

Dedicate resources to properly structure the tender and the contract, and to manage the process.	Do not believe that appraisal is everything. Inherent VfM may be lost through inadequate structuring and unclear design/drafting. The tender process should procure the maximum effective competition within the qualification requirements (chapter 5 deals with the need for structuring and proper design of the tender process and contract).
Allow enough time for the procurement (preparation, appraisal, structuring, and tender).	Do not rush. Do not set overly ambitious timelines; the private sector is less willing to bid for projects if they are not confident of the government's ability to meet its timetable.
Dedicate attention and resources to manage the contract beyond procurement.	Do not assume that the government has finished its job once the contract is signed. The government needs to proactively manage the contract throughout its life (chapters 7 and 8 explain the contract management function).
Organize the government, institutional and policy frameworks to deal with the PPP tool in a programmatic way. Control the fiscal implications and evaluate projects and programs for permanent improvement.	Do not apply for PPPs as a policy strategy (at a programmatic level) unless you are prepared and ready (section 9 introduces and discusses the role of PPP frameworks, and chapter 2 explains what constitutes a proper PPP framework and the main features of PPP programs and frameworks).

6. Typical Basic Structure of a PPP Project

6.1. Introduction to the Basic PPP Project Structure

This section explains further the basic structure of a private finance PPP, assuming the form (or the scope) of a DBFOM that was first introduced in section 4.

Figure 1.10 illustrates the basic structure of a common PPP (in which all of the equity in the SPV is provided by the private sector). This structure can be used for both user-pays and government-

pays PPPs. The structure in figure 1.10 does not include “payments to the government” which could be the case in some over-feasible, user- pays projects. This and other potential variations are discussed when explaining the main relationship and cash flows inherent to the structure.

Broadly speaking, the project structure refers to the architecture of contract relationships and cash flows that govern the development and life of the project.

The main relationship and core element of the project structure is the PPP

agreement or PPP contract⁶³ (also referred to as the “upstream contract”) between the authority and the private partner. It is developed by the authority and regulates the rights and obligations of the private partner to whom the development and management of the infrastructure will be delegated or contracted out. As the contract is the main or core element of the project structure, the PPP project structure and PPP project contract may be used interchangeably by this PPP Guide.

The PPP project structure will therefore be primarily based on the scope of the contract (which delineates the scope of responsibilities of the private partner), noting that the scope and structure may vary amongst projects of the same sector and type of infrastructure (see examples in section 6.3).

The project structure will also reflect the financial structure (how the private party will be compensated or paid for the works and services) and the risk structure of the PPP contract (that is, how the scope of responsibilities is qualified in terms of risks), as well as other provisions. Chapter 5 deals in detail with the structuring of the PPP contract. The payment mechanism is at the heart of the financial and risk structure and is introduced in section 6.2.

As described below (see box 1.21), the private partner will usually be in the form of a Special Purpose Vehicle (SPV), that is, a project company created to develop and manage the project.

The SPV will “pass through” most of the rights and obligations to a downstream structure of contracts⁶⁴, allocating responsibilities, obligations, risks, and cash flows from the SPV to the different private actors through different agreements.

- Shareholders agreements (especially with financial investors);

⁶³ While the contract will normally consist of one single document and its attachments detailing certain matters (such as the technical requirements and payment mechanism), this PPP Guide uses the term “contract” in a broad sense, so as to potentially include other agreements that may link the private partner with other public sector parties rather than the procuring authority (for example, in the case of off take agreements with a third party authority or body). The PPP contract may also be referred to as the PPP agreement.

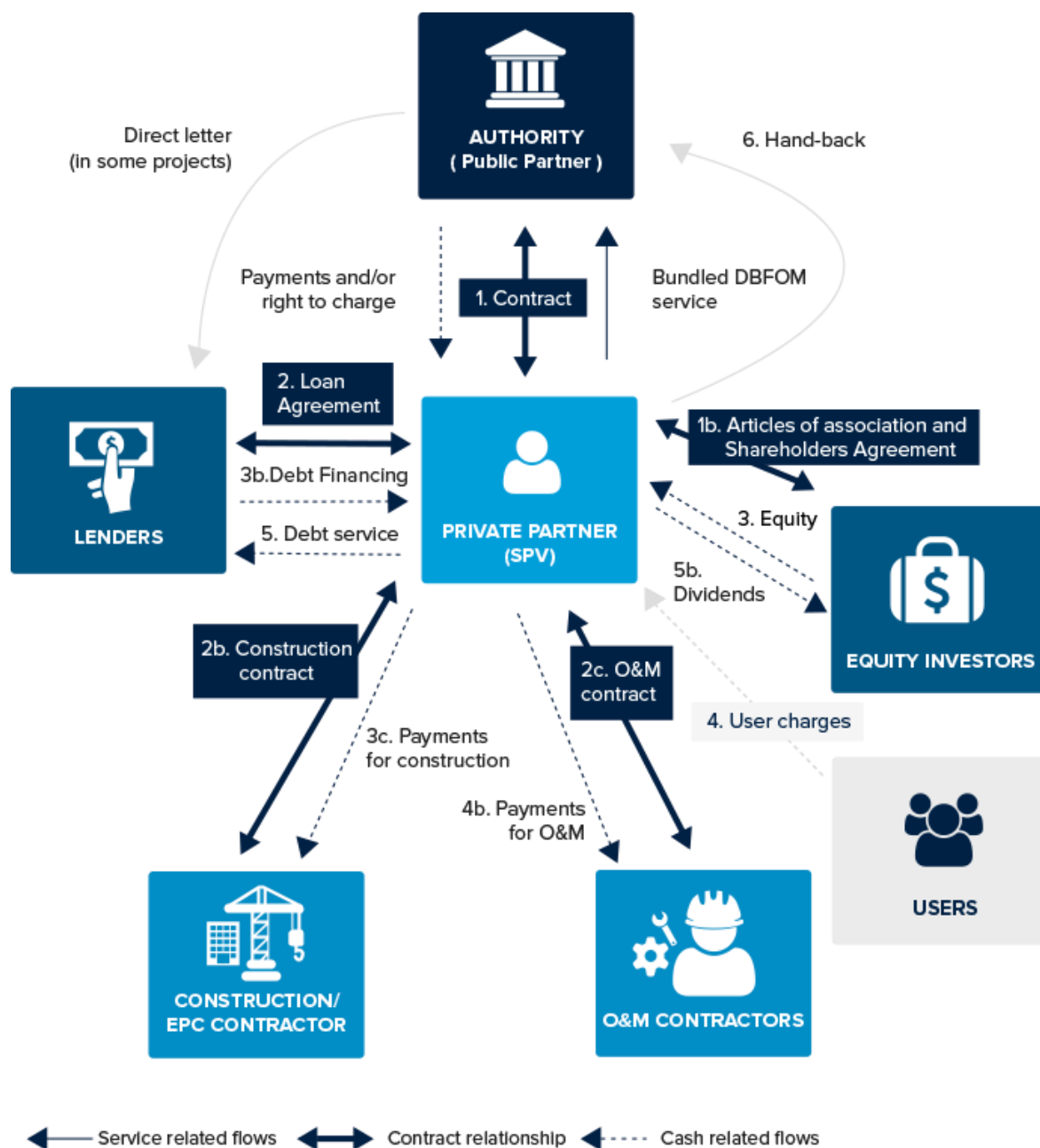
⁶⁴ The downstream structure of project contracts is handled by the private partner and relates to transferring and allocating risks among different agents. These downstream contracts are often referred to as “back-to-back contracts” as they are intended to mirror the obligations and risks included in the PPP contract. Appendix A to chapter 6 describes this and other matters related to the preparation by the private partner to bid, develop, and handle the asset.

- Financial or debt agreements;
- Construction/Engineering, Procurement and Construction (EPC) contracts and the like;
- O&M contract or contracts; and
- Insurance contracts and guarantees.

The Construction/EPC and O&M contractors, or related investment companies, are also often shareholders of the SPV. There may be other shareholders that are, in essence, financial investors with no role in the project other than acting as equity providers. It is not generally necessary to be a shareholder in order to act as a contractor (although some governments may require this in some projects).

The following paragraphs relate to figure 1.10 and are intended to sequentially describe the most important contractual relationships and flows of obligations and funds.

FIGURE 1.10: PPP Project Structure



Note: DBFOM=Design-Build-Finance-Operate-Maintain; EPC=Engineering, Procurement, Construction; O&M= operation and maintenance; SPV= special purpose vehicle.

The consortium constitutes the SPV, which signs the contract.

The government (the procuring authority) is contracting with a private agent for the DBFOM of a new (or upgraded) infrastructure.

Typically, the government will award the contract to a company or group of companies (consortium). After awarding the contract, the consortium will have to

incorporate a specific company⁶⁵ (the Special Purpose Vehicle, SPV) in accordance with the relevant legislation governing the formation of companies. The SPV will sign the contract with the procuring authority (this milestone is also referred to as “commercial closing”⁶⁶), and the consortium members will execute the shareholders agreement (#1b).

By the contract signature, the private partner assumes the obligations described in the contract as follows.

- To finalize the design of the infrastructure, construct or develop the infrastructure asset (including obtaining all permits necessary if obliged to do so);
- To finance the works and other development costs (the full costs, or a relevant portion if the contract has a co-finance structure with grant financing from the government); and
- To operate and maintain the asset (after commissioning the asset and obtaining approvals and authorizations).

1. The SPV executes financial agreements and implements its contract structure (downstream project contracts).

After contract signature, the SPV will do the following.

- Enter into the guarantee agreements for the performance bond;
- Enter into the insurance agreements and policies⁶⁷;
- Enter into the financing agreements, that is, the loan agreements⁶⁸, also commonly referred to as “financial close” (#2); and
- Enter into the “downstream” contracts, i.e. the contracts with the construction or EPC

⁶⁵ In the variation of JV or empresas mixtas, the SPV may already be a publicly owned existing company, or the public party will participate as shareholder in the constitution of the project company.

⁶⁶ Contract signature may be also referred to as commercial close or contract “execution”, referring to the act by which the specific contract becomes valid and enforceable.

⁶⁷ The role of insurance policies and performance bonds are explained in Chapter 5.9.5.

⁶⁸ Sometimes (e.g. in certain countries) financial agreements will be executed the very same day as contract signature. In other situations, it may be possible to defer the fund raising and, as a result, the construction initiation will also be deferred by several months. The most common instrument for debt finance is debt loan agreements. However, in some markets, and depending on the risk profile of the project, project bonds (i.e. bond issuance to capture finance in the capital markets) may be also used. Section 7 explains the debt options for the project finance structure.

contractors, and O&M contracts with the O&M contractors. (#2b and #2c69)

In some projects, the authority will enter into a direct agreement with lenders (#2d) (see section 7.5).

Through the downstream contracts, the private partner is delegating responsibilities and transferring the risks to third parties in exchange for a price (noting that those third parties may belong to the same group of companies, as a shareholder of the SPV).

In most situations, there will only be one construction contract with a single contractor or with a group of contractors acting as a joint venture. However, in more complex projects, there may be several contracts for specific parts of the construction work.

For example, a light rail project may involve supply, installation and construction works. The SPV may enter into a single contract with a group of companies that will divide the works amongst themselves. Alternatively, the SPV may enter into separate contracts with different groups of contractors for the specific elements of the rail system development: civil works, tracks, systems (electrical, signalling and communications), and rolling stock. In the former case, the risk of proper integration of all the elements of the system is transferred to the contractor group and in the later it is retained by the SPV.

2. Construction works are executed, and funds (the proceeds of debt loans and equity contributions) are disbursed (#3 and #3a). The SPV pays the construction contractors (#3c).

Construction will typically start when the procuring authority gives the construction order. This occurs once final project design is approved, and other pre-set conditions are met. Some of the pre-set conditions may be the procuring authority's responsibility (for example, to provide the right of way or the land), and some others may be requirements of the lenders (such as final clearance of some permits).

In some countries, bank practice may be that the shareholders of the SPV have to invest the equity commitment prior to making drawdowns of the loan amounts granted by the lenders. In other countries, the loan drawdowns will occur in parallel with equity investment, in fixed percentages⁶⁶₇₀.

⁶⁹ Even if O&M will not start after construction is completed, O&M contracts have to be duly executed (signed) at least at financial close, as both lenders and investors require certainty regarding cost and risk transfer to the O&M contractor.

⁷⁰ A variation of the *pari passu* approach is that the lenders sometimes ask for a letter of credit or other standby guarantee to back the

The contractor is paid the price of its construction contract in a progressive manner as agreed in the contract. In some projects, it may receive an advance payment for collecting materials, machinery and equipment, and in other projects, it may receive a relevant portion of the price at completion of the works.

However, the most common approach is monthly progressive payments against the successive and partial invoicing of the works executed. The works will commonly be reviewed by technical advisors appointed by the lenders.

To guarantee appropriate construction performance to the SPV and lenders, the construction contract will require the construction contractor to provide security, such as bank guarantees and/or parent company guarantees.

In the typical PPP as illustrated in figure 1.10, with total finance coming from the private sector (by means of equity and debt), the private partner will not receive any payment from the government or from users until the works are finalized and commissioned. However, if a specific government-pays project includes several facilities, the government may make partial payments starting when each facility becomes operational, but only making full payments once all facilities are operational. In addition, as explained in section 2, there are variations of PPPs that mix public and private financing (that is, “co-financing schemes”), where the public partner will provide payments during or at the completion of construction.

3. Operations commence (#4) and the SPV starts receiving payments from the government and/or users (#4b). The SPV pays the O&M contractors (#4c).

In most projects, the procuring authority only authorizes the commencement of operations once construction is completed and the works are commissioned. When the contract is of a user-pays type, the SPV will be allowed to start charging users (with some projects involving upgrades to existing transport infrastructure, charges to users may occur during construction). When the contract is of a government-pays type, the SPV will be allowed to start invoicing the procuring authority at the frequency established in the contract (for example, monthly) and according to the payment mechanism defined in the contract. These will be up to an amount equal to the payment offered, minus payment deductions or abatements (see box 1.21 below).

With the funds collected, the SPV will first offset the O&M costs which typically correspond to payments due to O&M contractors. Secondly, the SPV will pay the taxes and set aside the prescribed reserves required by law and by the contract. The remaining funds will be used to pay

availability of the equity funding in advance.

interest and repay debt, as well as make distributions to the equity holders.

O&M fees to be paid to O&M contractors may be for a fixed yearly amount or may be variable (as a percentage of revenues, especially when the revenue stream of the project company is based on demand or volume). These fees will usually be subject to the same deductions and/or liquidated damages that affect the original revenue of the SPV, partially or totally transferring the O&M performance risks to the O&M contractors.

During the Operations Phase, there will be a number of investments to be made (renewals or reinvestments, also referred to sometimes as “major maintenance” or “life-cycle costs”) so as to keep the asset in appropriate condition during the entire life of the contract. These works are usually done by the O&M contractors under the O&M contracts, but they might be handled and contracted separately under a specific contract for renewals.

4. *Paying Back the Loan (#5) and Equity Distributions*

The repayment profile is usually defined in advance in the financial agreements, and it is constructed to meet the Debt Service Cover Ratio.

Revenues may be paid to equity holders only when O&M costs, taxes and debt obligations are paid as scheduled and reserves are duly funded. The financial agreements usually include additional restrictions on payments to equity holders.

The bottom line is that the majority of the return to the shareholders (in the form of dividends (#5b)) will only come into place in the later stages of the contract⁷¹.

5. *Hand-back*

Unless an early termination event occurs (that is, the contract is terminated before the original term expires due to a serious default by the private partner, a force majeure⁷² event occurs, or there is a unilateral decision by the procuring authority), the contract will expire in accordance with its terms.

At that point, the infrastructure will return to the hands of the government, which may re-tender the management of the asset in a new contract, contract the O&M of the asset in shorter-term

⁷¹ Unless one of the following actions take place: (i) re-financing the project, so equity diminishes against additional debt; or (ii) equity transfer, selling all or part to a new equity holder, which will also be subject to certain restrictions by the contract.

⁷² External unpredictable events beyond the control of either party that are construed or defined by a law, policy or the contract. The precise scope of this term varies by jurisdiction, but it typically includes “Acts of God” (natural disasters). It also often includes certain man-made events, such as war and terrorist activities.

contracts, or chose to directly manage the asset itself.

The handover of the asset to public hands is also commonly referred to as “hand- back”. It is good practice to require the private partner to hand-back the infrastructure in a specified condition. To meet these requirements, the private party will have to make some investments prior to hand-back. This is typically done during the last years (1 to 3 years) prior to the contract expiration date.

BOX 1.21: Special Purpose Vehicle (SPV) as a Common Feature of PPPs

A SPV is a company created specifically to enter into the respective PPP contract. The successful bidder (usually a consortium of companies) will constitute the SPV after being awarded the contract, but before signing it. The consortium members will subscribe for pre-agreed percentages of the shares in the company (as committed at bid submission). It will be the SPV that signs the contract with the procuring authority.

In some countries it is not compulsory for a consortium to create an SPV to enter into the contract. However, this PPP Guide considers that it is good practice to do so.

Creating a SPV brings the following benefits for the parties:

- An SPV is a usual requirement by lenders in order to provide finance through project finance techniques, as this allows for better control of the credit risks. Project finance techniques allow equity investors to limit their exposure to risk, and they provide high leverage without the need for investors to (generally) provide corporate guarantees. Furthermore, the finance is commonly regarded as “off balance sheet” from the holding perspective of the equity investors (see “introduction to project finance” in appendix A).
- The public party also benefits from the existence of a SPV, as it means that the public party’s partner will only be dedicated to the specific PPP contract. It is common for both the public party (through the Request for Proposals and the contract) and lenders to prohibit the SPV from developing other projects so that its only object is the delivery of the PPP works and services.

For the latter reason, it is not uncommon that the RFP requires the creation of a SPV. While this requirement is not universal, it is regarded by this PPP Guide as good practice unless there are

concrete reasons for not doing so. This may be the case in small projects that do not require project finance techniques (so as not to impose unnecessary transaction costs to the PPP project), or when the company that signs the contract is an existing company (government owned) that will be transformed to *empresa mixta* through the PPP joint venture structure.

6.2. PPP Contract Structure (upstream) and Introduction to Payment Mechanism

The PPP contract structure (upstream) is defined by the public authority.

As chapter 5 explains in detail, the structuring of the contract has a number of aspects: scope and responsibilities, financial structure, and risk structure. It defines the commercial terms of the contract, fundamentally those related to financial terms or the “financial structure of the PPP contract” (how the private partner will be paid) and risk allocation terms or “risk structure of the PPP contract” (how risks are allocated to each party to the contract). In government-pays projects, the payment mechanism is at the heart of the financial and risk structure, and it is introduced in this section.

The financial structure compensates the private partner for its investment and ongoing costs. In government-pays PPPs, the majority of the revenues should be linked to performance, and the means to compensate the private partner is generally called a payment mechanism.

The payment mechanism is the major source of revenue for the private partner for the works and services that it performs (design, construction and other development works, life-cycle management (major maintenance), operations and ordinary maintenance). Other potential revenue may be in the form of direct payments or grants for the construction works, operating grants or subsidies, the right to collect fees from users, or revenue from the operation of collateral business (for example, hotels, gas stations, and so on).

The right to charge users in user-pays PPPs is also sometimes referred to as a form of payment mechanism⁷³. However, this PPP Guide considers it more accurate to use the term payment mechanism only in the context of government-pays PPPs or user-pays PPPs where there is a clear component of public payments.

In a government-pays PPP, the design of the payment mechanism is essential for a number of reasons; these are related to the need for alignment of interests between the two parties and the

⁷³ Some guides and papers may regard as part of the payment mechanism all kinds of payments and compensations granted to the private partner (including grant payments) and also the penalties or LDs established for contract breaches. This PPP Guide considers the former an element of the financial structure and the latter a system with its own sense and purpose, the penalty system (see chapter 4).

effective transfer of risk;

- A PPP transfers construction risks, including time for construction. Payments should only be made once the asset is operational, that is, in service, as it is only from that moment that the infrastructure asset (as a public investment) is generating value for the user (the user being the general public or the government as public service provider, for example, in social infrastructure); and
- PPPs, especially government-pays projects, are about service. Payments should be made only to the extent that the asset is operational, or, for example, when the service rendered by the private partner to users is available (when a public service is included in the scope of the contract). The infrastructure should not simply be constructed, but maintained in a constant technical state to deliver the requisite level of service. The service rendered therefore has to meet the “performance requirements”.

Also, payments should compensate in an integrated way not only for O&M costs and renewals, but also for the original capital investment. This means that the investment (and therefore the construction) is at risk of performance variance or quality of the service.

- In PPPs, payments are for results and not for means. This relates to the level of innovation needed to provide an optimal service in the most cost- effective way. Therefore, payments are not granted as the private partner incurs costs, but depending on whether it meets the “output specifications” (which is another term used for performance requirements in the PPP context).

There are two main types of payment mechanisms (with a number of variations and combinations):

- **Availability payments:** Payment is granted as long as the asset is available, and depending on the availability, deductions or abatements will take place. Available may have two meanings: availability to use or deemed availability. The former refers to the actual ability of a user to use the asset (e.g. the road may be used under reasonable safety conditions), and the latter refers to the accomplishment of the level of service established in the contract (e.g. the road has no more than one carriageway or one lane out of 3 lanes closed in one section). Payments may also be linked to the achievement of quality requirements. In some projects, the quality concerns can be covered under the availability concept. In others, the quality requirements are separate from the availability

requirements. It is good practice in all availability- payment PPPs for the government to carefully consider whether there are quality elements that should be incorporated into the payment mechanism. This can be done either by deeming failures to meet quality standards as” unavailability”, or by using a separate basis by which deductions can be made from payments.

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- **Volume payments:** Payment is linked to number of users (for example, a shadow toll payment in a toll-free highway) or to other outputs measured by volume (for example, cubic meters of water treated in a wastewater treatment plant).

As the payment mechanism should protect and even maximize the alignment of interests, the type of payment mechanism has to be carefully considered. For example, in a hospital PPP the government should not be interested in higher demand by the public for the clinical services rendered within the hospital, but in the hospital, facility guaranteeing an adequate standard of availability or functionality under comfort, space, safety, cleanliness and other quality parameters.

Volume linked payments are sensible when there is a government objective to maximize the utilization of the asset (for example, public transportation). In some projects, quality concerns and risk allocation considerations may make it advisable to apply availability or quality-based payment mechanisms together with more limited payments linked to volume.

For user-pays PPPs, the fact that the private party receives revenue from public use of the infrastructure provides a strong incentive to ensure the infrastructure is available. However, there is less of an incentive for the private party to ensure quality outcomes when these do not materially affect demand for use of the infrastructure. For example, in a toll road PPP the private party may not have an incentive to keep the road reasonably free of litter, or to prevent drainage from the road flooding surrounding properties. To address such issues, some user-pays PPPs include minimum service or quality requirements, with the private party required to pay penalties or

liquidated damages to the public party or to users (for example, in the form of discounts to user fees) if the requirements are not met.

Further explanations of potential misalignments and other more specialized features to consider when designing a payment mechanism are provided in chapter 5.

6.3. Examples of Different Scopes and Structures

The contract scope and therefore the structure may vary significantly within projects related to the same sector. The following illustrates the main variations in three sectors which are paradigmatic in this sense.

Rail: The PPP scope may include the following:

- Only the infrastructure (the government retaining the operations through a public state-owned enterprise, such as High Speed Rail [HSR] PPPs in France) or contracting operations out to a different private partner;
- The delivery of the infrastructure, and rolling stock and operations (for example, all metro and light metro PPPs in Spain⁷⁴), in an integrated manner; and
- Only rolling stock supply and maintenance, just service operations (with or without rolling stock provision and finance), or only certain systems or elements of the infrastructure (for example, HSR PPPs in Spain for electrification versus signalling and telecommunications).

Water: A water PPP may relate to one of the following:

- Only a plant or group of plants to treat water, under off-take agreements with a regional or municipal water utility;
- The upgrading and O&M of an entire system, which includes the building and O&M of all plants, the maintenance of the water network (pipelines, pump stations), and the operation of the service to homes (water supply); and
- Only management services to support the provision of water supply service (for example, managing tariff collection).⁷⁵

Health: A health PPP may include the following:

- The integrated delivery of the infrastructure (the hospital facility), the facility

⁷⁴ See Experiencia Española en Concesiones y APPs: Rails and Light Rails. A. Rebollo commissioned by IDB, 2009.

⁷⁵ Handshake (the International Finance Corporation's quarterly journal on PPPs) discusses water PPPs in its issue #1 (May 2012 reprinted), and includes some interesting examples of different project types. Resource Book on PPP Case Studies (European Commission, 2004) analyses the application of PPPs around Europe, including 10 case studies of water and wastewater treatment projects.

management and also the clinical services;

- Only the infrastructure provision and maintenance, but leaving the clinical services in the hands of the public health agency (this is the predominant model in Canada, South Africa, Spain, and the UK, among others);
- Only clinical service provision; and
- Only medical equipment. A notable example of an all-inclusive/ vertically integrated health PPP in a Least Developed Country is the Maseru hospital PPP in Lesotho⁷⁶.

7. How a Private Finance PPP Project is Financed: Where the Money to Pay Construction Costs Comes From

BOX 1.22: An Initial Clarification: Funding versus Financing

Financing is defined in this PPP Guide as the source of money required up-front to meet the costs of constructing infrastructure. Financing is typically sourced by the government through surpluses or government borrowing (for traditional infrastructure procurement) or by the private sector raising debt and equity finance (for PPPs).

Funding generally refers to the source of money required to meet payment obligations. In a PPP context, it refers to the source of money over the long-term to pay the PPP private partner for the investments, operating costs, and maintenance costs of the project. Funding is typically sourced from taxes (in government-pays PPPs) or from user charges (in user-pays PPPs). Governments may also utilize more specific sources of funds, one of the most relevant being “land value capture⁷⁷”.

⁷⁶ See Health System Innovation in Lesotho prepared by the University of California, San Francisco's Global Health Group and PwC, 2013. Handshake issue #3 (October 2011) discusses the role PPPs and other private involvement in the health sector. A Preliminary Reflection on the Best Practice in PPP Health Sector: A Review of Different PPP Case Studies and Experiences (The United Nations Economic Commission for Europe (UNECE), World Health Organization (WHO) and the Asian Development Bank (ADB), in draft version 2012) include several case studies on the various scopes and structures in health PPPs. The South Africa PPP Unit of the National Treasury provides for three cases studies of PPP health projects developed in the country in Case Studies on the Public Private Partnerships at Humansdorp District Hospital Universitas, Pelenomi Hospitals and Inkosi Albert Luthuli Central Hospital (National Treasury PPP Unit South Africa 2013). <http://www.ppp.gov.za/Legal%20Aspects/Case%20Studies/Humansdorp%20Overall%20findings.pdf>.

⁷⁷ Land value capture responds to the fact that in many infrastructure projects (notably transportation), the value of the private real estate properties surrounding the infrastructure is increased by the improvement of the connectivity or directly for the urban regeneration in some projects. This approach is implicit in Transit Oriented Development Projects (TOD), such as the Hyderabad Metro Rail project procured by the government of Andhra Pradesh, India. Land value capture mechanisms intend to retain or capture part of the increased value to offset part of the costs of the infrastructure development; this is achieved by different means such as taxes on land value, “betterment taxes”, or “development impact fees”. In some projects, the authority and/or other governments in JV (for example, municipal governments in a heavy rail development connection with a city) may themselves undertake real estate developments on public land (for example, ADIF, the High-Speed Rail public operator in Spain). These and other concepts about land value capture are explained in *Accelerating Infrastructure*