for resolving certain disputes. This is a relatively simple and hence low-cost option, but can be risky for the private party, particularly in case of concerns over regulator independence or capacity.
- **Judicial system**—generally, contractual disputes are subject to jurisdiction of the courts, and the same is typically true of PPP contracts. However, parties to PPPs often consider the court system as inappropriate for solving disputes, since it may be slow, or lack technical expertise—particularly in developing countries. Dispute resolution mechanisms for PPPs often try to avoid resorting to the court system as far as possible.
- **Panel of experts as arbitrators**—the PPP contract or law could designate a panel of independent experts, to act as arbitrators in case of dispute. Decisions could be defined as non-binding (in which case a further escalation mechanism is required), or binding.
- **International arbitration**—the last resort for many PPPs is international arbitration, which can be under a permanent arbitration institution such as the International Centre for Settlement of Investment Disputes (see *Box 3.10 - International Centre for Settlement of Investment Disputes)* or involve ad hoc arrangements such as an international expert panel.

More than one of these approaches may be used, to allow for escalation of disputes should simpler methods fail. For example:

- **Chile concessions.** The dispute resolution mechanism for PPP contracts in Chile was established in the Concessions Law, and centers on the role of an independent panel of experts, as set out in **Jadresic's review of Chile's experience with expert panels** (Jadresic 2007, 25–26). A conciliation panel of experts is established for each contract, comprising three experts—one chosen by the government, one by the private party, and a third by mutual agreement. The conciliation panel may be called on to propose conciliatory terms to resolve disputes for agreement by the parties. If agreement cannot be reached, the private party can either request the conciliation panel become an arbitration panel (and reach a binding decision), or refer to the court system.
- **Bucharest Water Service Concession.** The dispute resolution mechanism is defined in the PPP contract. It involves an economic regulator, a technical regulator housed in the municipal government, with recourse to an international panel of experts in case of appeal.
- In **Mexico, the Federal Law on Acquisitions, Leases and Services** (MX 2014) sets out the procedures for conflict resolution during the implementation of the PPP contract. The Secretaría de la Función Pública is the organization in charge of handling these processes. The law states that interested party must request for dispute resolution support from the Secretary. The Secretary facilitates a dispute resolution meeting. Any agreements reached through this procedure will be binding, and the parties involved must produce a report showing the progress made in implementing the agreement reached.
- In **Uruguay**, **the Law on PPP Contracts** (UY 2011) prescribes that the parties must agree on an ad hoc arbitration panel to solve any disputes.

The standardized contracts listed in *Table 3.1 - Examples of Standardized PPP Contracts and Contract Clauses* provide further examples of dispute resolution clauses and options.

3.4.5 Termination Provisions

In most cases, PPP contracts have a defined term. The contract typically sets out the contract termination date and arrangements for contract close and asset handover. The PPP contract, or in some cases the relevant PPP Law, should also specify circumstances in which the contract may be terminated early, and the consequences of termination in each case.

Contract term and asset handover

The PPP contract typically defines the contract term, and arrangements for any handover of project assets to the government. The most common approach is for the government to choose the contract term, in the draft contract, as the best estimate of the time needed for the private party to achieve its required return, at reasonable tariffs or payment levels. A second option, with a similar result, is to define tariffs or annual payments, and enable the contract length to be determined by bidders as one of the key bid variables. This approach was used, for example, in **Mexico's toll road program** (Fisher and Babbar 1996), where concessions were awarded to the bidder offering the shortest term.

A third alternative is to let the length of the concession be determined endogenously, as described by **Kerf et al** (Kerf et al. 1998, 83), by inviting bids on the basis of the **least present value of revenue (LPVR)**. This means the concession terminates when that value is reached—the higher the traffic, the sooner the concession terminates. This approach was set out by **Engel, Fischer and Galetovic** (Engel et al. 2002) to manage the risk of fixed-term concessions and has been used for toll roads in Chile and Colombia.

Kerf et al (Kerf et al. 1998, 81–82) and **Iossa et al** (Iossa et al. 2007, 73–78) both describe the trade-off between a shorter concession term—enabling the government to go back to the market to re-tender the concession—against the disincentive this can create for concessionaires to invest, particularly towards the end of the concession.

Given this disincentive, PPP contracts need to clearly define the approach to transition of assets and operations at the end of the contract. This typically includes defining how the quality of the assets will be defined and assessed, when and how to review asset condition ahead of the end of the contract (ideally several years prior), whether a payment will be made on asset handover, and how the amount of any payment will be determined. It can be particularly challenging to define handover standards at the start of a long-term contract. In addition, it may be difficult to get the private party to fulfill its investment commitments towards the end of the concession period. The following resources describe some possible approaches:

- The **World Bank's toolkit for PPPs in roads and highways** (WB 2009a, Module 5, Stage 5) describes how asset standards at handover can be defined in terms of the remaining useful life of different parts of the asset.
- **Australia's standard commercial principles** (AU 2011b, 120–124) specify use of an independent assessor, appointed near the end of the contract term, to assess the quality of the assets, and define the required handover condition.
- **The United Kingdom's standard PFI contract** (UK 2007) requires inspection around two years before the end of the contract, on the basis of which any work required to bring the facility up to the required standard is specified. Fee payments may be withheld by the contracting authority and released only when the required work is carried out.

EPEC Guide to Guidance (EPEC 2011b, 42) describes how bonds or guarantees can be used to ensure asset quality at handover.

Provisions for early termination

The PPP contract needs to set out the conditions under which the contract may be terminated early, in which case the ownership of the project assets typically reverts to the public sector. This includes who may terminate and for what reason, and what if any compensation payment will be made in each case.

There are three broad possible reasons for early termination:

- Default by the private party
- Termination by the public party, whether due to default or for reasons of public interest
- Early termination due to an external reason (*force majeure*)

In each case, the government typically makes a payment to the private party and takes over control of the project assets, which may be re-tendered under a new PPP contract. Contractually-defined termination payments typically depend on the reason for termination, as summarized in *Table 3.2 - Types of Early Termination and Termination Payments*.

Table 3.2 Types of Early Termination and Termination Payments

Termination	Typical Triggers	Defining Termination Payment
Private party default	• Failure to complete construction • Persistent failure to meet performance standards • Insolvency of project company Lenders are typically given step-in rights to enable them to remedy problems due to an under-performing contractor—termination only occurs if this is ineffective, or if lenders choose not to do so	Termination payments are typically defined to ensure equity-holders bear the burden of default. Lenders may also be exposed to some possible loss—to strengthen their incentives to rectify problems—although this can affect bankability. Options include: • Full value or a specified proportion of outstanding debt • Depreciated book value of assets • Net present value of future cash flows (subtracting costs of rectification) • Proceeds of re-tendering the concession on the open market—thereby also overcoming the possible difficulty of finding budget space for termination payment obligations that are realized unexpectedly
Public party default	Public party fails to meet its obligations under the contract	A fair contract should ensure the private party does not lose out if the public party chooses to default. Termination payments in this case are typically set to the value of debt **plus** some measure of equity, and may also include lost future profits (if any)
Termination for public interest	Many PPP or public procurement laws allow the contracting entity to terminate for reasons of public interest	Typically, should be treated in the same way as public party default; otherwise creates perverse incentives to voluntarily terminate instead of default (or vice versa)
Prolonged *force majeure* damage	Should be carefully defined in the contract and limited to uninsurable, prolonged force majeure events that preclude performance of obligations	Typically, in between the two options above, since neither party is at fault

Box 3.10 International Centre for Settlement of Investment Disputes (ICSID)

ICSID, part of the World Bank Group, is an autonomous international institution established in 1966 under the *Convention on the Settlement of Investment Disputes between States and Nationals of Other States* (known as the ICSID or the Washington Convention) with over 153 member States. ICSID provides facilities and services for the settlement international investment disputes. In addition, it offers fact-finding proceedings to examine and report on facts before a dispute arises.

The ICSID Convention sought to remove major impediments to the free international flows of private investment posed by non-commercial risks and the absence of specialized international methods for investment dispute settlement. ICSID was created by the Convention as an impartial international forum providing facilities for resolving legal disputes between private investors and host states through conciliation or arbitration procedures. Recourse to the ICSID facilities is always subject to the parties' consent. Its main advantage, in comparison to other arbitration mechanisms, is that the ICSID Convention provides for a specialized and completely delocalized arbitration mechanism and the enforceability of awards.

The ICSID website (ICSID 2017) provides more information and examples of international dispute settlements—including cases concerning roads, railways, ports, airports, energy, waste, water, wastewater, and other sectors. Many awards are available on the website, in either English, French, and/or Spanish (ICSID-Cases). The website also provides a set of model clauses regarding conciliation and arbitration—in English, French, and Spanish. ICSID also maintains a Panel of Arbitrators and a Panel of Conciliators (mediators) (ICSID-Panels).

Some of these approaches to defining the termination payment—particularly when linked to the value of the project assets—require careful definition.

The following resources provide more guidance on termination causes, arrangements, and payments:

- **EPEC Guide to Guidance** (EPEC 2011b, 40–42) describes each of these causes of termination and the options for defining termination payments in each case.
- A more detailed **EPEC publication on termination provisions** (EPEC 2013) provides a review of current European practice and guidance on termination and force majeure provisions in PPP contracts.
- **Yescombe** (Yescombe 2007) also describes termination causes and options for termination payments, in greater detail.
- **Ehrhardt and Irwin** (Ehrhardt and Irwin 2004, 46–49) note that many PPP termination clauses protect lenders from any losses (that is, do not allow the PPP company to go bankrupt)—they describe why this can cause problems, and how bankruptcy could be a realistic option.
- **Clement-Davies on PPPs in Central and Eastern Europe** (EBRD 2007, 46) provides more information on lenders' step-in rights.

The standardized contracts listed in *Table 3.1 - Examples of Standardized PPP Contracts and Contract Clauses* also provide further examples of termination clauses in practice.

Notwithstanding careful provisions in the contract, early termination is typically costly for both parties, and is a last resort when other avenues have been exhausted. As described in the **EPEC Guide to Guidance** (EPEC 2011b, 40), this means the contractually-defined termination payments are important even if termination does not happen, since it defines the fallback position of each party in any dispute resolution or renegotiation.

Early termination payments are usually tailored in such a way that debt providers always have an interest in keeping the contract alive and services operational, thereby inducing them to step-in before issues of poor performance lead to default by the private party.

Key References: Designing PPP Contracts

Reference	Description
EPEC. 2011b. *The Guide to Guidance: How to Prepare, Procure, and Deliver PPP Projects*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Section 2.2.5 on preparing the draft contract briefly describes typical contract content; Box 3 provides more detail on defining payment mechanisms. Section 4 on project implementation describes dealing with change within the contract, dispute resolution, and termination.
WB. 2009a. "Toolkit for Public-Private Partnerships in Roads and Highways." World Bank. Website.	Module 4: "Laws and Contracts" includes a section on contracts describing PPP contract types and typical contract contents and provisions, including sample boiler plate clauses. The section on agreements, bonds and guarantees describes other common elements of the contractual structure, including agreements with lenders.
AU Guidelines. Accessed March 20, 2017. "National Guidelines for Infrastructure Project Delivery." Canberra: Australian Government, Department of Infrastructure and Regional Development. Website.	Set out why and how key risks and responsibilities should be allocated in the contract, for social infrastructure (government pays) (AU 2008) and economic infrastructure (user pays) (AU 2011b). The roadmap document (AU 2011a) describes the process of developing the contract, and provides guidance on deciding which set of commercial principles to use.
PPPIRC. Accessed March 13, 2017a. "PPP Arrangements / Types of Public-Private Partnership Agreements." Public-Private Partnership in Infrastructure Resource Center. Website.	The PPP in Infrastructure Resource Center hosts a collection of actual PPP contracts and sample agreements for a range of contract types and sectors.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Chapter 4 on selecting projects includes a section on specifying output requirements, and defines and provides examples of SMART output specifications.
HK. 2007. *Serving the Community By Using the Private Sector: A User Guide to Contract Management*. Hong Kong, China: Efficiency Unit.	Guide to contract management, in the context of outsourcing services. Includes several sections relevant to designing PPP contracts, including developing service specifications, and dealing with termination and dispute resolution.
UK. 2010a. *Output-Based Specifications for PFI/PPP Projects: Version 0.2 Consultation Draft*. London: Ministry of Defence.	Provides detailed guidance on output-based specification, and a process for developing the specification for a PPP project.
Iossa, Elisabetta, Giancarlo Spagnolo, and Mercedes Vellez. 2007. *Best Practices on Contract Design in Public-Private Partnerships*. Washington, DC: World Bank.	Provides guidance on several elements of contract design, including risk allocation, designing the payment mechanism, building in flexibility and avoiding renegotiation, contract duration, and other contractual issues to do with dealing with change.
UK. 2007. *Standardization of PFI Contracts: Version 4*. London: UK Government, HM Treasury.	Provides detailed guidance and standard wording where appropriate on every aspect of the PPP contracts used for United Kingdom PFI PPPs (predominantly user-pays). The website http://www.hm-treasury.gov.uk/ppp_standardised_contracts.htm provides additional materials, including marked up versions showing changes made to previous versions.
Kerf, Michael, R. David Gray, Timothy Irwin, Celine Levesque, Robert R. Taylor, and Michael Klein. 1998. "Concessions for Infrastructure: A guide to their design and award." World Bank Technical Paper No. 399. Washington, DC: World Bank.	Section 3: "Concession Design" provides detailed guidance on designing PPP contracts, focusing on contracts in which the private party provides services directly to users. Topics covered include allocating responsibilities, price setting and adjustment, performance targets, penalties and bonuses, termination, dealing with unforeseen changes, and dispute settlement
4ps. 2005. *4ps Review of Operational PFI and PPP Projects*. London: Public-Private Partnerships Programme.	Summarizes the results of interviews with stakeholders in operational PPP projects in the United Kingdom. Includes sections with lessons learned on output specification, payment mechanisms, and contract flexibility

Reference	Description
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	Module 6 of the manual, "Managing the PPP Agreement" briefly outlines how performance requirements, monitoring and enforcement mechanisms should be established. The standardized PPP provisions set out and explain key provisions across all elements of the PPP contract.
SCT. 2004. *Output Specification – Building our Future: Scotland's School Estate*. Edinburgh: Scottish Executive.	Sets out model output specifications for schools PPP projects as well as some guidance on key issues in defining output-based specifications.
US. 2011. *Key Performance Indicators in Public-Private Partnerships: A State-of-the-Practice Report*. Washington, DC: United States Government, Department of Transportation, Federal Highway Administration.	A state-of-the practice description of domestic and international practices for key performance indicators in PPPs, based on a comprehensive literature review and eight case studies from Australia, British Columbia, the United Kingdom and the United States.
PPIAF. 2006. *Approaches to Private Sector Participation in Water Services: A Toolkit*. Washington, DC: Public-Private Infrastructure Advisory Facility.	Section 6.3: "Designing Risk Allocation Rules" describes several aspects of PPP contract design for user-pays PPPs—including payment mechanisms, and termination clauses. Section 7 on developing institutions to manage the relationship includes a discussion on dispute resolution.
Irwin, Timothy C. 2003. "Public Money for Private Infrastructure: Deciding When to Offer Guarantees, Output-Based Subsidies, and Other Fiscal Support." Working Paper No. 10. Washington, DC: World Bank.	Describes different payment mechanism for subsidies to infrastructure projects—including output-based payments and upfront capital subsidies—and how the government can decide which is most appropriate.
Yescombe, E.R. 2007. *Public-Private Partnerships: Principles of Policy and Finance*. Oxford: Butterworth-Heinemann.	Chapter 13: "Service-fee Mechanism" describes the different possible payment mechanisms (focusing on government-pays PPPs) and their implications for risk allocation and bankability. Chapter 15: "Changes in Circumstances and Termination" describes mechanisms to deal with changing costs and risks (compensation and relief events), step-in and substitution, and termination payment provisions for different causes of termination.
SCT. 2007. *Briefing Note 1: Payment Mechanisms in Operational PPP Projects*. Edinburgh: Scottish Government.	Describes experience with defining and implementing government-pays payment mechanisms in PPPs.
HK. 2008. *An Introductory Guide to Public Private Partnerships*. Hong Kong, China: Efficiency Unit.	Section 9: "Changes of Circumstance" provides guidance on the types of changes that the PPP contract should be able to deal with.
Jadresic, Alejandro. 2007. "Expert Panels in Regulation of Infrastructure in Chile." Working Paper No. 2. Washington, DC: Public-Private Infrastructure Advisory Facility.	Describe the expert panel approach used in Chile to deal with regulatory conflict. Section 6 focuses on the use of expert panels in public works concession contracts.
Ehrhardt, David, and Timothy C. Irwin. 2004. "Avoiding Customer and Taxpayer Bailouts in Private Infrastructure Projects: Policy toward Leverage, Risk allocation, and Bankruptcy." World Bank Policy Research Working Paper 3274. Washington, DC: World Bank.	Describes the problems associated with protecting lenders from losses in case of termination due to private party default, and provides some policy suggestions for alternatives.
EBRD. 2007. *Law in Transition 2007: Public-private partnerships and legal reform in Russia*. London: European Bank for Reconstruction and Development.	Discusses some of the main issues in developing concession agreements in transition countries—including risk allocation, tariff structure, performance standards, dealing with change, termination and step-in rights for lenders.
Cassagne, Juan Carlos, and Gaspar Ariño-Ortiz. 2005. *Servicios Públicos: Regulación y Renegociación*. Buenos Aires: Abeledo-Perrot.	Describes regulatory reform in public services, including achieving regulation through effective PPP contracts. Includes guidance on mechanisms for tariff changes, and for dispute resolution.

3.5 Managing PPP Transactions

In the transaction stage, the government selects the private party that will implement the PPP. This process will also determine the effective terms of the contract. This stage follows the structuring, appraisal, and detailed preparation of the PPP described in the previous sections of this module. It concludes when the PPP reaches financial close—that is, when the government has selected and signed a contract with a private party, and the private party has secured the necessary financing and can start deploying it in the project.

The aim of the PPP transaction stage is twofold:

- To select a competent firm or consortium
- To identify the most effective and efficient solution to the proposed project's objectives—both from a technical, and value for money perspective

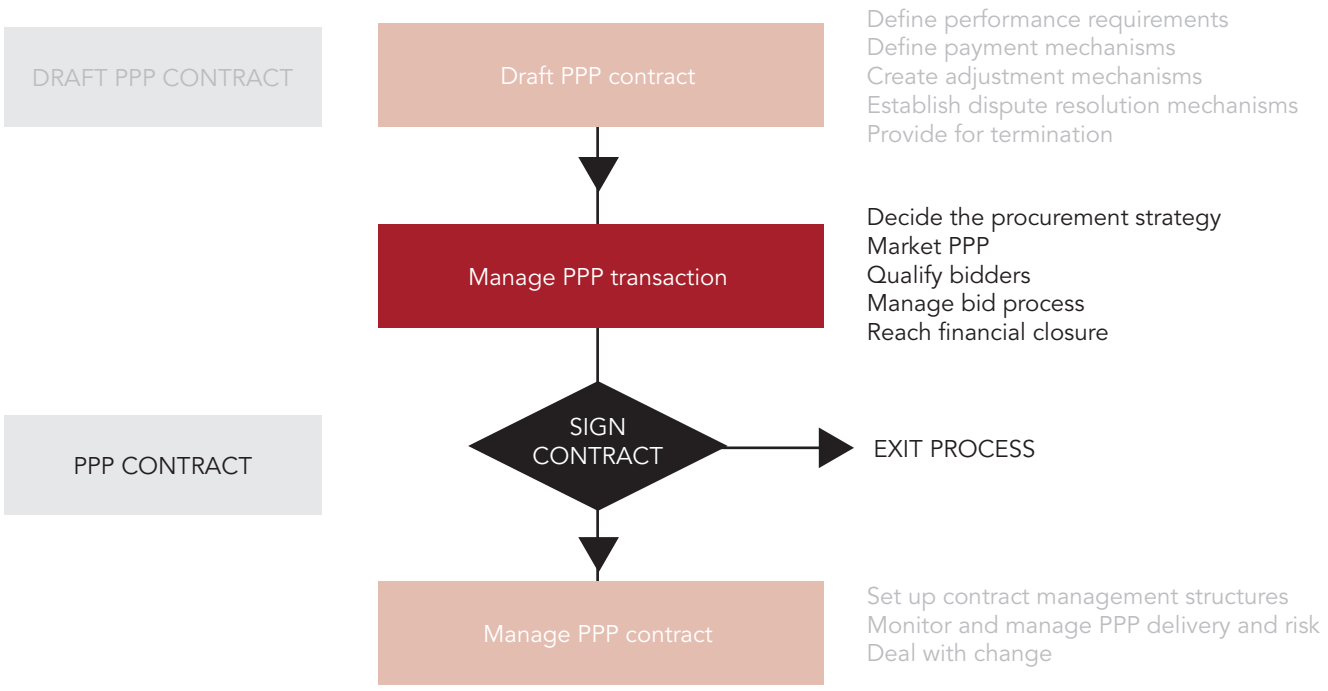
To the latter end, the process typically establishes some of the key quantitative parameters of the contract, such as the amounts the government will pay or the fees users will pay for the assets and services provided. Achieving these objectives generally requires a competitive, efficient, and transparent procurement process, as outlined in the **PPIAF toolkit for PPPs in roads and highways procurement section** (WB 2009a) under *competitive bidding*; in the **Caribbean PPP Toolkit** (Caribbean 2017, Module 5); and by **Farquharson et al** (Farquharson et al. 2011, 112) in describing the outcome of the procurement phase.

Since most governments use a competitive selection process to procure PPP contracts as the best way to achieve transparency and value for money, this section assumes a competitive process is followed. In practice, there may be a few circumstances where direct negotiation could be a good option. However, many reasons put forward to negotiate directly are spurious, as described in *Box 3.11 - Competitive Procurement or Direct Negotiation*.

Box 3.16 - Direct Negotiation of Unsolicited Proposals outlines several preparation requirements for those procuring authorities that need to directly negotiate an unsolicited proposal.

The transaction stage typically includes the following five steps, as shown in *Figure 3.7 - Transaction Steps*:

Figure 3.6 Managing PPP Transactions



Box 3.11 Competitive Procurement or Direct Negotiation

A competitive selection process is the recommended route to procure PPP contracts. Key advantages are transparency and use of competition to choose the best proposal—the mechanism most likely to result in value for money. The alternative to a competitive process is to negotiate directly with a private firm.

There can be good reasons to negotiate directly, but these are relatively few—see for example Kerf et al's guide to concessions (Kerf et al. 1998, 109–110) and the World Bank (2017) Guidelines for the Development of a USP Policy (WB 2017d) sections on direct negotiation. These reasons include:

- Small projects with known costs, where the costs of a competitive process would be prohibitively high given the level of expected returns;
- Cases where there is good reason to believe there would be no competitive interest—for example, small extensions of an asset for which a contract is already in place; and
- The need for rapid procurement in the case of emergencies and natural disasters, where speed may outweigh value for money considerations, although this is often not the case when dealing with PPPs, better able to deal with long-term needs than with urgencies.

Whenever a government allows for direct negotiations under specific circumstances, these circumstances and their associated criteria should be clearly specified in the procurement legal framework. Direct negotiations should only be pursued once suitable safeguards for value for money, transparency, accountability, and public interest have been established and operationalized.

On the other hand, several reasons commonly put forward to negotiate directly with a private proponent of a PPP can be misleading—see the section in PPIAF's toolkit for PPPs in roads and highways (WB 2009a), *Module 5: Procurement* on *overall principles for procurement*. For example, some argue direct negotiation is faster—though in practice, challenges often make the process longer. Often, direct negotiation is also considered when a PPP idea originated from an unsolicited proposal from a private company. However, there are ways to introduce competition in this case that help ensure value for money from the resulting project, as described in *Section 3.7 - Dealing with Unsolicited Proposals*. Based on these considerations, some countries do not allow non-competitive procurement processes at all,such as Brazil, under the Federal PPP Law of 2004 (BR 2004a). Elsewhere, direct negotiation may be allowed in particular circumstances. For example, Puerto Rico's PPP Act allows for direct negotiations if the investment value is under $5 million, there is lack of interest after issuing an RFP, the normal procurement process is burdensome, unreasonable, or impractical, or the technology required is only available from a single company (PR 2009, Article 9.(b).ii).

- **Deciding on a procurement strategy**, including the process and criteria for selecting the PPP contractor
- **Marketing the upcoming PPP project** to interest prospective bidders (as well as potential lenders and sub-contractors)
- **Identifying qualified bidders** through a qualification process, either as a separate step before requesting proposals or as part of the bidding process
- **Managing the bid process**, including preparing and issuing a Request for Proposal, interacting with bidders as they prepare proposals, and evaluating bids received to select a preferred bidder
- **Executing the PPP contract and ensuring all conditions are met to reach contract effectiveness and financial close**—this may require final approval from government oversight agencies

Section 3.5 - Managing PPP Transactions describes each of these steps, and provide further resources and tools for practitioners interested in managing PPP transactions.

3.5.1 Deciding the Procurement Strategy

The first step in managing a PPP transaction is defining the procurement strategy. This includes defining the following key aspects of the procurement process:

- **Pre-qualification**—whether to use a pre-qualification process to select the firms or consortia that will participate in the bidding process

Figure 3.7 Transaction Steps

- **Bid process**—whether to use a single-stage process to select the preferred bidder, or a multi-stage process in which proposals and the bidding documents may be reviewed and iterated
- **Negotiation with bidders**—to what extent discussions with bidders may lead to changes in the initial draft contract: either during the bidding process (with multiple bidders), or after final bids have been submitted
- **Basis for award**—whether to rank proposals and choose the preferred bidder based on a single financial or value-related criterion (after screening for technical merit), or some weighted evaluation of financial and technical criteria

This section briefly describes each of these aspects, with links to guidance, resources and examples in each case. An additional point for consideration, also described in this section, is dealing with bid costs—whether to charge a fee or require a bond to participate in the bid process; or conversely whether to provide support with bid costs.

The **main goals** of the procurement strategy, as described above, are both to find the best solution to the project's objectives (from a technical and value for money perspective), and to select a competent firm or consortium to implement that solution. This typically requires a fair, competitive, transparent, and efficient procurement process. However, the best procurement strategy to achieve these objectives may depend on the context. For example, allowing dialogue with bidders can lead to stronger proposals. However, it can also make the process less transparent—so may not be the right choice in a country where achieving transparency and minimizing the risk of corruption is the more important consideration. This means the best procurement process may depend on the country context, and the nature and capacity of the government institutions involved, as well as on the characteristics of the particular project.

Figure 3.7a Procurement Strategy

There may also be some **constraints** in how the procurement strategy can be defined. Firstly, as described in *Section 2.2 - PPP Legal Framework*, the procurement strategy for a PPP may be constrained by any laws or regulations on overall government procurement. Moreover, many governments choose to set PPP-specific procurement rules, in PPP laws, regulations or guidance material—that is, defining the procurement strategy for the PPP program as a whole rather than on a project-by-project basis. Doing so can improve transparency of PPP procurements; although there are also advantages to retaining flexibility to adapt processes to the needs of particular projects. *Table 3.3 - Examples of PPP Procurement Procedures* provides examples of PPP procurement procedures as defined in national or international laws and regulations. Finally, where the project involves funding from a multilateral development bank or other agency, the procurement options may also be constrained by the procurement rules of the funding agency. For example, the World Bank publishes and regularly updates regulations and guidance on its **Procurement Framework** (WB 2017f), which any project with World Bank funding must follow—the framework includes specific recommendations for procurement of PPPs.

Qualifying bidders

Most bidding processes set out qualification criteria that all participating firms must meet. Requiring bidders to set out their

qualifications helps ensure a competent firm is selected with the capacity to implement the project. Clear qualification requirements can also encourage experienced firms to participate, and to invest in preparing quality proposals, as it reduces the risk that the bid process will be undermined by low-quality firms submitting very low bids.

Most governments require bidders to pre-qualify—that is, check bidders' qualifications before the start of the tender process, with a view to capping the number of bidders. Typically, pre-qualification involves ranking potential bidders according to specified qualification criteria. The top-ranking bidders—usually between three and six—are then invited to submit proposals.

The alternative is to set pass/fail qualification criteria, and qualify and invite proposals from all firms that pass. While this approach can be used in a pre-qualification process, it is more typically done simultaneously with the bidding process—sometimes called *post-qualification*. Under this approach, bidders can self-screen against the published qualification criteria before investing resources in preparing a proposal. For a few, large and very complex process the self-selection process (aided by the due-diligence that financing parties will exert upon prospective bidders) may be sufficiently stringent that no qualification is needed.

Prequalification has both advantages and disadvantages:

- The main **advantage** is in limiting the number of bidders. By reducing the number of bidders, the probability of success increases, and bidders may be incentivized to invest more effort in developing an efficient project and presenting a competitive bid. At the same time, the effort and resources required from government to evaluate bids can be reduced.
- The main **disadvantage** is that making public the list of pre-qualified bidders may enable collusive behavior. Moreover, pre-qualifying a set number of bidders can mean the same top-ranking firms tend to be invited to bid in a given sector, providing further temptation for collusion in the bidding process.

In some developing countries (particularly with new PPP programs) the problem can be too few rather than too many bidders—in this case, there may be no advantage to pre-qualification, and it may unnecessarily extend the procurement process.

The following resources provide more discussion and detail on the pros and cons of pre-qualification:

- **PPIAF's toolkit for PPPs in roads and highways** (WB 2009a) includes a section: *Concessions: Main Steps in competitive bidding.*
- **Farquharson et al** (Farquharson et al. 2011, 118–120) describes the pre-qualification process, some of its advantages and disadvantages, and the possible pitfalls. The authors also describe the option of a pre-revision phase, in countries where pre-qualification is not allowed by procurement law.

In practice, country approaches vary. For example, **Infrastructure Australia Practitioner's Guide** (AU 2015, 16) recommends using pre-qualification to select a particular number of bidders—at least three, sometimes more. On the other hand, **Singapore PPP Handbook** (SG 2012, 60) precludes pre-determining the number of qualified bidders, because this would limit competition. *Table 3.3 - Examples of PPP Procurement Procedures* provides more examples of PPP procurement processes, including whether and what type of pre-qualification process is included.

Bid process

The bid process is the process from issuing Requests for Proposal to select a preferred bidder. The quickest and simplest is a **single-stage bid process**, in which bidders present both technical and financial proposals, which are evaluated to select the preferred bidder.

The alternative is a **two or multi-stage bid process**. Under this approach, bidders present an initial proposal, which may include comments on the RFP and draft contract, and may or may not include a financial bid. Based on these proposals, the government reviews and possibly revises the RFP and draft contract, and requests revised proposals accordingly. The government may engage in discussion with bidders to varying extent, as described under *Negotiation with bidders: during bidding process.* The government may also eliminate some bidders at this stage, and the revision process may be repeated more than once. Bidders then submit final proposals, including a final financial bid.

A multi-stage process can have advantages over a single-stage process for complex projects, particularly where there is room for innovation. It can help ensure solutions are aligned to needs, and improve final quality of proposals. On the other hand, the multi-stage process is longer, more complex to manage and more expensive for all parties involved. Care needs to be taken to retain competitive pressure, protect intellectual property, and maintain transparency.

Table 3.3 Examples of PPP Procurement Procedures

Example	Reference	Pre-qualification	Bid Process	Negotiations with Bidders	Basis for Award
Brazil	Federal Concessions Law (BR 1995, Law 8987) and Federal PPP Law (BR 2004a, Law 11079)	No mandatory pre-qualification step	One-stage bid process	No language in law about negotiations with bidders during tender	Lowest tariff or largest payment to government or a combination of the two. If tied, implementing agency must hire Brazilian company.
Chile	Concessions Law (CL 2010b, Law 20410)	Pre-qualification based on any of five elements stated in the law: legal compliance, technical and financial experience, results of previous public works, and compliance with labor and social security laws	One-stage bid process	No language in law about negotiations with bidders during the bid process. There guiding language on negotiations during implementation	Financial, or combined financial/ technical
Egypt	Executive Regulations under PPP Law (EG 2011)	Pre-qualification based on set compliance criteria	Can use one-stage process; or a two-stage process with technical and financial bids submitted at both stages. First-stage bids are non-binding	Competitive dialogue allowed in the two-stage procedure, before final bids are submitted	Financial, or combined financial/ technical
EU open procedure	Described in **EPEC Guide to Guidance** (EPEC 2011b, 22)	No pre-qualification	One-stage bid process	No negotiation or dialogue allowed with bidders; clarifications are permitted	Lowest price or most economically advantageous tender
EU restricted procedure	Pre-qualification—number of bidders may be restricted to no less than five	One-stage bid process	No negotiation or dialogue allowed with bidders; clarifications are permitted	Lowest price or most economically advantageous tender	
EU negotiated procedure	Pre-qualification—number of bidders may be restricted to no less than three	On-going multi-stage process of negotiation	Allowed throughout the process	Lowest price or most economically advantageous tender	
EU competitive dialogue	Pre-qualification—number of bidders may be restricted to no less than three	Multi-stage bid process (a variant of the negotiated procedure)	Dialogue permitted on all aspects prior to submitting final bids. No further changes after final bids submitted (clarifications are permitted)	Most economically advantageous tender	
Mexico	Law on Purchases, Leases, and Services to the Public Sector (MX 2014)	No mandatory pre-qualification step	One-stage bid process	No language in law about negotiations with bidders during tender	Combination of technical and financial criteria[1]

Example	Reference	Pre-qualification	Bid Process	Negotiations with Bidders	Basis for Award
Philippines	BOT Law Implementing Rules and Regulations (PH 2006)	Pre-qualification set out as norm; agency may choose simultaneous qualification as an alternative	One-stage bid process	Direct negotiation with a single bidder is allowed if only one firm qualifies and submits a complying proposal	Financial (following pass/fail qualification and technical criteria)
South Africa	South Africa PPP Manual Module 5: Procurement (ZA 2004a)	Pre-qualification—the number of bidders "must be kept to a minimum of three and a maximum of four" where possible	Single stage process, unless there is no clear preferred bidder, in which case a *Best and Final Offer (BAFO)* stage may be added, to invite final bids	Feedback from pre-qualified bidders strongly advised **before** issuing an RFP; clarifications only during proposal preparation and evaluation; dialogue allowed with bidders prior to issuing request for BAFO	Combined financial, technical, and Black Economic Empowerment

The following resources provide more information on the bid process options:

- **Farquharson et al** (Farquharson et al. 2011, 113–114) summarizes the advantage of sequential screening over multiple stages—improving the quality of bids.
- **PPIAF's Toolkit for PPPs in Roads and Highways** (WB 2009a) section: "Concessions: Main Steps in competitive bidding" describes one- and two-stage bid processes.

Many countries' PPP frameworks leave open the decision of whether to use a single or multi-stage bidding process, depending on the nature of the project. Some also leave the option of asking for second bids open to resolve the problem of no clear bidder emerging from a single-stage process. For example, the **South Africa PPP Manual procurement module** (ZA 2004a, Module 5, 51–52) states that a single-stage process with a clear winner is preferred, but that a best and final offer may be requested from two or more bidders. *Table 3.3 - Examples of PPP Procurement Procedures* provides further examples.

Negotiation with bidders: during bidding process

A major difference between procurement approaches in different countries is in the extent to which the government enters into negotiations with bidders. Negotiating at any stage can be challenging, and risks reducing the transparency of the bid process. For this reason, some governments do not allow negotiation on the contract at any stage of the process (although room for negotiation on bidders' proposals may remain).

In a multi-stage bidding process (see *Section 3.5.4 - Managing the Bid Process*), government may choose to dialogue or negotiate with multiple bidders in between bidding stages. This can help clarify aspects of the RFP, draft contract, and bidders' initial proposals, and result in proposals that more closely meet the government's requirements. In other cases, governments may negotiate with a single bidder after a preferred bidder has been selected.

For example, in 2004 the European Commission introduced the competitive dialogue procedure for procuring PPPs in the European Union. Under this process, having received initial bids, the government can enter into a dialogue with bidders on all aspects of the RFP, contract, or proposals, before re-issuing a final version of the RFP documents and inviting final bids. The **United Kingdom Treasury's guidance on the competitive dialogue procedure** (UK 2008) provides more details. In Australia, a similar process may be used, called an *interactive tender*. The **Australian National PPP Practitioners' Guide** (AU 2015, 70–71) describes the interactive tender process; protocols for the process are also provided in an appendix.

Kerf et al (Kerf et al. 1998, 110–112) provide further examples of competitive negotiations, and when it may be useful. The **World Bank's water sector toolkit** (PPIAF 2006, 169–170) also describes the advantages and disadvantages of this approach. In general, competitive negotiation has been used less in less developed countries.

Negotiation with bidders: post-bid

Once a preferred bidder has been identified, governments may then enter into **post-bid negotiation**—that is, further dialogue with that bidder to finalize the PPP contract. If negotiating with a preferred bidder—even if a reserve bidder is maintained as a fallback option—the implementing agency can no longer rely on competitive tension to ensure value for money. This may result in clauses that create additional benefits to the private party or reduce performance requirements. Expectations of post-bid negotiation may attract opportunistic bidders, and consequently discourage more serious bidders, reducing competition during the bid process itself. For this reason, most governments limit the extent of post-bid interaction to clarification and fine-tuning of proposals; some do not allow it at all, particularly where transparency of the process is a primary concern. *Table 3.3 - Examples of PPP Procurement Procedures* provides some examples.

The need for post-bid negotiation typically arises for two reasons: because the RFP requirements or draft contract were not clear, or because they were not acceptable to bidders and their lenders (in particular, with respect to the proposed risk allocation). For either reason, bidders may incorporate changes in their proposals, meaning the proposals no longer fully meet the government's requirements. Some legal frameworks mitigate this issue by mandating that conditional proposals will be excluded.

The following resources provide more guidance on the problems with post-bid negotiations, and whether and to what extent to allow for negotiation or dialogue with a preferred bidder:

- **EPEC's Guide to Guidance** (EPEC 2011b, 31) briefly describes what matters should and should not be subject to negotiation post-bid, and the typical elements of a negotiation framework.
- **Yescombe** (Yescombe 2007) also describes on the risks of post-bid negotiations, and why they typically arise.
- **Kerf et al's** Guide for Concessions (Kerf et al. 1998, 123) focuses on the importance of limiting the extent of negotiation in the post-bid phase, and how this can be achieved.

The best way to avoid the need for post-bid negotiation is to prepare a clear and comprehensive RFP and draft contract. Market sounding and pre-RFP consultation with bidders, as well as hiring experienced advisors, can help ensure the contract structure is acceptable to investors. For particularly complex contracts, the competitive negotiation procedure described above could be the best alternative.

Basis for Award

The government needs to evaluate the proposals received, to rank the proposals and select the preferred bidder. The criteria for doing so typically include the technical merit of the proposal, and some measure of their cost—given the overall aim of achieving value for money, or the optimum combination of costs and benefits. There are two, broad options for how proposals will be evaluated and the preferred bidder selected:

- **Selection based on financial criteria**—one approach is to undertake the evaluation in two stages, with the final selection based on the financial bid variable(s). Under this approach, technical proposals are evaluated first, on a pass-fail basis—only bidders that pass the technical evaluation proceed to the financial evaluation. The winning bidder is selected on the basis of the best financial proposal from those that passed the technical evaluation. In certain countries, concerns over corruption lead governments to focus on objective criteria, such as the user fee or annual availability payment. Therefore, they only require a financial proposal—quality is screened through the qualification of bidders.
- **Selection based on financial and technical criteria**—in some cases, proposals are evaluated based on a weighted combination of financial and technical criteria. This more closely encapsulates the idea of maximizing value for money. On the other hand, defining appropriate, quantitative criteria and how they will be weighted can be difficult and rely on subjective judgment by the evaluation team, which can undermine transparency of the tender process. These technical criteria also function as incentives for bidders to focus on particular technical issues when preparing proposals.

The following resources further describe these options, with examples:

- **PPIAF's Toolkit for PPPs in Roads and Highways**, in the section: *Concessions: Main Steps in competitive bidding*, describes

evaluation rules, financial evaluation criteria, and the multiple-parameter approach. This section also presents the evaluation criteria for 13 Latin American road concessions.

- The **Caribbean PPP Toolkit** (Caribbean 2017, Module 5,6) presents and discusses several examples of award criteria for PPP projects.
- **Kerf et al** Guide to Concessions (Kerf et al. 1998, 118–123) has sections on technical and financial proposal evaluation. These describe choices regarding technical and financial criteria, and the pros and cons of a combined score approach, with examples in each case.

The best option, and the specific financial and technical criteria, may depend on project characteristics. It may also depend on the capacity of the public sector to undertake more complex evaluations, or on the risk of corruption, or perceived corruption, which could make transparency the most important objective.

Many governments allow either approach to be used. In **Brazil**, both the Federal Concessions Law (for user-pays PPPs) (BR 1995, Article 15) and the Federal PPP Law (for government-pays PPPs) (BR 2004a, Article 12) allow both approaches. In all cases, the approach and criteria should be set in advance, and clearly communicated to potential bidders. *Section 3.5.4 - Managing the Bid Process* provides more guidance and resources on selecting the specific evaluation criteria.

Bid Bonds

Many governments require bidders to submit a bid bond, to ensure commitment to the process, and prevent the winning bidder from withdrawing without good cause. For example, the **Spanish procurement law** (ES 2011) prescribes that bidders should provide a temporary guarantee to back their proposal and increase it to meet the definitive guarantee once the contract is awarded. The **Philippines BOT Law** (PH 2006, Section 7.1 Clause b (vi)) implementing regulations require a bid bond of between one and two percent of the estimated project cost. **Kerf et al's guide to concessions** (Kerf et al. 1998, 126) provides further examples, and briefly describes the pros and cons of requiring a bid bond. The authors note, for example, that the United Kingdom government discourages the use of bid bonds for PPP projects on the basis that they are expensive, and should only be sought in exceptional circumstances.

Approach to Bid Costs and Payments

Preparing a proposal for a PPP project is an expensive exercise. Equally, running a high-quality procurement process for a PPP is costly to government. Governments have different approaches to dealing with bid costs and commitments.

Governments have found different ways to deal with bid preparation costs. In some jurisdictions, the government may share bid costs, to encourage more bidders to participate. For example, **Australia's** PPP Practitioners' Guide (AU 2015, 29) states that bid costs may be reimbursed, but only in very limited and clearly defined circumstances. Conversely, **Chile** has a mechanism for asking pre-qualified bidders to jointly finance the engineering and other studies needed for the government to prepare for the transaction (CL 2010b). This was an element of the reform to the PPP law that took place in 2010.

A **KPMG review of PPP procurement in Australia** (KPMG 2010) describes typical bid costs for the private party to a PPP in different countries. The report also draws on a survey of PPP practitioners to provide recommendations for how bid costs can be reduced. These recommendations focus on improving the efficiency of the PPP procurement process, as well as touching on the pros and cons of governments contributing to bid costs.

3.5.2 Marketing the PPP

Marketing the PPP helps attract bidders and investors. This is particularly important in the early stage of a PPP program—governments need to make a positive effort to build bidder interest to increase competitive pressure. Marketing also helps identify who might be the potential bidders. This can feed into designing qualification criteria to avoid a situation where no firms qualify—as described in **Kerf et al** (Kerf et al. 1998, 114).

At a minimum, marketing the PPP requires advertising the launch of the tender process. Many governments have requirements for how PPP tenders should be advertised. For example, the **EPEC Guide to Guidance** (EPEC 2011b, 27) notes that EU governments must publish a notice in the *Official Journal of the European Union*. The **South Africa PPP Manual** (ZA 2004a, 24) describes that the procurement must be advertised in the *Government Gazette*, on the institution's website, and through press advertisements. The **Caribbean PPP Toolkit** (Caribbean 2017, Module 5, Section 5) discusses the marketing of PPPs and presents practical examples.

Figure 3.7b Marketing the PPP

Some governments take a more proactive approach to marketing to generate investor interest prior to the official project launch. This could include:

- Conducting investor presentations, meetings, or road shows to present the project. The scale and location of meetings can be tailored to the expected interested investors—for example, whether likely to be local or international.
- Releasing teaser material about the project. This could include publishing material in industry publications, such as Global Water Intelligence, or dedicated project development platforms, such as Zanbato.

There is limited guidance material available on marketing PPP projects. **Farquharson et al** briefly describes the advantage of releasing information about the project prior to the formal launch, to attract bidder interest (Farquharson et al. 2011, 10). It also describes the value of marketing a pipeline of projects, rather than a single opportunity. Particularly for new PPP programs, this gives investors a stronger incentive to engage.

The GI Hub has developed the freely-available *Global Infrastructure Hub Project Pipeline* (GIH 2016b) to assist governments in marketing PPP projects. The Pipeline allows governments to provide the market with early visibility of their projects and choose at what stage of a project's development the marketing campaign should begin. The Pipeline also gives the governments the ability to demonstrate the progress of their projects through different stages of development.

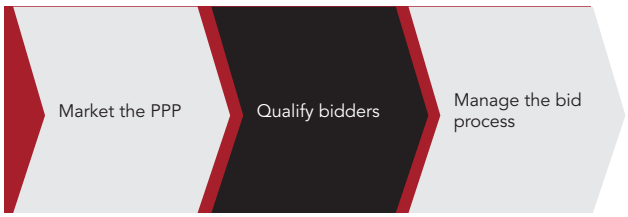
3.5.3 Qualifying Bidders

The next step is often to carry out a bidder pre-qualification process to select the companies and consortia that will be invited to submit proposals. Not all countries select qualified bidders in advance, instead assessing qualifications as part of an open bidding process. The pros and cons the two approaches are described in *Section 3.5.1 - Deciding the Procurement Strategy*.

The pre-qualification process consists of preparing and issuing the Request for Qualifications (RFQ)—along with advertising the launch of the tender process, as described in *Section 3.5.2 - Marketing the PPP*—and evaluating the information received to select a group of qualified bidders.

The **Caribbean PPP Toolkit** (Caribbean 2017, Module 5, Section 6.4) discusses qualification criteria. **Farquharson et al** (Farquharson et al. 2011, 113–120) describes the purpose of pre-qualification, typical types of criteria and processes, and provides brief guidance on project launch. The **EPEC Guide to Guidance** (EPEC 2011b, 27–28) also provides a helpful overview of the pre-qualification process.

Figure 3.7c Bidder Qualification



Preparing and issuing the Request for Qualifications

For procurements that include a pre-qualification stage, the procurement process is officially launched when the Request for Qualifications (RFQ) is issued. The RFQ typically includes enough information on the project for potential bidders to decide whether they are interested, and information on how the project will be procured. It should also clearly set out the process and requirements for the qualification process.

Information on the project at this stage could include an overview of technical and service requirements, key commercial terms (although not typically a draft contract), and a list of the further information that will be made available at the procurement stage. Information on the qualification process typically includes the qualification criteria (see *Box 3.12 - Firm Qualification Criteria*), the information required from firms and the format in which that

information should be presented, and the timeline and process for evaluation. The following resources describe further the typical content of RFQ documents:

- **South Africa PPP Manual procurement module** (ZA 2004a, 23–24) outlines the content of the RFQ document. This includes information about the project, procurement processes, instructions to respondents, information required about bidders, and the evaluation process.
- **Singapore's PPP Handbook** (SG 2012, 56–60) lists RFQ contents, highlighting that it is not required to include the draft contract at this stage.
- **Australia's National PPP Practitioners' Guide** (AU 2015) calls the RFQ Expressions of Interest (EoI). Pages 11–14 list the content that Request for EoIs should include—background, project scope and timetable, financial and commercial information, evaluation criteria, general terms and conditions, and EoI response requirements.
- The **World Bank's toolkit for concessions in highways** (WB 2009a) section on prequalification describes the information that should be included in the RFQ, and the information that should be requested from companies.

The following provide model, or example RFQ documents:

- **India Planning Commission Guidelines for PPPs**: Pre-Qualification of Bidders (IN 2014b) includes a model RFQ, as well as guidance on the steps of a qualification process.
- The **World Bank PPPIRC website** (WB 2009a) includes a page on *Procurement Processes and Standardized Bidding Documents* with a link to a draft standard RFQ for Power Purchase Agreements, as well as links to actual bidding documents, including RFQs.

Some governments require approval of the RFQ documents, before issuing the procurement notice as described in *Section 3.5.2 - Marketing the PPP*. The procurement notice typically advises companies on how to obtain the RFQ package. Governments may also alert investors directly that the RFQ package is available.

Evaluating the information received to identify qualified bidders

Having received statements of qualifications from interested firms, the implementing agency (or the designated evaluation team) must evaluate those qualifications against the pre-defined qualification criteria.

Box 3.12 - Firm Qualification Criteria describes typical firm qualification criteria with resources and examples. These criteria can be defined and applied on a pass/fail basis, or used to rank firms, and qualify a certain number.

Box 3.12 Firm Qualification Criteria

One of the aims of the procurement process is to select a competent firm with the capacity to implement the project. It is important to consider the qualifications of the firms behind each proposal. This can be done through a pre-qualification process to identify bidders, or as part of the first stage of the tender process (sometimes called *post qualification*). In either case, clear qualification criteria should be established before beginning the procurement process.

Firm qualification criteria can be quantitative or qualitative. They typically involve considering the sponsoring firms' financial robustness, previous experience with similar projects, and the experience of key members of the management team.

Careful selection of these criteria is important to avoid excluding firms (for example, smaller firms) that could make good partners; or including firms that are poorly-qualified. The following provide discussion and examples of firm qualification criteria:

- Kerf et al Guide to Concessions (Kerf et al. 1998, 115–6) gives examples of pre-qualification criteria and procedures used in a selection of PPP projects.
- Australia National PPP Practitioner's Guide section *Evaluating Expressions of Interest* (AU 2015, 60–62), which includes a detailed description of the criteria to be applied at the EOI stage.

The Philippines' Implementing Rules and Regulations under the BOT Law (PH 2006, Section 5.4) describes three categories—legal requirements, experience or track record, and financial capability.

Once the evaluation is completed, the implementing agency needs to inform qualified firms or consortia, and those that have been unsuccessful. As described in the **South Africa PPP Manual** procurement module (ZA 2004a, 25), the list of qualified firms is typically published. The agency also needs to make sure it provides sufficient information on the decision to unsuccessful firms.

3.5.4 Managing the Bid Process

The central step of procuring PPP projects is generally managing the bid process. This may follow pre-qualification to select the participating bidders (although not always, as described in *Section 3.5.1 - Deciding the Procurement Strategy*). The bid process ends with the selection of a preferred bidder, with whom the implementing then works to execute the contract and reach financial close.

The steps in managing the bid process will vary depending on the chosen bid process and basis for award, as described in *Section 3.5.1 - Deciding the Procurement Strategy* under *Bid process.* This section describes and provides guidance on the following elements of managing the bid process:

- Preparing and issuing Request for Proposal documents
- Interacting with bidders during the bidding period
- Receiving bids
- Evaluating bids to select the preferred bidder
- Dealing with problems such as receiving only one bid, or no fully compliant bids
- Finalizing the contract with the preferred bidder

Farquharson et al (Farquharson et al. 2011, 121–124) provides an overview of the bid process and highlights some of the important points for implementing agencies to consider at this stage.

Figure 3.7d Bid Process Management

Preparing and issuing Request for Proposal documents

The bid process formally begins when the government issues Request for Proposal (RFP) documents to participating bidders. These documents set out the project structure, requirements, and the details of the bid process. High-quality, detailed, and clear RFP documents are important to ensuring a competitive process and a PPP that achieves value for money. RFP documents typically include the following:

- **Information on the PPP project opportunity**. This could include:
  - An Information Memorandum describing the key features of the project and the commercial terms of the PPP
  - Draft project agreements—that is, the output of the detailed PPP contract design process described in *Section 3.4 - Designing PPP Contracts*
  - Copies of any permits or approvals obtained for the project
  - A description of the detailed technical information amassed during the project preparation stage that will be provided to bidders in a data room
- **Information on the bid process**. This could include:
  - Detailed bid rules and instructions to bidders, setting out the process and requirements
  - A timetable, which should build in enough time to allow bidders to prepare quality proposals
  - *Box 3.13 - Evaluation Criteria*
  - Bid bond requirements (if any), as described in the section on *Approach to bid costs and payments* under *Section 3.5.1 - Deciding the Procurement Strategy*

Table 3.4 - Examples and Guidance on Preparing RFP Documents. For further examples, the **World Bank PPPIRC website** (PPPIRC) page *Procurement Processes and Standardized Bidding Documents* includes a link to a draft RFP for Power Purchase Agreements and a BTO PPP for roads, and links to actual bidding documents from PPP projects. The World Bank has also issued sample bidding documents for output and performance-based road contracts (WB 2006c), along with some guidance in the foreword to the documents.

Interacting with bidders during proposal preparation

After the RFP has been issued, bidders will prepare detailed proposals responding to its requirements. During this process, government needs to define how and to what extent it will interact with bidders as they prepare their proposals. Rules on the channels and permissible topics for interaction with bidders are usually set in the RFP—this is important for transparency.

At a minimum, this interaction involves providing information to bidders and responding to requests for clarification on the RFP. In some cases, the government may consider updating the RFP documents as a result. Typical channels for these types of communication include:

- A data room that is a physical or virtual space where bidders can find all available information that is relevant to the project.
- Question and answer iterations allow bidders to submit questions in writing; the implementing agency responds in writing to all bidders (ensuring that all bidders have access to the same information).
- Bidder's conferences allow the implementing agency to present the project and respond to questions from bidders. Some governments impose limits on when clarifications can be sought to avoid revealing information close to the bid deadline that could benefit some bidders over others

The following provide more information and examples of these approaches to interaction with bidders:

- **PPIAF's Toolkit for PPPs in Roads and Highways** (WB 2009a) in its section "Concessions: Main Steps in competitive bidding" describes what technical information should be available in the data room.
- The **ADB** PPP Handbook (ADB 2008, 71) presents a sample data room index.
- **Australia's national PPP practitioners' guide** (AU 2015, 24–25) briefly describes the use of a data room and a query process.
- The **Singapore** PPP Handbook (SG 2012, 61–62) presents the type of information that will be exchanged during the feedback period when the RFP has been issued.
- In **Colombia, Law 80 of 1993** (CO 1993) states that, after distributing the RFP documents to pre-selected bidders, if any of the bidders requests it, the contracting agency should hold a meeting with bidders to clarify any questions they may have, and listen to their concerns and comments. Based on this meeting the contracting agency may incorporate changes to the tender documents or may extend the submission date up to six days.

As described in *Negotiation with bidders: during bidding process* under *Section 3.5.1 - Deciding the Procurement Strategy*, some governments use an interactive tender or competitive dialogue process involving more extensive engagement with bidders as they prepare their proposals. Under this type of process, bidders typically initially submit technical proposals, which are then the subject of feedback and discussion with the contracting authority, to refine the proposed solutions to meet the authority's needs, before submitting a final proposal. Some bidders may be dropped out of the process at different stages.

For more detail and guidance on this procedure according to EU regulations, see the **Government of the United Kingdom's** Guidance on the Use of Competitive Dialogue (UK 2008). **Australia's National** PPP Practitioners' Guide (AU 2015, 70–71) describes how a similar interactive tender process is typically used in Australia.

Receiving bids

A reliable and credible system to ensure bids are handled confidentially is important, to prevent any opportunity for bid-tampering, and to protect commercially sensitive information in bids.

Often bids are delivered in hard copy in sealed envelopes. Typically, financial and technical bids are delivered in separate envelopes—financial bids are only opened for bidders that pass the technical assessment, and are often opened publicly to avoid any possibility of bid tampering. For example, the **Philippines BOT law rules and regulations** set out a two-envelope system for receiving bids (PH 2006, Rule 7). The **World Bank sample bidding documents** for output- and performance-based road contracts (WB 2006c, 19–21) also describe a sealed-envelope bid system, but allow for use of an electronic sealed bid system as an alternative. One advantage of an electronic system is that it prevents bidders from monitoring or interfering with physical bid delivery.

Dumol's diary of the Manila Water privatization by concession (Dumol 2000, 85–98) includes a detailed description of the process for bid submission and bid opening in practice.

Evaluating bids

As described in the Partnerships Victoria Practitioners' Guide (VIC 2001, 40–42), the evaluation process involves

- Assessing bid completeness and compliance with minimum requirements of bid process;
- Assessing conformity with requirements of the project brief. The Guide notes that conforming bids are evaluated before non-conforming bids—but that non-conforming bids may also be considered, particularly if no conforming bids are attractive;
- Bid clarification, which can involve a bidder presentation and a Q&A session. The guide notes that this should not include any opportunity to change bids;
- Detailed review by evaluation teams, following the pre-defined evaluation criteria. *Box 3.13 - Evaluation Criteria* provides options and guidance for setting evaluation criteria;

Box 3.13 Evaluation Criteria

The selection of evaluation criteria can be key to ensuring the PPP provides value for money. Evaluation criteria should be decided in advance and set out in the RFP documentation. Some countries specify evaluation criteria options in legislation. Evaluation criteria typically incorporate technical and financial elements. These may be evaluated separately—typically with a pass/fail technical evaluation, followed by ranking on financial criteria) or combined and weighted to rank bids (as described in *Section 3.5.1 - Deciding the Procurement Strategy* under *Basis for Award*).

The options for specific criteria depend on the nature of the project, as described (with examples) by Kerf et al (Kerf et al. 1998, 118–122)—for example, whether existing assets are involved, and whether the project will be user-pays or government-pays.

Many PPPs are ranked based on a financial criterion subject to passing other technical and financial requirements. The most common option for a financial evaluation criterion is the remuneration of the private sector. This could be the lowest tariff to users, or lowest cost to government (whether as a government-pays PPP, or subsidy in addition to user charges). The Least Present Value of Revenue criterion, introduced in Chile and Peru for toll roads, is another alternative, described by Engel, Fischer and Galetovic (Engel et al. 2002). Related criteria can include length of concession, or amount of investment.

Where technical requirements have been clearly set out in the proposal, technical evaluation requires checking compliance with those requirements. As Kerf et al (Kerf et al. 1998, 118–119) describe, in some processes bidders are asked to submit project design, business, or investment plans, which are evaluated based on multiple criteria. The authors note the drawbacks of this approach—including the possible subjectivity of assessing plans, and the likelihood of plans changing substantially over the lifetime of the concession.

Procuring authorities should assess, with their transaction advisors, whether the project and the draft contract, as it is, are commercially viable and bankable—avoiding post-bid negotiations, before contract signing or before financial close, that may significantly change the project and its risk allocation, but that were not evaluated in the bid process. The risk-allocation implications of those post-bid negotiations may be far more significant than the user fees and other criteria assessed during the tender process. If allowing bidders to present, in their proposals, changes to the draft contract, procuring authorities should define which specific changes are allowed, and how they will be scored in the bid evaluation criteria.

The following resources provide further guidance and examples on choosing evaluation criteria:

EPEC's *Guide to Guidance* (EPEC 2011b, 23) briefly discusses the criteria that could be used for bidder selection.

Guasch (Guasch 2004, 97–105) describes the choice of award criteria, drawing on his extensive review of the factors leading to renegotiation in concession contracts in Latin America.

The World Bank Toolkit for PPP in the water sector (PPIAF 2006, 171–179) describes and provides examples of evaluation criteria options for awarding a user-pays PPP contract in the water sector including technical, financial, and combined approaches.

Australia's *National PPP Practitioners' Guide* (AU 2015, 62–65) describes a more holistic approach to evaluating bids. It includes quantitative and qualitative Value for Money, commercial and financial evaluation, service delivery evaluation, and project design evaluation.

- Preparation of evaluation reports, detailing the process followed and the analysis of the evaluation teams. Comprehensive reporting is important to the transparency of the process. In some cases, bidders may be invited to formally comment on a draft report, with the evaluation team required to address comments in the final version.

Partnerships Victoria Practitioners' Guide (VIC 2001, Chapter 19.2) provides tips for evaluation, and lists what should be included in an evaluation report. **South Africa PPP Manual** Module 5: Procurement (ZA 2004a, 45–51) also provides detailed guidance on how to evaluate bids, as well as a description of South Africa's approach to defining evaluation teams.

Dealing with issues—only one bid received

If only one bid is received, this can raise concerns about whether that bid will provide value for money. As described in **EPEC's Guide to Guidance** (EPEC 2011b, 29–30) there are two broad options in this case, depending on the reason for only receiving one bid:

- **Re-package and re-tender** may be the best approach if the low turnout seems to be because of deficiency in the tender.
- **Conduct thorough due diligence and select the sole bidder** may be a better option if it appears that the bidder believed the process would be competitive, and is in full compliance with the requirements.

World Bank procurement guidelines (WB 2011b, 25) note that rejection of all bids is justified where there is a lack of effective competition, but says "even when only one bid is submitted, the bidding process may be considered valid, if the bid was satisfactorily advertised, the qualification criteria were not unduly restrictive, and prices are reasonable in comparison with market value." The **United Kingdom Government's guidance on the competitive dialogue procedure** (UK 2008, Box 5.7) provides further guidance.

Table 3.4 Examples and Guidance on Preparing RFP Documents

Jurisdiction	Reference	Description
Australia	National PPP Practitioners' Guide (AU 2015, 17–22)	Details the content of the RFP.
Brazil	Federal PPP Law (BR 2004a, Law 11079, Article 11)	Describes the minimum information that the tender documents must include. These are a draft PPP contract, the proposal guarantee required from the bidder (up to one percent of total contract amount), the conflict resolution procedures, and the guarantees that that government will make available to ensure its payments.
Chile	Concessions Law (CL 2010b)	The Chilean PPP Unit housed within the Ministry of Public Works provides access to the complete RFP of all their PPP projects.
Colombia	Law 80/1993, General Statute for Procurement by the Public Administration (CO 1993, Articles 14 and 30)	**Article 24** describes the information that PPP tender documents must include. This includes: requirements to be eligible to participate as a bidder, rules for preparing bids, cost and quality of goods, works and services needed to carry out the project, term of the contract, and bidder selection rules. **Article 30** sets out the tender process—including the rights and responsibilities of the actors involved, and deadlines and timeframes for each step.
Colombia	Law 1150 (2007) Law to Introduce Efficiency and Transparency Measures in Law 80 of 1993 (CO 2007, article 8)	Establishes that the contracting agency must publish a preliminary version of the tender documents. This is a non-binding activity—that is, the contracting agency is not forced to carry out the tender after publishing these preliminary documents.
India	Ministry of Finance Model RFP Document (IN 2014a)	Provides a full generic model RFP, intended for use by contracting authorities at the national level.
South Africa	PPP Manual module on procurement (ZA 2004a, 27–41)	Describes first how bidders can participate in finalizing the RFP; then describes in detail the content of the RFP.

Dealing with issues—no clear preferred bidder or no conforming bids

In some cases, despite multiple bids being received, there may not be a clear preferred bidder. For example, this could be because no bids conform to requirements; or because a non-conforming bid appears to present a better value-for-money option than conforming bids.

One common cause of this problem is poor clarity or quality of the RFP documents—the references listed above under *Preparing and issuing Request for Proposal documents* provide guidance on preparing a clear, comprehensive, and well-structured RFP. The multi-stage and competitive dialogue procedures described in *Section 3.5.1 - Deciding the Procurement Strategy* also help avoid this issue, by enabling changes to the RFP during the bid process that help ensure final bids are all comparable and compliant.

One option if no bids conform, and none appear to be of high quality, is simply to re-package and re-tender the project. The alternative is to extend the procurement process, to identify a preferred bidder—typically, through discussions with the higher-ranked bidders on the points where the bids do not conform, often followed by asking for a revised bid.

For further guidance, see **Australia's** National PPP Practitioners' Guide (AU 2015, 27–28), which describes two options in cases where no preferred bidder can be selected—entering into a *Best and Final Offer* (BAFO) process with two bidders, or structured negotiations. The **South Africa PPP Manual Module 5** (ZA 2004a, 51–56) also describes in detail when and how to run a BAFO process, if no clear preferred bidder can be identified.

Finalizing the PPP contract with the preferred bidder

Once the preferred bidder has been selected, governments sometimes enter into further discussion to finalize the PPP contract. Extensive negotiation at this stage can undermine the competitive tender process, as described in *Section 3.5.1 - Deciding the Procurement Strategy* under *Negotiation with bidders: post-bid.* However, some level of negotiation may be necessary to clarify elements of the proposal or contract, particularly when the bid process has not included significant interaction. If financing arrangements have not already been finalized, lenders may also have demands at this stage that create pressure to negotiate on elements of the contract and risk allocation.

Many governments define and limit the extent of negotiations possible at this stage. For example, the **EPEC's Guide to Guidance** (EPEC 2011b, 31) describes a European Union rule that no issues that are material to the procurement can be changed—that means that no change that could have resulted in a different result from the bidding process should be incorporated during the post-bid negotiation phase. Where changes are allowed at this stage, the final contract is often subject to further approval.

The following resources provide guidance on carefully managing post-bid negotiations:

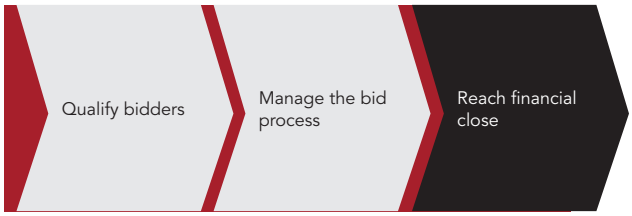
- **Australia's National PPP Practitioners' Guide** (AU 2015, 30) provides guidance on setting up a negotiation framework that includes, among other things, defining the negotiation issues and the timetable, setting the dispute resolution processes, and ensuring that the participants have the authority to make decisions on behalf of their organizations.
- **South Africa PPP Manual** Module 5 (ZA 2004a, 59–61) describes principles for negotiation, and the negotiation process.
- **ADB PPP Handbook** (ADB 2008, 79–80) briefly describes important elements for negotiation—including having a fall-back plan (which may be the second-place bidder).

3.5.5 Achieving Contract Effectiveness and Financial Close

Once the government and the preferred bidder have signed the PPP contract, they are contractually committed to implementing the PPP. However, there are several additional steps before project implementation can begin. The preferred bidder may need to finalize the financing agreements for the PPP and will likely need to sign contracts with other parties in the PPP structure—for example, sub-contractors and insurers. The implementing agency typically also has tasks to fulfill, such as finalizing permits. Detailed contract management protocols and manuals are often also developed during this period (see *Section 3.6 - Managing PPP Contracts* for more details).

The PPP contract typically includes completion of (some of) these elements as Conditions Precedent, which must be met for the contract to become effective. PPP contracts often specify a final date by which the contract terminates, and/or a bid bond is forfeited, if the Conditions Precedent are not met. As noted in the **PPIAF Toolkit**

Figure 3.7e Financial Close



for PPPs in Roads and Highways (WB 2009a) section on Contract Award, failing to specify requirements and stipulate a period for financial close can hold up project implementation for years.

Finalizing financing agreements

EPEC Guide to Guidance (EPEC 2011b, 31–33) describes the range of financing agreements for a typical PPP. These financing agreements are often not finalized until after the contract has been awarded. In most cases, interested lenders are identified at the proposal stage. However, before those lenders will commit to provide finance, they often carry out detailed due diligence on the project and PPP agreements (as described in **Farquharson et al** (Farquharson et al. 2011, 124–125). There are risks associated with this process—lenders may require changes in the PPP agreements before agreeing to finance the project, or financing terms may change from what was assumed in the proposal. One way to mitigate these risks can be to ask for firm financing commitments at the proposal stage—but this can be difficult and expensive to procure, and risk reducing competition.

Section 1.3 - How PPPs Are Financed provides more information on the risks associated with PPP financing and reaching financial close.

Meeting conditions for contract effectiveness and financial close

Financial close occurs when all the project and financing agreements have been signed, all conditions on those agreements have been met, and the private party to the PPP can start drawing down the financing to start work on the project. As noted in **Yescombe**, financial close conditions are often circular—the PPP contract does not become effective until funding is available for draw down (that is, funding availability is a Condition Precedent for contract effectiveness), and vice versa (Yescombe 2007).

The **EPEC Guide to Guidance** (EPEC 2011b, 34) briefly describes common Conditions Precedent, and includes a checklist for governments on finalizing the PPP contract and reaching financial close. Example requirements include:

- Finalizing all project agreements and contracts
- Securing final approval from relevant government entities—for example, review and approval of the procurement process and final contract
- Securing permits and planning approvals
- Commencing or completing project land acquisition

This process often requires a lot of detailed work and effort by both the public and private parties to bring the transaction stage to a close and begin project implementation.

Did you know....?

Most urban infrastructure in London was built under long-term lease contracts

In 17th century London, some landlords divided their estates into units that were leased to builders under 99-years BOT contracts. Private investors constructed the housing and streets in each unit, including a public square, a market and a church, and then leased the houses. After 99 years, the houses would become property of the landlord. Areas such as Queen Square, Russell Square, Torrington Square, and many other London squares were not the result of an urban plan, but of private initiatives and long-term contracts.

Source: Peter Ackroyd, London: A Biography (Chatto & Windus, 2000)

Key References: Managing PPP Transactions

Reference	Description
WB. 2009a. "Toolkit for Public-Private Partnerships in Roads and Highways." World Bank. Website.	Module 5: "Implementation and Monitoring, Stages 3: Procurement," and 4: "Contract Award."
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Chapter 9: "Managing Procurement" talks through each stage of the procurement process. Includes a case study of the Inkosi Albert Luthuli Central Hospital, South Africa describes the procurement process for the hospital, which included a multi-variable bid evaluation approach.
Kerf, Michael, R. David Gray, Timothy Irwin, Celine Levesque, Robert R. Taylor, and Michael Klein. 1998. "Concessions for Infrastructure: A guide to their design and award." World Bank Technical Paper No. 399. Washington, DC: World Bank.	Section 4: "Concession Award" provides detailed guidance and examples on choosing the procurement process, pre-qualification and shortlisting, bid structure and evaluation, and bidding rules and procedures.
GIH. 2016b. "GI Hub Launches Project Pipeline." Press release. Global Infrastructure Hub. December 6. Website.	The GI Hub Pipeline is a freely-available platform on which governments can market their PPP projects to prospective bidders, lenders and other key private sector stakeholders.
PPIAF. 2006. *Approaches to Private Sector Participation in Water Services: A Toolkit*. Washington, DC: Public-Private Infrastructure Advisory Facility.	Section 9: "Selecting an Operator" provides guidance on choosing a procurement method, setting evaluation criteria, managing the bidding process, and dealing with other issues.
EPEC. 2011b. *The Guide to Guidance: How to Prepare, Procure, and Deliver PPP Projects*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Section 2: "Detailed Preparation" includes information on selecting the procurement method and bid evaluation criteria. Section 3: "Procurement" describes the bidding process, through to finalizing the PPP contract, with detailed information on reaching financial close.
UK. 2008. *Competitive Dialogue in 2008: OGC/HMT joint guidance on using the procedure*. London: UK Government, HM Treasury.	Describes and provides guidance on carrying out the competitive dialogue procurement procedure. Describes some challenges—such as receiving only one bid. Also describes the post-bid stages, with guidance on issues that may be resolved post-bid.
Yescombe, E.R. 2007. *Public-Private Partnerships: Principles of Policy and Finance*. Oxford: Butterworth-Heinemann.	Section 6.5 "Due Diligence" describes some of the issues the implementing agency should check before contracting is completed—including describing the requirements to reach financial close.
KPMG. 2010. *PPP Procurement: Review of Barriers to Competition and Efficiency in the Procurement of PPP Projects*. Sydney: KPMG Australia.	Draws on a survey of PPP practitioners, to provide recommendations for how the efficiency of PPP procurement processes can be improved, and barriers to entry reduced. The recommendations focus on improving the efficiency of the PPP procurement process, as well as touching on the pros and cons of governments contributing to bid costs.
ADB. 2008. *Public-Private Partnership Handbook*. Manila: Asian Development Bank.	Section 7: "Implementing a PPP" describes several aspects of PPP procurement, including selecting the process, pre-qualification, bid evaluation, and preparing the tender documentation.
WB. 2011c. *Guidelines Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers*. Washington, DC: World Bank.	Sets out the procurement procedures that any project receiving World Bank funding must use.
Dumol, Mark. 2000. *The Manila Water Concession: A key government official's diary of the world's largest water privatization.* Washington, DC: World Bank.	Describes in detail the entire process of the Manila water concession, from deciding on the best option for privatization, to running the tender process, to dealing with the many issues that emerged.

Reference	Description
Engel, Eduardo, Ronald Fischer, and Alexander Galetovic. 2002. "A New Approach to Private Roads." *Regulation* 25 (3).	Describes and explains the advantages of the Least Present Value of Revenue criterion introduced in Chile's toll road program.
Guasch, José Luis. 2004. *Granting and Renegotiating Infrastructure Concessions: Doing it right*. Washington, DC: World Bank.	Chapter 7 provides guidance on optimal concession design, drawing from the preceding analysis of the prevalence of renegotiation of concession contracts in Latin America. Includes guidance on selecting appropriate evaluation criteria.
BR. 2004. *Lei No. 11.079 de 30 de dezembro de 2004*. Brasília: Presidência da República, Casa Civil.	Clarifies process for PPPs, including describing the contents of the RFP documents, and the possible evaluation criteria.
BR. 1995. *Lei No. 8.987 de 13 de fevereiro de 1995*. Brasília: Presidência da República, Casa Civil.	Sets out the tendering procedures for (user-pays) concessions in Brazil (which also apply to government-pays PPPs).
CL. 2010b. *Ley y Reglamento de Concesiones de Obras Públicas: Decreto Supremo MOP Nº 900*. Santiago: Gobierno de Chile, Ministerio de Obras Públicas.	Chapter III sets out in some detail the procurement process for PPPs, including pre-qualification, the bid process, possible evaluation criteria, and processes for contract award.
EG. 2011. *Executive Regulation of Law No. 67 of 2010, Issued through Prime Minister Decree No. 238 of 2011*. Cairo: Government of Egypt.	Part Three sets out in detail the tendering, awarding, and contracting procedures for PPPs, including pre-qualifications, tender stage, competitive dialogue, and awarding and contracting procedures. Also specifies an approach for appeals.
IN. 2007. *Panel of Transaction Advisors for PPP Projects: A Guide for Use of the Panel*. New Delhi: Government of India, Ministry of Finance.	This users' guide describes the processes and the tasks involved in appointing a transaction advisor for a PPP transaction using the panel.
MX. 2014. *Ley de Adquisiciones, Arrendamientos y Servicios del Sector Público.* Mexico City: Gobierno de México, Cámara de Diputados.	Sets out the rules for carrying out tender processes in Mexico. It includes the possible contracting options—public tenders, sole sourcing, and direct invitations to bid to at least three potential bidders.
PH. 2006. *The Philippine BOT Law R.A. 7718 and its Implementing Rules and Regulations*. Revised 2006. Manila: Public-Private Partnership Center.	Implementing Rules 3-11 set out in detail the procurement process and requirements at each stage: pre-qualification, bid process and evaluation, when and how a negotiated procedure may be used, dealing with unsolicited proposals, and contract award and signing.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	Module 5: Procurement sets out the procurement process and guidance: including pre-qualification, issuing the RFP, receiving and evaluating bids, negotiating with the preferred bidder, and finalizing the PPP agreement management plan.
AU. 2015. *National Public Private Partnership Guidelines - Volume 2: Practitioners' Guide*. Canberra: Commonwealth of Australia.	Sets out key project phases, including three procurement phases: Expressions of Interest, Request for Proposal, and Negotiation and Completion. Also provides guidance and protocols for the interactive tender process.
SG. 2012. *Public Private Partnership Handbook. Version 2*. Singapore: Government of Singapore, Ministry of Finance.	Section 3 sets out PPP procurement process options and principles.
IN. 2014b. *Public-Private Partnership Request for Qualification: Model RFQ Document*. New Delhi: Government of India, Planning Commission.	Sets out a model RFQ, with an explanatory introduction.
PPPIRC. Accessed March 9, 2017. "Public-Private Partnerships in Infrastructure Resource Center website." Website.	Provides a library of PPP documents, including a selection of model and example procurement documents.

Reference	Description
WB. 2006c. *Procurement of works and services under output-and performance-based road contracts and sample specifications. Sample bidding documents*. Washington, DC: World Bank.	Includes a comprehensive, sample bidding document, as well as sample specifications in an annex. A foreword also provides some overview guidance.
CO. 1993. *Ley 80 de 1993*. Bogotá: Congreso de Colombia.	General procurement law, which also applies to PPPs, defines who is authorized to carry out tender processes transparency requirements, and the contents of the tender documents, and sets out the structure of the awarding procedures.
CO. 2007. *Ley 1150 de 2007*. Bogotá: Congreso de Colombia.	Sets out rules to ensure the objective selection of the winning bid, procedures to verify the veracity of the information presented by bidders.
IN. 2014a. *Public-Private Partnership Model RFP Document*. New Delhi: Government of India, Planning Commission.	This report provides a Request for Proposal for PPP Projects template as well as a short memorandum on the guidelines for invitation of financial bids for PPP projects.
IN. 2014c. *Model Request for Proposals (RFP): Selection of Technical Consultant*. New Delhi: Government of India.	Sets out a model RFP with an explanatory introduction.
VIC. 2001. *Practitioners' Guide*. Melbourne, Australia: Victorian Department of Treasury and Finance, Partnerships Victoria.	Sets out project phases, as described above, as they apply in the State of Victoria, Australia's PPP program. Similar to the national approach; includes more detail on the bid evaluation phase.

3.6 Managing PPP Contracts

Managing PPP contracts involves monitoring and enforcing the PPP contract requirements; and managing the relationship between the public and private partners. The contract management stage spans the lifetime of the PPP agreement from the effective date of the contract to the end of the contract period.

Managing PPP contracts differs from managing traditional government contracts. PPPs are long term and complex, and contracts are necessarily incomplete—that is, the requirements and rules in all scenarios cannot be specified in the contract. Therefore, the management of PPP contracts must be flexible in both available resources and skills to meet the whole-life expectations of the contract. The aims of contract management for PPPs are to ensure

- Services are delivered continuously and to a high standard, in accordance with the contract, and payments or penalties are made accordingly;
- Contractual responsibilities and risk allocations are maintained in practice, and the government's responsibilities and risks managed efficiently;
- Changes in the external environment—both risks and opportunities—are spotted and acted on effectively; and
- The efficiency expectations of the contract are achieved and the handback provision in the contract are met.

These aims of contract management are elaborated in the **4ps Guide to Contract Management for PFI and PPP Contracts in the United Kingdom** (4ps 2007, 5). The **South Africa PPP Manual section on PPP Agreement Management** (ZA 2004a, Module 6, 11–12) describes what is needed and what is meant by successful management of a PPP contract, as well as what can go wrong, and why. **EPEC's 2014 Guidance for Managing PPPs** (EPEC 2014b) condenses European experiences on the topic. The **Caribbean PPP Toolkit** (Caribbean 2017, Module 6) presents Caribbean examples and discusses contract management best practices.

The foundations for effective contract management are laid early in the PPP implementation process. Many aspects of contract management—such as procedures for dealing with change, and dispute resolution mechanisms—are set out in the PPP agreements, as described in *Section 3.4 - Designing PPP Contracts*.

This section describes four key aspects of putting contract management into practice for PPP projects:

- **Establishing contract management institutions**—defining and establishing the key responsibilities and communication

mechanisms that will enable a proactive, effective relationship between the public and private partners to the contract.

- **Monitoring PPP delivery and risk**—monitoring and enforcing contract compliance and service performance by the private party, ensuring the government delivers on its responsibilities under the contract efficiently, and monitoring and mitigating risk by the implementation of frequent and robust reporting mechanisms during the whole-life of the contract.
- **Dealing with change**—putting into practice the mechanisms described in *Section 3.4 - Designing PPP Contracts* to deal with contract adjustments, dispute resolution, and contract termination, as well as deciding whether, when and how to renegotiate.
- **Managing contract expiry and asset handover**—managing the transition of assets and operations early enough to ensure that the handback criteria or contracted handback condition of the asset is met at the end of the contract term.

The **United Kingdom Treasury's Operational Taskforce**, part of the PPP Unit, has produced comprehensive guidance notes covering several topics on contract management for PPPs (UK 2006a).

3.6.1 Establishing Contract Management Structures

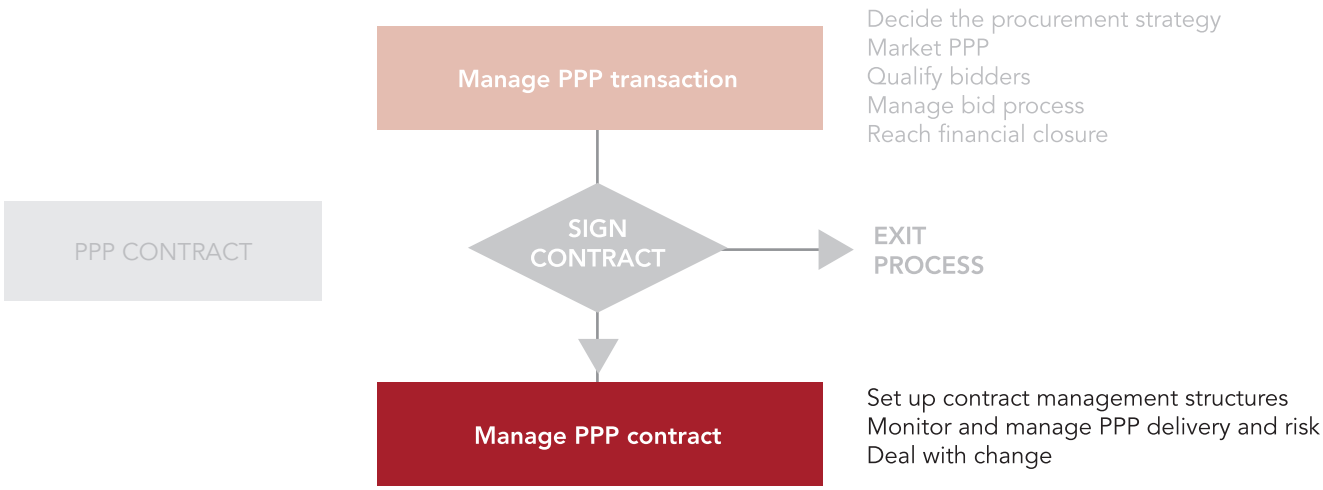
Establishing the contract management structures means defining responsibilities for contract management within government, and how the relationship with the private party will be managed. It also entails taking consideration of the long term and cyclic operational nature of PPP contracts where different contract management skills will be required at different times during the contract's life. This includes designating a PPP contract manager (or management team) within the implementing agency who will be dedicated specifically to the management of the PPP contract, as well as defining the roles of other entities within government in managing the PPP. Commitment, collaboration and coordination are needed to manage a PPP contract effectively. The government will need to be clear on where the contract manager has autonomy, and can act with discretion, and where it needs to consult or gain approval from someone else—a higher level officer, or another entity such as a Finance Ministry. It also requires establishing communication and contract management protocols for the relationship with the private party.

The **United Kingdom Treasury Operational Taskforce project transition guidance** (UK 2006a) is a helpful overview of the resources that are needed to establish efficient contract management institutions. The guide covers resource planning for contract management, setting up monitoring and management arrangements, and establishing the communication approach.

Designating a PPP contract manager and management roles

The implementing agency typically has primary responsibility for contract management throughout the life on the contract. This responsibility is often centered on a designated PPP contract manager—the main point of contact within government for all matters relating to the PPP.

Figure 3.8 Contract Management Stage of PPP Process



Some countries allocate responsibility for procurement to a specialized team or agency, benefiting from specialized knowledge on PPP tendering and negotiation. The rationale behind this approach is that contract negotiation requires highly specialized skills that are different from those required for contract management. However, in this configuration, it is important that the institutional memory concerning the history of the contract be documented and transmitted to the contract management team. In particular, the history of the discussions concerning the drafting of critical clauses of the contract may provide valuable information to the contract management team.

The PPP contract typically designates a particular public sector entity as the contractual counterpart—for example, a health board for a new hospital. The contract may also specify the individual contact point (and should provide for this to be changed simply, by notice to the private party) and articulate the duties and responsibilities of the contract point or counterpart. In practice, there is a lot more to contract management than these statements in the contract. The PPP contract manager—or management team—needs:

- **Sufficient resources**. Depending on the complexity of the contract—and resources available—the manager may be supported by a team, with members responsible for different aspects of contract management. The same individual or team could also manage more than one PPP contract. **Farquharson et al**'s chapter on contract management (Farquharson et al. 2011, 136–137) highlights the need for the implementing agency to budget for the cost of the team and their training.
- **Appropriate skills**. The **4Ps Guide to Contract Management** for PFI and PPP Projects in the United Kingdom (4ps 2007, 15–16) provides a typical job profile and skills required for a contract manager. The **United Kingdom Operational Taskforce guidance** (UK 2006a, 2) emphasizes five key skills: communication, negotiation, change management, financial competence (to understand the payment mechanism), and analytical skills. This taskforce was set up to address concerns about a lack of commercially-skilled contract managers in public authorities.
- **Appropriate seniority**. The **South Africa PPP Manual** module on contract management (ZA 2004a, 15–16) notes that the contract manager should be senior enough to have the ear of senior staff at the implementing agency and other government entities. Seniority is also required to give the counterparty the confidence that decisions can be made quickly and effectively.

The **4Ps Guide to Contract Management for PFI and PPP Projects** (4ps 2007, 8–10) describes the process of setting up a contract management team. Drawing on the experience of contract managers in the UK, the guide emphasizes the benefit of having the contract manager involved early—ideally when contract management provisions in the contract are being designed. Continuity is also important during the contract lifetime, since the contract will most likely outlast its management team. The guide describes how careful succession planning, supported by a detailed contract management manual, can help ensure continuity (4ps 2007, 19).

Roles of other entities in contract management

Several other entities within government can also have roles to play in managing a PPP contract, typically working with the contracting authority and designated contract management team. These can include:

- **Sector regulators**, who often have responsibility for monitoring service standards and managing changes in tariffs for PPP companies providing services directly to the public (see *Section 2.3 - PPP Processes and Institutional Responsibilities*). For example, in **Peru**, contract management responsibilities in the transport sector are mostly allocated to OSITRAN—the agency in charge of regulating and supervising the management of public transport infrastructure. OSITRAN oversees monitoring the concessionaire's compliance with the concession contract. This includes monitoring economic, commercial, operation, investment, administrative, and financial aspects of the contract. OSITRAN also has the authority to resolve controversies between users and the concessionaire. Similar regulatory agencies exist in other infrastructure sectors in Peru.
- The **Finance Ministry** is often involved, particularly where potential changes to the contract could have a fiscal implication. In Chile, the Concessions Law (updated 2010) states that any changes introduced to the PPP contract during implementation must be done through a supreme decree of the Ministry of Public Works, and that the decree must be approved by the Ministry of Finance (CL 2010b).
- **Central PPP units** or other specialized support units may have a role in supporting the contracting authority's contract management team. **Farquharson et al** notes this can be particularly useful for dealing with complex issues, such as a refinancing,

that may only occur once in a project lifetime (Farquharson et al. 2011, 137–138). For example, the United Kingdom has a central PPP unit that reports directly to the UK's Treasury and works across all other central UK government departments involved with PPP contracts. The PPP unit provides help and guidance to public sector managers of PPP projects on contract management strategies and implementation, benchmarking, technical operational compliance, achieving whole life value for money, and refinancing of operational contracts.

The **World Bank's Water PPP Toolkit** (PPIAF 2006, 126–130) describes a range of options for institutional structures for monitoring and managing PPPs, focusing on PPPs providing services to users, with examples. It also sets out criteria for choosing the most appropriate institutions.

Other actors within and outside government may also be drawn on to fulfill particular roles. For example, private contractors and end users can play a role in service monitoring, as described in *Section 3.6.2 - Monitoring and Managing PPP Delivery and Risk*. Independent expert advisors or panels are also often used to help deal with change or operational compliance disputes in the PPP contract, as described in *Section 3.6.3 - Dealing with Change*. In **Chile**, a permanent PPP advisory board (Panel técnico de concesiones) provides recommendations in case of dispute between the parties, by request of any party (CL-Panel).

Communication and contract management protocols

Besides establishing institutions, the government needs to specify the structure for communication between the public implementing agency and the private party. This often requires relationships at different levels of both organizations—from the more senior levels (if dealing with emerging problems with the contract), through those primarily responsible for contract management, to the day-to-day operational staff. For example:

- The **4ps Guide to Contract Management for PFI and PPP Projects** in the United Kingdom (4ps 2007, 11–13) describes the set-up recommended for municipal councils in the United Kingdom, which comprises a partnership board at the most senior level; a contract management board, and an operational management team to deal with day-to-day management. The guide describes how often each would meet and the types of issues they would deal with.
- **The South Africa PPP Manual** module on contract management (ZA 2004a, 13–17) describes a similar structure, setting out the focus and typical parties to communication at the strategic, business, and operational level.

Some governments formally establish the communication and relationship management arrangements in a contract administration manual, or plan. The **4ps Guide** (4ps 2007, 19–20) describes and provides suggested contents for an operational contract manual, which includes defining the governance structure and communication approach.

The relationship between the government agency and the private party is also important. The **United Kingdom Operational Taskforce note on project transition** describes the importance of building good relations with the contractor (UK 2006a, 21–22). The **4ps Guide** (4ps 2007, 26) also describes the need for trust, while also setting boundaries and being ready to challenge. The guide emphasizes the need to avoid developing a 'cozy' relationship that could lead to opportunism.

Regulation by contract

Most governments implement PPPs without creating an overall sector regulatory regime. A common approach to sector regulation is to address tariff and service standards directly through the contract with a private service provider. In this approach, no special tools or regulatory bodies are required. The contract itself sets out the service standards to be reached.

In the case of a concession contract, the contract will also establish the tariff, and rules and processes for adjusting the tariff. In a lease or affermage contract, tariff setting powers may be retained by the government, but the payment to the operator—which is also linked to the amount of the service supplied—is set in the contract. This approach is used in many countries. For example:

- Urban water concession, **Senegal**—in 1995, the government implemented reforms to bring in private operators under an affermage and performance contracts to improve the performance of the water sector. Provisions within the contracts outlined performance standards and indicators, allowed for monitoring by a committee, and included an effective dispute resolution mechanism. The private operator was legally obliged to meet the standards—such as water quality, access, non-revenue water—set out under the contract (WB 2006b).

- Manila water concessions, **Philippines**—when the Government of the Philippines decided to end a water crisis in Manila by offering two concession contracts for supply of water in the city, it considered establishing an independent statutory regulator. However, it decided that going to congress to pass the necessary laws would be too time-consuming and risky. It therefore created a regulatory office for the two concession agreements within the public utility (which remains the asset owner and counterpart to the PPP contract). A clause in the concession agreement required the private operators to cooperate with the regulatory office, which in turn was responsible for interpreting the regulations in the agreements (Dumol 2000).
- The Bucharest water concession, in **Romania**, also provides an interesting example of a regulatory structure created under contract. The concession had two different regulatory bodies—a technical regulator created to monitor the technical performance of the private operator against the indicators set out under the concession contract, and an economic regulator to approve tariff adjustments according to the formula set out by the concession contract.

For further discussion of issues specific to regulation by contract and case studies, refer to **Regulation by Contract: A New Way to Privatize Electricity Distribution?** (Bakovic et al. 2003) and **Explanatory Notes Series on Key Topics in Regulation of Water and Sanitation Services** (Groom et al. 2006).

3.6.2 Monitoring and Managing PPP Delivery and Risk

To achieve the whole life value for money promised by a PPP, government needs to make sure that the planned allocation of responsibilities and risks is put into practice, monitored, recorded and continually analyzed and verified. Throughout the lifetime of the contract, the contract manager needs to:

- Monitor contract compliance and service performance by the private party, and ensure penalties or bonuses are paid appropriately
- Monitor and ensure compliance by government with its responsibilities under the contract
- Monitor and mitigate risks
- Evaluate and allocate risk to the appropriate party resulting from contract change

The actual activities undertaken and skills required will differ between implementation stages—design, construction, implementation, preparation for contract close and project close. For an overview of service delivery management—including key elements of risk management and performance management, see the **South Africa PPP Manual** module on contract management (ZA 2004a, 20–28) and **Fortea et al's** Seguimiento de una Concesión (Fortea et al. 2011) which describes the project monitoring process in Spain.

Monitoring and enforcing service performance and contract compliance

The implementing agency needs to ensure the private party meets its obligations under the partnership by monitoring outputs or service and performance standards. This does not generally involve detailed monitoring of construction, which is the responsibility of the private party. Instead, it means monitoring against the performance indicators established in the contract, as described in *Section 3.4.1 - Performance Requirements*. In many cases, infrastructure and equipment are certified to obey the contractual specifications by reputable independent engineering firms under careful public sector scrutiny. The **4ps guide to contract management for PPPs** (4ps 2007, 28–36) provides an overview of managing service performance (focused on government-pays PPPs), and a checklist of key issues.

As described in *Section 3.6.1 - Establishing Contract Management Structures*, monitoring service performance and contract compliance is often the responsibility of the contract manager and management team. For PPPs in sectors that are regulated, the sector regulator may also undertake some or all monitoring responsibility. In either case, sources of monitoring information can include:

- **Data provided by the private party**. Typically, the private party is responsible for providing project performance data in regular reports to the contracting authority. The content, format and frequency of these reports should be specified in the contract. For example, the **Partnerships Victoria Contract Management Guide** (VIC 2003, 54–55) describes how reporting requirements can be specified, including suggested templates for the different contract stages. The usefulness of data provided by the private party depends on auditing and checking by the public sector.

- **Independent experts** can be used to carry out checks on construction, maintenance on service standards, while avoiding concerns of bias in results. For example, the **Partnerships Victoria Contract Management Guide** (VIC 2003, 55) describes how independent reviewers are used at construction and service delivery stages. **India's guidelines on monitoring PPP projects** (IN 2012) also describe the use of an independent engineer to monitor compliance during design, construction, and operations.
- **Service users** have a wealth of information on the quality of service and the prevalence of faults, which the government can draw on by setting up processes for feedback. The **4ps Guide to Contract Management** (4ps 2007, 33) describes a maintenance helpdesk, to be established by the service provider, as a good practice. Another good practice is collecting user feedback, creating a contractual obligation on the contractor to have frequent customer satisfaction surveys—at least annually.

These arrangements should be specified in the contract, as described in *Section 3.4.1 - Performance Requirements*.

The implementing agency also needs to ensure enforcement mechanisms are implemented as appropriate based on the monitoring information received. This could include adjusting payments (for government-pays PPPs) following the rules in the contract, or in severe cases, calling performance bonds. It also includes communicating with the contractor and monitoring attempts to rectify performance shortfalls. To avoid an accumulation of unnecessary disputes, good practice recommends creating an escalation ladder from day-to-day contract management discussions, senior management discussions, arbitration, and on to the formal dispute resolution mechanisms. When all else fails, contract enforcement will be require a judicial ruling. Finally, it could include identifying if and when trigger points are reached for default, step-in by the lenders or the public party, or termination (see *Section 3.6.3 - Dealing with Change*).

Monitoring and managing government responsibilities and risks

A crucial element in ensuring good performance and sustained service delivery under a PPP contract is monitoring and managing the risks and responsibilities allocated to government. A central tool often used by implementing agencies in doing so is a risk management plan.

A risk management plan lists each risk and associated responsibilities borne or shared by the government; it identifies those that may undermine sustainability of the PPP, and so lead to risk of default, or poor performance. For each risk, the plan should also identify the information needed to monitor the risk, and possible actions to mitigate the risk or its impact. These information requirements should also be part of the reporting requirements defined in the contract. **Farquharson et al** provides a sample extract of a risk management plan for a PPP, which lists risks, and for each risk describes the owner, status, estimated impact, comments, mitigating actions, target dates for action, and current risk status (Farquharson et al. 2011, 153–158).

Some risks that are contractually allocated to the private party may also require monitoring by the public party, if they could put it at risk. For example, if lifecycle and maintenance activities are not implemented according to plan, long-term performance and asset handback may be at risk and could impact the public sector.

The risk management plan should be developed by the contract manager prior to the start of the contract. It should then act as a resource and guide through the duration of the contract. The contract manager typically collects the relevant risk monitoring information from the private party, and relevant external information (such as on economic trends), to regularly update the plan. The contract manager then needs to:

- Monitor indicators against expected levels, to identify emerging risks. For example, traffic levels failing to climb as projected may indicate a risk that a minimum traffic payment will be triggered.
- Take the planned mitigating actions, where there are risks that the implementing agency can control (or ensuring private party is doing the same). For example, if government is responsible for associated infrastructure that is falling behind schedule, the plan may be to transfer responsibility for that infrastructure to a higher level team in government, or to the private party.
- Even where risks cannot be controlled, consider possible actions and responses. For instance, if floods threaten critical water service facilities, government may start work with the private party on an emergency response, including alternative supplies, rationing, and a service re-instatement plan.

Box 3.14 - Example of Weak Risk Monitoring—Victoria Trams and Trains provides an example of weak risk management, where the government's contract monitor collected risk information, but failed to act on it.

The following resources provide further guidance and examples of risk management approaches:

- The **South Africa PPP Manual** module on contract management (ZA 2004a, 20–24) describes how risk monitoring and management should center around a risk management plan.
- The **Partnerships Victoria Contract Management Guide** (VIC 2003, 49–54) describes the monitoring information—beyond KPIs—that the government will typically collect, to monitor risks to the sustainability of the contract.

3.6.3 Dealing with Change

Over the life of a typical PPP contract—10 to 30 years—developments will occur that could not have been predicted when the contract was signed. It is also likely that the parties will dispute contract interpretation, or whether both parties have been performing as agreed. In some cases, these disputes may result in early termination of the contract. These risks cannot be avoided—but they can be managed.

Some general guidance material that is available on dealing with change in PPPs is:

- The **United Kingdom's National Audit Office publication** on managing the PFI relationship (NAO 2001), which emphasizes the need for public authorities to address the question of contract management early in the project preparation and the presence of appropriate skills within the public authority. It also highlights the importance of an open and cooperative attitude.
- A shorter overview on similar topics is provided in **Quick's article on managing PPP contracts** (Quick 2003), which also adds an Australian perspective.
- **UNESCAP's PPP guidebook** (UNESCAP 2011, Chapter 6) offers an overview of contract management intended for developing countries. It focuses on institutional arrangements for contract management, and mechanisms for dispute resolution.

These materials do not provide the detailed guidance that would benefit government officials. Therefore, this section also provides examples of where these issues have come up, and ways in which they have been handled, from which practitioners can draw lessons. These change situations can usefully be discussed in four categories:

- Planned reviews and adjustments
- Renegotiations
- Disputes
- Contract expiry or termination

Planned reviews and adjustments

Well-structured PPP contracts build in adjustment mechanisms for dealing with the more common types of unexpected change, as described in *Section 3.4.3 - Adjustment Mechanisms*. In addition to being aware of, and following, the rules in the contract, contract managers need to make sure required institutional elements are in place, as described in the **EPEC Guide to Guidance** (EPEC 2011b, 37–38). For example, this could include ensuring expert panels have been identified and are qualified, and all steps are clear to all parties involved.

Renegotiation or contract variations

Many PPP contracts are renegotiated, often early, as described by **Guasch in his book on renegotiation in PPPs** (Guasch 2004). *Renegotiation* refers to changes in the contractual provisions, rather than through an adjustment mechanism provided for in the contract. Renegotiation is something to avoid where possible. Good use of adjustment provisions, as outlined above, can obviate the need for renegotiation.

Still, renegotiations will from time to time be needed, and governments will benefit from understanding good policy for conducting them. **Partnerships Victoria's Contract Management Manual** (VIC 2003, Section 7.3) describes the understanding that public parties should have of the private party's financial health, as well as project performance. While not focused specifically on renegotiation, having this information and understanding will benefit government as it considers decisions that could result in renegotiation.

Some examples of renegotiations that may offer some insights into good practice, and which have been documented include:

- **The Melbourne Tram and Train concessions**. When these concessions were in financial difficulty, the government decided to renegotiate rather than terminate, as this was expected to provide better value for money—see **Ehrhardt and Irwin** (Ehrhardt and Irwin 2004). To provide transparency and quality assurance on the process, the government announced early in the process that, after the negotiations were complete, they would be subject to an ex-post value for money analysis. This analy-

sis was published as an **Auditor General's report** (VIC 2005), which describes the renegotiation process and results.

- **The United Kingdom National Air Traffic Services (NATS) PPP**, also described by **Ehrhardt and Irwin** (Ehrhardt and Irwin 2004), was a more controversial restructuring. The PPP Company faced falling revenue because of a sharp downturn in air travel after the 9/11 terrorist attacks in the United States. The company looked certain to default on its debt. The Board of the Civil Aviation Authority (the public party to the PPP) was split. The Board member directly responsible for the contract insisted the government should not renegotiate, stating the solution was a private sector financial restructuring, in which the lenders to the company would bear some of the losses. The majority of the Board disagreed, however, and instead agreed to change the terms of the contract as part of a package deal that also involved some debt restructuring.

In contrast to the United Kingdom NATS experience, the **Government of New South Wales** managed to avoid renegotiating the PPP contract for a highway tunnel under Sydney's central business district when it went into financial distress. Instead, the matter was resolved entirely through a private sector financial restructuring. **Johnston and Gudergan** subsequently reviewed the experience to draw lessons for PPP governance (Johnston and Gudergan 2007). An **OECD paper on PPP renegotiation in the US** (Gifford et al. 2014) presents renegotiation cases in the United States and shows how they are linked to opportunism and may affect infrastructure development.

Road contract renegotiations in **Portugal** and **Spain**, during the recent economic and financial crisis, present an interesting case of renegotiation under fiscal stress—but lessons have not yet been reported. The British National Audit Office (NAO 2013b) reported on similar renegotiations for reducing service levels and obtaining project savings.

Box 3.14 Example of Weak Risk Monitoring—Victoria Trams and Trains

The trams and trains franchises in Melbourne, Australia provide an educational example of the implications of inadequate risk monitoring. The government awarded a series of franchises for the city's urban transport system. Demand risk was largely borne by the private parties. Demand turned out to be substantially lower than expected, resulting in financial difficulties for the companies. The government's contract monitor was receiving information from the private parties, which showed deteriorating financial performance. However, the monitor failed to hear the alarm bells or take any remedial action. Performance continued to deteriorate to the point that the private parties' best option was to walk away from the contract, and the government had no option but to renegotiate.

Source: (Ehrhardt and Irwin 2004)

Disputes

Contractual disputes arise when one party believes the other has not done something it was contractually obliged to do, but the other party disagrees as to what its obligations were, or what should be done to remedy the situation.

The **Partnerships Victoria** Contract Management Guide (VIC 2003, Section 8.3) includes a section on dispute resolution. A helpful distinction is made between issues and disputes, as set out in *Table 3.6 - Distinction between Service Delivery Issues and Disputes*.

The **Partnerships Victoria Contract Management Guide** also contains sample templates for specifying how issues may be escalated (VIC 2003, Template M) and disputes resolved (VIC 2003, Template N). The practical advice offered focuses on the desirability of speedy informal resolution of disputes, understanding the other side's position, and avoiding inappropriate dispute processes, since these can damage the long-term relationship.

Focusing on finding practical solutions quickly, and taking into account the other side's position, often yields positive outcomes when trying to resolve disputes. However, countries do not necessarily find it appropriate to seek resolution through informal mechanisms. For a variety of reasons, they often prefer to follow the formal steps set out in the contract. Whichever route they choose to follow, they should seek to reach a practical solution.

There are numerous examples of the costs that governments end up bearing because of choosing inappropriate dispute resolution methods. For example, the Government of **Tanzania** was justifiably dissatisfied with the performance of the private firm operating the water system in Dar es Salaam. The PPP contract provided a

dispute resolution mechanism under which the government could very likely have achieved the redress it sought, and won damages from the contractor. However, as described in a review of the dispute case (Triantafilou 2009, 6):

"While the contractual relationship was headed inevitably towards dissolution, Tanzanian government officials, motivated by electoral concerns, among others, took a series of drastic measures that went far beyond the contractually mandated process for termination of the Project Contracts. In May 2005, Tanzanian government officials, causing public furor, repudiated unilaterally and rather publicly the lease agreement with City Water while calling on the performance bond posted by BGT, reinstated the previously waived VAT on purchases by City Water, repossessed forcibly the assets previously leased to City Water, and deported City Water's BGT-appointed management."

Cases of PPP disputes and how they have been handled are available on the website of the International Center for the Settlement of Investment Disputes (ICSID, a part of the World Bank Group)—see *Box 3.10 - International Centre for Settlement of Investment Disputes*. In July 2010, an ICSID arbitration tribunal ruled that the Argentinian government unfairly refused to allow the private concessionaires to raise tariffs during the period after the devaluation of the Argentine peso in 2001 and awarded damages to the private companies—see *Box 1.6 - When PPPs fail—The case of the 1993 water concession in Buenos Aires* on this conflict.

Overly also provides a critical review of the use of international arbitration, in a range of PPP and similar cases (Overly 2010). Many of these cases suggest that governments can minimize the costs of disputes to the public sector if they:

- Act quickly when problems start to arise
- Have teams with the right skills and appropriate levels of decision-making authority working on resolving the issue
- Follow processes set out in the contract
- Look for win-win solutions, considering the broader public interest and the private parties' options

Resolve the issues at the lowest level possible and only escalate if they are not resolved

3.6.4 Contract Expiry and Asset Handover

The final task in managing a PPP contract is to manage the transition of assets and operations at the end of the contract term. The approach to this transition should be clearly defined in the contract. As set out in *Section 3.4 - Designing PPP Contracts*, this typically includes defining how quality of the assets will be defined and assessed, whether a payment will be made on asset handover, and how the amount of any payment will be determined. Options include clearly specified handover requirements, or the involvement of independent assessors.

A principle of a PPP contract is to achieve value for money during its whole life. Whole-life value for money includes achieving the contracted handback criteria, which must be managed in a timely and robust manner. Contract management teams must be aware of the expected contract handback conditions and ensure that prepa-

Table 3.5 Distinction between Service Delivery Issues and Disputes

Service Delivery Issues	Disputes
Need not involve any difference of opinion or position between the parties	Involves a difference of opinion or position between the parties (by definition)
Interruption or other disturbance to service delivery	Need not involve any interruption or other disturbance to service delivery
May trigger an abatement of service fees, or other remedies	Generally, will not in themselves trigger an abatement of service fees

Source: (VIC 2003)

ration works, maintenance and asset management has been completed and any post-contract conditions will be met.

As noted in **The World Bank's Toolkit for PPPs in Roads and Highways** section on handover of facilities at contract end (WB 2009a, Module 5, Stage 5), there has been relatively limited practical experience in completion of PPP agreements. Equally, there is limited practical guidance on dealing with this stage of contract management.

The final task in managing a PPP contract is to manage the transition of assets and operations at the end of the contract term. The approach to this transition should be clearly defined in the contract. As set out in *Section 3.4 - Designing PPP Contracts*, this typically includes defining how quality of the assets will be defined and assessed, whether a payment will be made on asset handover, and how the amount of any payment will be determined. Options include clearly specified handover requirements, or the involvement of independent assessors.

A contract can be terminated regularly, that is, at the end of the agreed concession period, or it can also be terminated prematurely (either by the public agency or the concessionaire) in the case of serious, pre-defined events, for instance:

- Extended *Force Majeure*
- Concessionaire default
- Insolvency or bankruptcy of the concessionaire
- A serious deficiency in service provision (e.g. where health or safety is jeopardized) that is not promptly remedied
- Voluntary termination by the contracting authority

Section 3.4.5 - Termination Provisions discusses the several types of early termination and corresponding contractual provisions. This possibility of early termination implies that, from inception, the contract manager needs to have a plan for termination.

Regular Termination

The most important element of termination is handing over project assets and services back to the contracting authority at the end of the PPP contract period. Transferring assets to the public agency requires a thorough assessment of the quality of the assets at handover. Typically, the PPP contract will include quality standards that the assets and facilities are required to meet at the end of the contract period.

An audit will assess the state of the assets several years before the termination date. The audit indicates which assets need to be improved before handover can occur. This procedure is particularly relevant because the project will represent an asset for the contracting authority after the expiration of the PPP contract. As such, the contracting authority should have a financial incentive to ensure the asset is returned in the best condition possible.

Sometimes the concessionaire is required to issue a specific bond or guarantee to cover the last few years of the contract period. The bond should have a minimum value that ensures the concessionaire has sufficient financial incentive to continue the contract until the contracted end date and hand over the assets at the defined quality.

Early Termination

The PPP contract must include clear procedures and provisions for early termination of the project. The contract should describe in detail the specified circumstances that allow the contracting authority to terminate the contract. It should also include possible compensation—to both parties. A breach of contract must be fundamental in nature and should (where possible) be subject to a cure period.

Usually (but not necessarily) there is a payment from the public authority to the concessionaire. This payment, or compensation from the concessionaire to the procuring authority, should be based on rules clearly stated in the PPP contract.

Early termination is a serious event as the contracting authority might suddenly be required to take over implementation or operation of the service. As early termination might also influence future PPP projects negatively, this should be the last resort—poor performance and poor communication among partners should be carefully addressed by the contract manager to avoid, if possible, degenerating into early termination.

Key References: Managing PPP Contracts

Reference	Description
4ps. 2007. *A Guide to Contract Management for PFI and PPP Projects*. London: Public-Private Partnerships Programme.	Provides guidance intended for local authorities in the United Kingdom responsible for monitoring PPP contracts: from setting up the contract management approach, to managing service performance, relationships, and contract administration. Includes checklists and a troubleshooting guide.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	A comprehensive guide to PPP agreement management in South Africa, from setting up the institutional framework, to managing over the project lifetime, dealing with change, through to the end of the contract. Describes two key tools: the PPP Agreement Management Plan, and the PPP Agreement Management Manual.
UK. 2012d. "Operational Taskforce website." Infrastructure. HM Treasury Website Archives. Website.	Provides detailed guidance for PPP implementing agencies on four elements of PPP contract management: benchmarking and market testing; project transition, which covers setting up a contract management framework; managing contract variations; and managing contract expiry.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Chapter 10 provides an overview of what is needed for successful contract management after signing, with an emphasis on experience in emerging markets. Includes tips on managing contracts and a case study on contract management for a water concession in Sofia, Bulgaria.
PPIAF. 2006. *Approaches to Private Sector Participation in Water Services: A Toolkit*. Washington, DC: Public-Private Infrastructure Advisory Facility.	Section 7 provides guidance on developing institutional arrangements to manage the PPP contract relationship. It includes guidance on how to decide which government institution should be allocated which role, on relationship management, and tools to deal with change.
Fortea, Carlos Sorni, Emilio Gardeta Torrodellas, Sergio Herrán Vitoria, Juan Pablo Matute Tejerina, and Jorge Vitutia San Millán. 2011. "Proyecto Fin de Master: Seguimiento de una concesión." Universidad Politécnica de Madrid. Website.	Describes the Spanish methodology for the monitoring of PPP projects.
VIC. 2003. *Partnerships Victoria Guidance Material: Contract Management Guide*. Melbourne, Australia: State of Victoria, Partnerships Victoria.	Describes key elements of effective relationship and contract management and provides detailed guidance, templates and tools on all stages of contract management.
IN. 2012. *Institutional Mechanism for Monitoring of PPP Projects: Guidelines*. New Delhi: Government of India, Planning Commission.	Describes institutional frameworks for monitoring PPPs and includes annexes with sample monitoring reports.
NAO. 2001. *Managing the Relationship, to Secure Successful Partnership in PFI Projects.* Report by the Comptroller and Auditor General HC 375. London: National Audit Office.	This report was based on a survey of contractors and government officials on what makes for successful PFI contract management. It emphasizes the need for public authorities to address the question of contract management early in the project preparation; appropriate skills in the public authority; and an open and cooperative attitude.
Quick, Roger. 2003. "Long-Term Ties: Managing PPP contracts." *Public Infrastructure Bulletin* 1 (2).	Briefly describes key features of successful contract management arrangements, drawing on Australian experience.
UNESCAP. 2011. *A Guidebook on Public-Private Partnership in Infrastructure*. Bangkok: United Nations Economic and Social Commission for Asia and the Pacific.	Chapter 6 provides guidance on contract management intended for developing country governments, focusing on institutional arrangements and dispute resolution.

Reference	Description
Groom, Eric, Jonathan Halpern, and David Ehrhardt. 2006. "Explanatory Notes on Key Topics in the Regulation of Water and Sanitation Services." Water Supply and Sanitation Sector Board Discussion Paper 6. Washington, DC: World Bank.	Note 4 describes the relationship between sector regulation and PPP contracts.
EPEC. 2011b. *The Guide to Guidance: How to Prepare, Procure, and Deliver PPP Projects*. Luxembourg: European Investment Bank, European PPP Expertise Centre.	Chapter 4: Project Implementation, Section 4.1: Contract Management describes and provides links to references on some key issues in contract management, including attributing management responsibilities, managing project delivery, managing change, dispute resolution, and termination.
PURC. 2012. "Body of Knowledge on Infrastructure Regulation." University of Florida, Public Utility Research Center. Website.	Section IV: Price Level Regulation describes key issues in tariff regulation, and guides readers in accessing a wide range of references.
UK. 2006b. *Benchmarking and Market Testing in NHS PFI projects: Code of Best Practice*. London: National Health Service.	Provides guidance intended for contract managers on how to use market testing exercises to review the cost of soft services in health sector PPPs.
Guasch, José Luis. 2004. *Granting and Renegotiating Infrastructure Concessions: Doing it right*. Washington, DC: World Bank.	Reviews the occurrence and drivers of re-negotiation in PPP contracts in Latin America, and provides some policy lessons for reducing the prevalence of early renegotiations.
Ehrhardt, David, and Timothy C. Irwin. 2004. "Avoiding Customer and Taxpayer Bailouts in Private Infrastructure Projects: Policy toward Leverage, Risk allocation, and Bankruptcy." World Bank Policy Research Working Paper 3274. Washington, DC: World Bank.	Describes the experience of default and re-negotiation in several PPP contracts including the Melbourne Tram and Train Concession, and the United Kingdom National Air Traffic Services PPP.
Johnston, Judy, and Siegfried P. Gudergan. 2007. "Governance of Public-Private Partnerships: Lessons learnt from an Australian case?" *International Review of Administrative Sciences* 73.	Reviews the experience of the Sydney Cross-City Tunnel PPP contract, drawing lessons for PPP contract management.
Triantafilou, Epaminontas E. 2009. "No Remedy for an Investor's own Mismanagement: The Award in the ICSID Case Biwater Gauff v. Tanzania." *White & Case International Disputes Quarterly* Winter 2009, 6-9.	Reviews the international arbitration settlement of a water service PPP in Tanzania.
Overly, Megan Shepston. 2010. "When Private Stakeholders Fail: Adapting Expropriation Challenges in Transnational Tribunals to New Governance Theories." *Ohio State University Law Journal* 71 (2).	Describes challenges in international arbitration mechanisms, with case studies of arbitrations.
WB. 2009a. "Toolkit for Public-Private Partnerships in Roads and Highways." World Bank. Website.	Module 5: Implementation and Monitoring includes a section on hand back of facilities at contract end, which describes some key considerations at this stage.

3.7 Dealing with Unsolicited Proposals

An unsolicited proposal (USP) is a proposal made by a private party to undertake a PPP project, submitted at the initiative of the private firm, rather than in response to a request from the government. By managing USPs appropriately, governments may benefit from this approach while reducing potential risks. However, unsolicited proposals may also create challenges that risk providing poor value for money, particularly if the government chooses to negotiate a PPP directly with the project proponent; and they may risk diverting scarce financial resources to non-priority projects.

- *Section 3.7.1 - Benefits and Pitfalls of Unsolicited Proposals* discusses strengths and weaknesses and describes how some countries have introduced specific policies for dealing with unsolicited proposals for PPPs. These policies are designed to provide incentives to private proponents (to varying degrees) to submit high-quality PPP proposals; to deter poor quality proposals; to introduce competitive tension; and to promote transparency.
- *Section 3.7.2 - Creating Competitive Tension* describes how competition can be introduced, while rewarding the original proponent with some form of advantage or compensation.
- *Section 3.7.3 - Dealing with Intellectual Property and Confidentiality* provides guidance and resources on dealing with requests for confidentiality.
- *Section 3.7.4 - Defining Clear Policy and Processes* describes and provides examples of processes for receiving, appraising, and implementing unsolicited proposals for PPP projects.

3.7.1 Benefits and Pitfalls of Unsolicited Proposals

Considering unsolicited proposals allows governments to benefit from the knowledge and ideas of the private sector. For example:

- USPs may allow governments to identify and prioritize projects, help overcome challenges related to early stage project identification and assessment, and generate innovative solutions to infrastructure challenges.
- An appropriately designed USP process that allows private entities to propose project ideas that are in line with a government's infrastructure plan can harness the private sector's interest in developing commercially viable project solutions.
- When governments do not have the technical and financial resources to develop preliminary feasibility studies, a well-designed USP process can require the USP proponent to include these studies as part of the USP submission. This can reduce bottlenecks at an early stage of the PPP process.
- USPs also can also widen the range of potential solutions available to address infrastructure gaps. Private providers of technology often possess greater knowledge about potential solutions to infrastructure challenges than public sector officials leading the planning process.

However, unsolicited proposals also create substantial challenges:

- Most PPPs require government fiscal support: the government typically accepts risks, and the associated contingent liabilities, even if direct subsidies are not needed. As described in the **PPIAF Toolkit for PPPs in Roads and Highways** (WB 2009a, Module 5, Stage 3: "Procurement"), experience suggests that proposals submitted by private companies often do not adequately assess the risks associated with the project, which may be borne by the government.
- Unsolicited proposals do not originate as part of a government planning process, and, in some cases by definition, are not part of sector plans. This raises the question of whether the service proposed is sufficiently integrated with other sector plans for demand and benefits to be robust to changing circumstances and priorities.
- Unsolicited projects may divert government attention from a planned approach to infrastructure as a whole. In a government planning process, public agencies identify projects that respond directly to infrastructure plans and previously identified societal and economic needs. The primary motivation of a private entity submitting a project idea is, however, to further its own interests, which may not be aligned with those of the government or society. The role of the government is to ensure that the proposed USP project is structured to meet societal needs and can be tendered to ensure fair terms, conditions and pricing.
- Negotiating with a project proponent based on an unsolicited proposal in the absence of a transparent or competitive procurement process can create problems. It could result in poor value for money from the PPP project, given a lack of competitive

tension, or provide opportunities for corruption. Even if there are no clear indications of corruption, if a company is seen to benefit from a PPP without opening the opportunity to competitors that could nonetheless give rise to complaints about the fairness of the process. This lack of transparency can undermine the legitimacy and popular support for the PPP program.

Box 3.14: *Costs of Direct Negotiation—Independent Power Tanzania* provides an example of a power project in Tanzania that was directly negotiated following an unsolicited approach by the private investor, which under arbitration was found to have provided poor value for money, and possibly been corrupt.

The **PPIAF Toolkit for PPPs in Roads and Highways** section on unsolicited proposals (WB 2009a, Module 5, Stage 3: "Procurement") further describes these challenges of unsolicited proposals. It sets out the view of the World Bank as follows:

"*…there is a place for genuine and innovative [unsolicited] proposals, but these are the exceptional case. The private sector must put up strong independently analyzed cases for unsolicited proposals at an early stage, before governments are sucked in to supporting projects that are financially weak, high risk, will take up significant human resources of the government, and will likely take a longer than normal time to implement because of these difficulties."*

3.7.2 Creating Competitive Tension

Many private companies submit unsolicited proposals with a view to directly negotiate a contract for the proposed project—creating the problems described in *Section 3.7.1 - Benefits and Pitfalls of Unsolicited Proposals*. *Box 3.11 - Competitive Procurement or Direct Negotiation* describes some circumstances in which entering into direct negotiations may make sense, as well as some less well-founded arguments often presented for doing so. *Box 3.16 - Direct negotiation of unsolicited proposals* describes several preparation requirements for those procuring authority that wish to directly negotiate an unsolicited proposal.

The alternative is to subject unsolicited proposals to a competitive process. Some countries accept proposals and simply follow the normal competitive procurement process. However, this is relatively unlikely to generate large numbers of USPs, since the proponent receives no direct return on its investment in the project idea other than the benefits of more familiarity with the project than potential competitors in a tender and potential reputational benefits.

Box 3.15 Costs of Direct Negotiation—Independent Power Tanzania

The Government of Tanzania and the Tanzania Electricity Supply Company entered into contractual agreements with Independent Power Tanzania Limited (IPTL) of Malaysia for the supply of 100 megawatts of power over a 20-year period. This transaction was directly negotiated following an approach by the private investors during a power crisis. The transaction was contested by some government officials, the international donor community, and other interested stakeholders. The grounds of the contest were that the wrong technology (heavy fuel oil instead of indigenous gas) was used, that it was not part of the least-cost generation plan, that it was not procured on a transparent and competitive basis, and that the power was not needed.

The government ultimately submitted the case to arbitration. Under the final arbitral ruling, the project costs were reduced by about 18 percent. Even so, the costs remain well above international comparators. In the arbitration hearings, the government alleged that the contract award had been corrupt, but failed to produce evidence to satisfy the Tribunal of this. The government has not subsequently pursued the corruption investigation. However, legal disputes between the IPTL and the government continued.

Sources: (WB 2009b); (Eberhard and Gratwick 2010)

Other countries adapt the competitive tender process, to provide some advantage or compensation to the project proponent for developing a project, while retaining competitive tension and ensuring transparency. There is no international consensus on the best way to subject unsolicited proposals to competition and at the same time allow sufficient incentives for the private sector to submit USPs. Several approaches have been adopted to incentivize the USP proponent:

- **Automatic short-listing**—a two-stage bid process is used, in which the highest-ranked bidders from the first stage are invited to submit final proposals in a second stage (see *Section 3.5.4 - Managing the Bid Process*). The proponent is automatically in-

cluded in the second stage. This approach is used in the **South Africa** roads sector, as set out in a **South Africa Roads Agency policy note** (ZA 2004a).

- **Bid bonus**—the proponent receives a scoring advantage—typically defined as an additional percentage added to its evaluation score—in an open bidding process. This approach is used in **Chile**, where the bid bonus can be between 3 and 8 percent of the financial evaluation score (in addition, the proponent is reimbursed for the cost of detailed studies (CL 2010c).
- **Right to match**— The **right to match** (also known in some countries as 'Swiss challenge') has presented significant anti-competitive properties—in the **Philippines** under the right to match approach, all 11 PPP contracts awarded from unsolicited proposals by 2006 went to the original proponent. It operates like this: Following an unsolicited approach, an open bidding process is conducted. If unsuccessful, the proponent has the option to match the winning bid and win the contract.
- **Developer's fee**—the proponent is paid a fee by the government or the winning bidder. The fee can simply reimburse some project development costs, or be defined to provide a return on developing the project concept and proposal. This is one option for dealing with unsolicited proposals permitted in **Indonesia under the presidential regulations governing PPP** (ID 2005). It is to be noted that the developer's fee option is different from the other incentives presented above in the sense that it does not apply as an advantage during the bidding process.

Table 3.5 - Examples of Procurement Strategies for Unsolicited Proposals provides further examples and references. These alternatives have not all proved equally effective at enabling competition. **Chile**, for example, is a clear exception—of 19 concessions awarded from unsolicited proposals as of 2015 only seven were awarded to the original proponent.

3.7.3 Dealing with Intellectual Property and Confidentiality

Legal provisions for the protection of proprietary information and intellectual property rights encourages investors to submit innovative unsolicited proposals. At the same time, the government needs to be careful not to allow proponents to claim confidentiality of (elements of) their proposal too easily, with the sole aim to limit competition.

Intellectual property is typically protected by law. Whereas governments should obviously respect intellectual property rights in the management of unsolicited proposals, this typically does not require specific additional protection.

There are different approaches to dealing with intellectual property in an unsolicited proposal, which may depend on the nature of the proposal. For example, the **UNCITRAL Legislative Guide for Privately-Financed Infrastructure Projects** section on unsolicited proposals (UNCITRAL 2001, 91–97) describes two options:

- Where possible, the government can competitively tender the project by specifying required outputs and not the required technology to deliver those outputs. This approach is consistent with good practice in defining output-based performance requirements for *Section 3.4.1 - Performance Requirements*.
- In cases where intellectual property is crucial to the project, such that it could not be implemented otherwise, the UNCITRAL guidance suggests direct negotiation may be warranted, along with procedures to benchmark project costs.

The **Partnerships Victoria Practitioner's Guide** (VIC 2001) also provides guidance, and takes a slightly different approach. Proponents must identify any confidential information they wish to protect (subject to agreement with government). The project is then tendered based on output specifications without revealing technology information if possible. If the intellectual property is "crucial to the existence of the service need," the government negotiates with the proponent to obtain the rights to the necessary intellectual property, before procuring the project competitively.

Information that does not strictly qualify as intellectual property can still be considered commercially sensitive or confidential. In general, governments are encouraged not to protect such information and disclose all information included in an unsolicited proposal. By doing so, governments create an incentive for the proponents to not include the information they deem confidential in the unsolicited proposal, which would then avoid any further disclosure and confidentiality issues.

To the extent that exceptions to this approach are strictly necessary, governments are advised to reach agreement with the proponent on non-disclosure of specific elements of the unsolicited proposal prior to moving on to the next phase of project implementation. Where governments decide not to disclose information that is considered confidential (based on the arguments provided by the proponent), the perception of corruption by stakeholders

may increase. This challenge is particularly relevant in the case of USPs that include innovative technologies or alternative technical solutions. Guidance on intellectual property and confidentiality concerns is further provided in the **World Bank report on the Framework for Unsolicited Proposals** (WB 2017d).

3.7.4 Defining Clear Policy and Processes

The World Bank report on the Framework for Unsolicited Proposals (WB 2017d) discusses the need for a clear framework on USPs. Governments must first decide whether to allow USPs as part of their PPP program. This decision should be based on an informed understanding of the advantages and disadvantages of USPs. A government's decision on USPs need not be permanent. However, the government's position should be clear and well-publicized to ensure that:

- Private entities only expend resources when they know the government will consider their proposals.
- Public agencies know whether to accept such proposals and how to respond to them.

The effectiveness of a USP Policy will be influenced by the wider institutional and political environment for both privately and publicly initiated PPPs. Governments must ensure that the panied with:

- Effective PPP policies and regulations that follow international best practice
- An effective institutional organization governing both publicly and privately initiated PPPs
- The development of institutional and human capacity for the public officials and agencies tasked with PPP development and implementation.

The success of the USP Policy will be in part determined by the effectiveness of the PPP legal and policy framework. A USP Policy is not expected to replace PPP policies or procurement laws but rather complement them in areas that are specific to privately initiated PPPs. Governments are advised to rely on the standard PPP process for elements that are common to both publicly and privately initiated PPPs.

Adopting a USP policy should be accompanied by an assessment of the effectiveness of the institutional structure that handles both publicly and privately initiated PPP projects. The institutional structure includes the government agencies involved in PPP initiation, preparation, implementation, and oversight. Each of these entities should have a clear role and mandate at each stage of the PPP process to avoid duplication of tasks and ensure that the necessary checks and balances are integrated into the institutional structure.

The effectiveness of the USP policy will also depend on the capabilities and experience of the public officials responsible for handling USPs. Governments are therefore advised to assess the levels of experience of the relevant public officials prior to accepting USPs and, if necessary, devise strategies for increasing institutional capacity over time.

The purpose of the USP policy is to ensure clarity, predictability, transparency, and accountability for both public agencies and private sector entities. Governments must decide how to incorporate the USP Policy in their existing legal framework. Governments may incorporate a USP policy in various legal instruments, including:

- In regular procurement laws used for conventionally delivered projects (non-PPP-specific)
- In PPP-specific laws or policy documents
- As a standalone document

Governments are advised to consider their country's unique circumstances before defining their USP legal framework. Context-specific factors have a significant impact on the choice of USP policy features. These context-specific factors may include:

- The current state of the country's infrastructure and its future infrastructure needs
- The government's human, institutional, and financial capacity to deliver infrastructure projects
- The extent to which a PPP enabling environment is in place
- The government's experience with both publicly and privately initiated PPPs

There are multiple ways in which the government may define the parameters of USPs that it receives:

- Public definition of project concept: The public agency identifies and defines the project concepts and allows private firms to submit proposals for the implementation of the same projects.

Table 3.6 Examples of Procurement Strategies for Unsolicited Proposals

Jurisdiction	Reference	Key Features
Chile	Public works concession regulations (CL 2010b, Title II: Bids Submitted by Private Parties)	Two-stage process for accepting unsolicited proposals—initial proposals are screened; if accepted, the private party must conduct detailed studies and prepare a detailed proposal. The government then prepares bidding documents based on the detailed proposal, and puts the project out to competitive tender. • Costs of carrying out studies are reimbursed (paid by the winning bidder; or by the government if project never proceeds to bid stage). Costs agreed at initial project approval stage. • Proponent receives a bid bonus of a pre-defined percentage (between 3 and 8 percent depending on the project) added to financial evaluation score.

Colombia	National PPP Law (CO 2012a, Law 1508, Title III)	• Unsolicited proposals that do not modify existing projects or pertain to a project that has already been promoted by a state entity are accepted.
		• There is a two-stage process for accepting unsolicited proposals:
		  • Pre-feasibility—Private party must submit documents detailing the proposed project (including project scope, estimated cost and specifications). If accepted, private parties begin the feasibility stage.
		  • Feasibility—Private party must prove their capability to implement the project and conduct multiple project studies (i.e. risk, environmental and social, technical feasibility).
		• If their proposal is accepted, private party will be informed of the project conditions and granted an additional amount to compensate study costs.

Indonesia	Presidential Regulation 56 (ID 2011, Chapter IV)	Unsolicited proposals welcomed for projects not already in priority list. Accepted proposals are put through normal competitive process. Proponents may either be awarded a **bid bonus**, of up to 10 percent, or paid a **developer's fee** for the proposal. The approach is set by the contracting authority, based on an independent appraisal.
Italy	Legislative Decree no. 163 (IT 2006, Articles 153–155)	Contracting authorities publish three-year plans on an annual basis; private companies are invited to make proposals for infrastructure listed in these plans (following clear content requirements—including detailed studies—and timeline). Proposals are evaluated by the contracting authority. • A type of **right to match** process is used to procure the project. A first stage is used to identify two competing bidders, who together with the proponent enter into a negotiated procurement procedure. If a competing proposal is preferred, the proponent is given the right to match that proposal, in which case the proponent is awarded the concession.
Mexico	Ley de Asociaciones Público Privadas – amended (MX 2012, chapter 3)	Unsolicited proposals will be accepted for non-existent/completed projects. • Proponents must submit a feasibility study outlining the project with their proposal. • If accepted, the proponent will be compensated for study expenses and may receive up to 10 percent **developer's fee** and a competitive bidding process will begin.

Jurisdiction	Reference	Key Features
Philippines	BOT Law 1994 (Republic Act No. 7718) Rules and Regulations (PH 2006, Rule 10) – last amended with Executive Orders 8 (PH 2010) and 136 (PH 2013).	Unsolicited proposals welcomed for projects not already in priority list. • The contracting authority must advertise the opportunity for at least three weeks, and invite competing proposals within a 60-day time limit. • If competing proposals are received, a **right to match process** is followed—if the proponent is not the winning bidder, it is given the opportunity to match the winning bid and win the contract. • If no competing proposal is received, the authority may negotiate with the proponent.
South Africa (roads sector)	SANRAL policy for unsolicited proposals (ZA 1999a); USPs specifically addressed in National Treasury Practice Note No 11 of 2008/2009	Unsolicited proposals must comply with clear content requirements, and are evaluated by the Agency. • If the proposal is accepted the Agency and the developer enter into a Scheme Development Agreement, under which the private party is responsible for detailed development of the PPP, including developing tender documentation. The agreement includes a **developer's fee** payable by the winning bidder to the proponent. • The project is put out to competitive tender, in a two-stage **best and final** offer process. The top two bidders from the first round are invited to re-submit best and final offers; the proponent is also invited, if not already in the top two.
South Korea	ADB review of PPP experience in the South Korea (Sanghoon n.d., 67–69)	Unsolicited proposals must be evaluated by the contracting authority and the PPP unit (PIMAC). • The opportunity is published and alternate proposals are requested, within a 90-day time limit. • The proponent receives a **bid bonus** of up to 10 percent, added to the overall bid evaluation scores. The proponent may modify its original proposal at the bidding stage, but its bonus is reduced to a maximum of five percent. Bonuses are disclosed in the request for alternate proposals. • Losing bidders are compensated in part for proposal costs, to encourage competition.
Uruguay	Article 37 of Law Number 18.786 (UY 2011) – last amended in 2015	Proponent is entitled to a **bid bonus** of up to 10 percent of the final evaluation score. • Proponent is reimbursed for the cost of detailed studies only if not successful in winning the contract.
Commonwealth of Virginia, United States of America (highways sector)	Virginia PPP Implementation Guidelines (VA 2005)	Proposals are welcome that comply with the detailed requirements set out and are evaluated in the same way as government-originated projects. • Proposals for PPPs requiring no government oversight or support are advertised for 90 days; those for PPPs requiring government support for 120 days. If no competing proposal is received, the government may negotiate directly with the proponent.

- Public definition of infrastructure need: The public agency defines a wider infrastructure need or priorities and allows private firms to submit proposals for specific projects that respond to those needs.
- Open solicitation: The public agency does not provide guidance and considers any type of privately initiated proposals regardless of whether they correspond to a previously defined project concept or infrastructure plan.

These options are not mutually exclusive and may be combined within a USP policy.

Clear processes for handling unsolicited proposals are important for transparency, helping build confidence among all stakeholders that projects developed from unsolicited proposals deliver value for money. Clear processes can also help incentivize private developers to invest resources in developing good-quality project proposals, and encourage potential competitors to engage in the bidding process.

The World Bank report on the Framework for Unsolicited Proposals (WB 2017d) describes a well-defined process to assess, approve and bid out a project from an unsolicited proposal, as illustrated in Figure 3.9: USP Process Flow.

First, a private company submits an unsolicited proposal. A well-articulated submission framework helps to ensure that the USP meets the government's requirements and is processed efficiently. It also provides guidance to USP proponents in developing quality proposals that comply with the public agency's requirements.

Then, the public agency evaluates the USP and determines whether to develop it in greater detail. A well-articulated USP evaluation process ensures that only projects that meet public objectives and basic feasibility criteria are considered for the project development stage.

During the project development stage, the feasibility studies will be developed in more detail than the (preliminary) feasibility studies developed by the USP proponent as part of its USP submission. At the end of this stage, the public agency reassesses the project against the same evaluation criteria used during the evaluation stage. Based on the assessment, the public agency determines whether the project should enter the procurement stage.

Governments will need to decide on the extent to which the USP proponent will be involved in this process. There are two main options regarding the role of the USP proponent in project development:

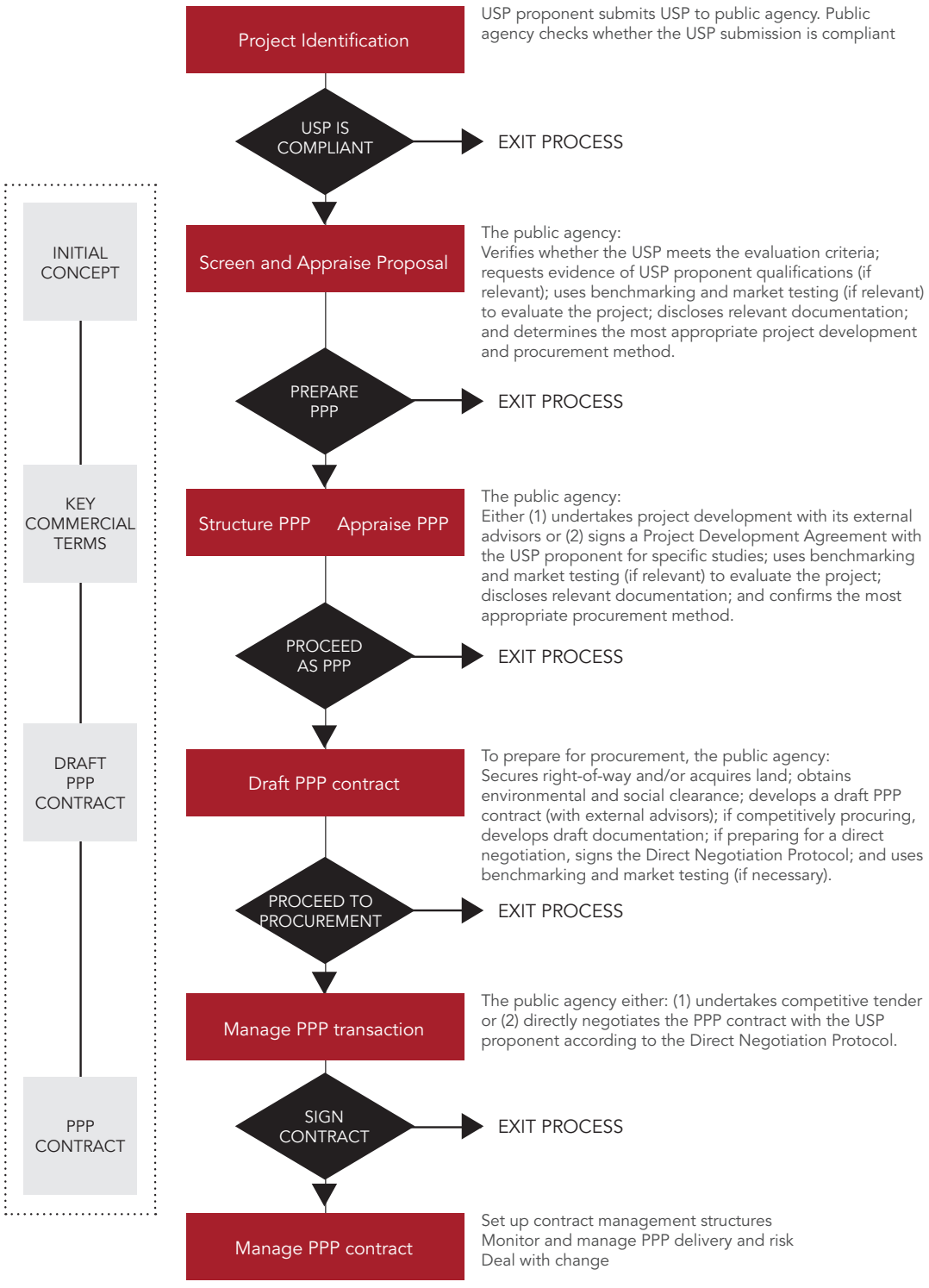
- Project development by the public agency: The public agency undertakes project development with support from external advisors. This option maximizes competition and retains maximum government control of the project development and structuring. This option is most likely to maximize value for money and public interest considerations.
- Project development by the public agency & USP proponent: Allows public agencies to engage the USP proponent for specific feasibility studies. By involving the USP proponent, however, the public agencies will likely struggle to generate competition during a competitive tender process as competing bidders may perceive that the USP proponent has an undue advantage due to involvement during the project development stage.

During the procurement stage, the public agency prepares and undertakes the procurement process. An effective procurement process ensures that the PPP contract represents a fair market price and protects the interests of the government and society throughout the life of the project, including through a sustainable and robust risk allocation. A transparent and accountable procurement process also ensures stakeholder support and minimizes the likelihood of legal or political challenges to the project at a later stage.

In most cases, a competitive tender will enable the government to achieve lower final project costs and generate greater value for money. However, some governments may choose to allow USP projects to be directly negotiated with the USP proponent under specific circumstances. Governments also need to determine if any incentive is given to the proponent.

For further details on for the development of a USP policy and for the management of USPs, please refer to the **World Bank report on the Framework for Unsolicited Proposals** (WB 2017d).

Figure 3.9 USP Process Flow



Key References: Dealing with Unsolicited Proposals

Reference	Description
WB. 2017d. *Guidelines for the Development of a Policy for Managing Unsolicited Proposals in Infrastructure Projects*. Washington, DC: World Bank and Public-Private Infrastructure Advisory Facility.	These guidelines provide advice and recommendations for governments that are considering the development and realization of an unsolicited proposal (USP) policy in infrastructure projects.
PPIAF. 2014. *Unsolicited Proposals—An Exception to Public Initiation of Infrastructure PPPs: An Analysis of Global Trends and Lessons Learned*. Washington, DC: Public-Private Infrastructure Advisory Facility.	Recommends measures that countries can adopt to better manage USPs, recognizing that countries have different levels of capacity to identify, prioritize, prepare and procure projects; competency in PPP project implementation; and maturity of their PPP markets and frameworks.
WB. 2009a. "Toolkit for Public-Private Partnerships in Roads and Highways." World Bank. Website.	Module 5: "Implementation and Monitoring, Stage 3: Procurement" includes a section on unsolicited proposals, which describes their benefits and challenges, and provides examples of both successful and unsuccessful PPPs from unsolicited proposals.
PPPIRC. Accessed March 9, 2017. "Public-Private Partnerships in Infrastructure Resource Center website." Website.	Section on procurement processes and standardized bidding documents briefly describes the World Bank's view on unsolicited proposals, and provides examples from and links to some countries' relevant law and policies.
UNCITRAL. 2001. *Legislative Guide on Privately Financed Infrastructure Projects*. Vienna: United Nations Commission on International Trade Law.	Section E provides guidance on both policies and procedures for dealing with unsolicited proposals. Distinguishes between proposals that do or do not require proprietary technology.

Key References: Dealing with Unsolicited Proposals (Examples)

Reference	Description
ZA. 1999a. *Policy of the South African National Roads Agency in Respect of Unsolicited Proposals*. Pretoria: The South African National Roads Agency.	Describes the policy and sets out the procedure for dealing with unsolicited proposals for national roads PPPs. Includes a description of the required content of the proposal, the process for detailed preparation of the PPP and tender documents, and the tender process that will apply.
ID. 2005. *Peraturan Presiden Republik Indonesia Nomor 67 Tahun 2005*. Jakarta: President of the Republic of Indonesia.	Chapter IV states that unsolicited proposals will be accepted for projects not already on a priority list, and briefly outlines the process and procurement approach. The English version of regulation 56 is available on Bappenas's website, (ID 2011).
CL. 2010b. *Ley y Reglamento de Concesiones de Obras Públicas: Decreto Supremo MOP Nº 900*. Santiago: Gobierno de Chile, Ministerio de Obras Públicas.	Title II of Regulation Number 956 of the Public Works Concessions describes in detail the process and for dealing with unsolicited proposals, including the required content of initial proposals, how detailed studies will be managed, how proposals will be evaluated, and procured.
IT. 2006. *Decreto Legislativo 12 aprile 2006, n. 163*. Rome: Presidente della Repubblica.	Articles 153–155 describe when unsolicited proposals are accepted, how they are evaluated, and the procurement process that applies.
Kim, Jay-Hyung, Jungwook Kim, Sunghwan Shin, and Seung-yeon Lee. 2011. *Public-Private Partnership Infrastructure Projects: Case Studies from the Republic of Korea. Volume 1, Institutional Arrangements and Performance*. Manila: Asian Development Bank.	Pages 61–69 describe the implementation procedures for PPP projects, including those originated as unsolicited proposals.

Reference	Description
PH. 2006. *The Philippine BOT Law R.A. 7718 and its Implementing Rules and Regulations*. Revised 2006. Manila: Public-Private Partnership Center.	Rule 10 states that unsolicited proposals will be accepted for projects not already on a priority list, sets out how proposals should be evaluated, how competing bids will be invited (under a Swiss Challenge process), and how the government may negotiate with the proponent in the absence of competing bids.
VA. 2005. *Public-Private Transportation Act Guideline*. Richmond: Commonwealth of Virginia, Virginia Department of Transportation.	Sets out the process for developing and implementing PPPs, both from solicited and unsolicited proposals. Includes detailed guidance on the required content of unsolicited proposals.
UY. 2011. *Ley Nº 18.786: Contratos de Participación Público-Privada para la Realización de Obras de Infraestructura y Prestación de Servicios Conexos*. Montevideo: Gobierno de la República Oriental del Uruguay, Poder Legislativo.	Article 37 discusses the advantages granted to the proponent submitting an unsolicited proposal.
VIC. 2001. *Practitioners' Guide*. Melbourne, Australia: Victorian Department of Treasury and Finance, Partnerships Victoria.	Section 21: "Unsolicited Proposals" sets out how intellectual property in unsolicited proposals will be dealt with.
CO. 2012a. *Ley 1508 de 10 de enero de 2012*. Bogotá: Congreso de Colombia.	Title III discusses the treatment of unsolicited proposals.
MX. 2012. *Ley de Asociaciones Público Privadas*. Mexico City: Gobierno de México, Cámara de Diputados.	Chapter 3 outlines the unsolicited proposal selection process.

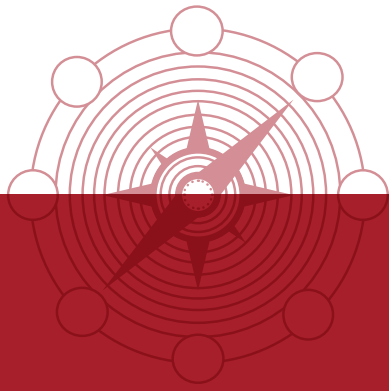
Key References: Practical Guidance on Implementing PPP Projects - PPP Program Material

Reference	Description
AU. 2015. *National Public Private Partnership Guidelines - Volume 2: Practitioners' Guide*. Canberra: Commonwealth of Australia.	Detailed guidance material for implementing agencies on how to implement PPP projects under the national PPP policy, including project identification, appraisal, PPP structuring, the tender process, and contract management. Includes detailed guidance in annexes on technical subjects.
CO. 2014. *Manual de Procesos y Procedimientos para la Ejecución de Proyectos de Asociación Público-Privada*. Bogotá: Gobierno de Colombia, Ministerio de Hacienda y Crédito Público.	A guide for civil servants from national, regional and local governments that sets out in detail the processes and requirements for identifying, assessing, preparing, tendering, and implementing PPP contracts.
IN. Accessed March 15, 2017. "PPP Toolkit for Improving PPP Decision-Making Processes." Public-Private Partnerships in India. New Delhi: Government of India, Ministry of Finance.	Online toolkit describing PPP process and providing sector-specific guidance and tools for practitioners on all stages of managing a PPP.
RJ. 2008. *Manual de Parcerias Público-Privadas - PPPs*. Conselho Gestor do Programa Estadual de Parcerias Público-Privadas. Rio de Janeiro: Governo do Estado do Rio de Janeiro.	A guide for civil servants of the State of Rio de Janeiro on developing and implementing PPPs. Defines PPPs and provides guidance on drafting a preliminary proposal, carrying out detailed technical studies, managing the tender, and managing the contract.
ZA. 2004a. *Public Private Partnership Manual*. Pretoria: South African Government, National Treasury.	Manual for implementing agencies setting out in detail the process and requirements for developing and implementing PPPs in accordance with national PPP regulation. Includes modules on PPP Inception, the PPP Feasibility Study, PPP Procurement, and Managing the PPP Agreement. Includes tools and templates in annexes for use at each stage.

Reference	Description
PPIDB. Accessed March 7, 2017. "Private Participation in Infrastructure Database." The World Bank. Website.	A detailed Methodological Guidebook for PPPs that sets out the rationale for PPPs; the process for developing and implementing a PPP; and provides detailed guidance for each step.
APMG. 2016. Accessed March 19, 2017. *PPP Certification Program Guide*. In eight chapters. APMG-International. Website.	A comprehensive manual that describes in detail the basics of PPPs and the processes for developing and implementing them.
Caribbean. 2017. *Caribbean PPP Toolkit*. Washington, DC: World Bank, Inter-American Development Bank and Caribbean Development Bank.	Discusses PPP policy and institutional structures, project identification and screening, business case development and project structuring, transaction implementation and tender processes, and post-implementation project monitoring. Also covers how to protect the public interest while attracting private investment. Draws on experiences with PPP projects in the Caribbean and globally, drawing out lessons of experience and highlighting accepted best practices.

Key References: Practical Guidance on Implementing PPP Projects, Other Guidance and Toolkits

Reference	Description
Kerf, Michael, R. David Gray, Timothy Irwin, Celine Levesque, Robert R.Taylor, and Michael Klein. 1998. "Concessions for Infrastructure: A guide to their design and award." World Bank Technical Paper No. 399. Washington, DC: World Bank.	Describes and provides examples on several of the important steps in developing and implementing PPPs—focusing on user-pays PPPs, or concessions. Includes sections on detailed design, the tender process, and the institutional (regulatory) structure for contract management.
Farquharson, Edward, Clemencia Torres de Mästle, E. R. Yescombe, and Javier Encinas. 2011. *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets*. Washington, DC: World Bank.	Describes and provides guidance on the whole PPP process, highlighting the experience of developing countries. Briefly covers project selection; the focus is on preparing and bringing the project to market and engaging with the private sector.
WB. 2009a. "Toolkit for Public-Private Partnerships in Roads and Highways." World Bank. Website.	Module 5: Implementation and Monitoring provides guidance and links to further material on project identification, feasibility studies and analysis, procurement, contract award, and contract management.
PPIAF. 2006. *Approaches to Private Sector Participation in Water Services: A Toolkit*. Washington, DC: Public-Private Infrastructure Advisory Facility.	Provides guidance on the PPP process, from planning and upstream policy, to the detail of structuring a PPP and implementing a transaction. Focus is on user-pays PPPs in the water sector.
WB. 2007a. *Port Reform Toolkit. 2nd ed.* Washington, DC: World Bank.	Provides guidance on several aspects of PPPs in the port sector—including guidance on risk identification, financial analysis, contract structuring, and contract management approaches.
Flanagan, Joe, and Paul Nicholls. 2007. *Public Sector Business Cases using the Five Case Model: A toolkit*. Westchester, Illinois: Healthcare Financial Management Association.	Provides guidance on how to produce business cases. It is intended to help anyone involved with, or overseeing, a project to understand the work that is necessary to prove a case for investment.
IN. Accessed March 15, 2017. "PPP Toolkit for Improving PPP Decision-Making Processes." Public-Private Partnerships in India. New Delhi: Government of India, Ministry of Finance.	An online toolkit designed to improve decision-making for PPP practitioners across India.
IN. 2013b. *Guidelines for Formulation, Appraisal and Approval of Central Sector Public Private Partnership Projects*. New Delhi: Government of India, Ministry of Finance.	A compendium which brings together the guidelines notified by the central Government of India for the formulation, appraisal and approval of central sector PPP projects. Also provides a template with a checklist for financial support to PPPs in infrastructure under the Viability Gap Funding Scheme.



Did you know....?

Systemic government support helped Korea complete hundreds of PPP projects

The Government of Korea began to push PPP projects in the 1990s, but its success was limited because of the 1997 financial crisis. The passage of the Act on Private Participation in Infrastructure changed that and the number of user-pays PPP projects started to grow. A 2005 amendment expanded the scope of the Act to include government-pays social infrastructure, including schools, military residences, housing, and cultural facilities. Consistent and systemic government support helped the country overcome challenges, learn from experience, and establish a stable PPP market, yielding hundreds of successful PPP projects. As of the end of 2008, more than 400 projects were underway. By 2017, approximately 110 user-pays projects and 140 government-pays projects were operational.

Source: Public-Private Partnership Infrastructure Projects: Case Studies from the Republic of Korea. Volume 1, Institutional Arrangements and Performance. Asian Development Bank (2011)

All the references in the PPP Reference Guide Version 3 are available in the PPP Knowledge Lab library, together with the entire Guide and its PDF version. Both the Guide and references are accessible at: **pppknowledgelab.org.**

Each document has a unique ID number which is indicated at the end of each reference, for example [#2279]; documents can be searched in the library by this ID number as well as by title or author.

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