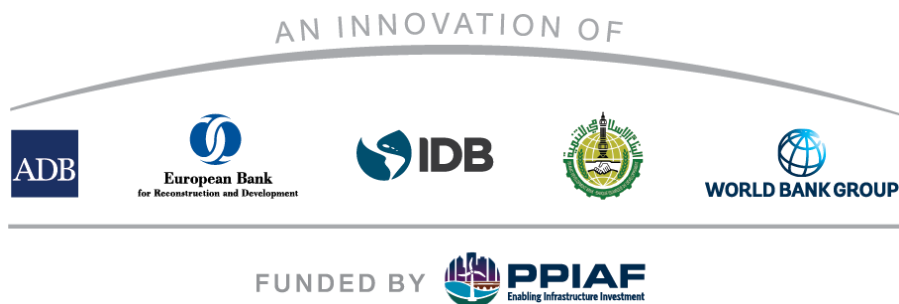


The APMG Public-Private Partnership (PPP) Certification Guide



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Introduction

This chapter covers the period from the preliminary decision to invest in a PPP, once the project has been appraised, to the official launch of the tender for the project contract.

It corresponds to two main tasks and areas of knowledge;

- The structuring and design of the project contract; and
- The structuring and design of the procurement process.

In both cases the tasks include detailing the structure in the tender documents, that is, the process of drafting those documents so as to have them finally approved before launching the tender process.

However, these are not the only tasks to be carried out during this phase. Some analysis undertaken during appraisal may need to be updated during this phase (especially financial analysis), and the scope of the contract will usually be refined or finalized during this phase (for example, the definition of the technical requirements, including construction specifications and service performance requirements).

This chapter describes the scope of work to be done during this phase, defining all the main steps of work (section 3). It will focus on and provide more detailed information regarding the essential work required during this phase (sections 4 to 8). It involves defining the complete structure of the contract (especially in the financial and risk fields), and the structuring or designing of the tender process, before drafting both the contract and the request for proposal (RFP).

Some guides and papers suggest that project appraisal tasks can be done in parallel with the structuring of the project contract. Although this may be technically possible, it is better practice to separate the Structuring Phase, even though this phase includes the refinement or confirmation of the pre-structure set out in the appraisal. This is the case for three main reasons: (i) to avoid unnecessarily consuming resources on a project-contract that is not feasible; (ii) to enable the publication of the investment decision, taking into account that the public (in the form of environmental groups or any affected members of the public) may challenge the technical solution — the sooner the project solution is published, the more certain the timing of the procurement process will be; and (iii) for better management of each set of activities, that is, to concentrate all initial efforts on a sound appraisal, and then to dedicate them to the structuring and drafting of the contract and tender.

It is not only the contract that has to be designed during this phase. The tender process must also be structured and designed because it should be tailor-made to fit the characteristics of the project. The tender process (when there is more than one option in the respective country) will have been selected at the end of the Appraisal Phase, but many details will now be defined according to the project specifics¹. For example, this includes the bar for the pass/fail qualification criteria, specific

¹ A certain degree of standardization in contract conditions and tender features is, however, highly desirable to provide consistency in analysis and decisions as well as showing consistency to the market. Box 27 in this chapter discusses standardization issues.

evaluation criteria and relevant features of the tender process as bid bond requirements, the deadline granted to bidders to submit the proposal and detailed regulations for dialogue or interaction in these types of tender processes.

The task of designing the tender package (that is, qualification rules, proposal requirements, evaluation criteria, and the contract) may be developed and published at different stages depending on the procurement route or tender modality, as described in appendix A to chapter 4. Therefore, the timing of this work will be influenced by legal and policy framework variations as explained below.

Different procurement procedures and tender routes

Potentially, there are different timings in drafting and closing tender documents, as well as different stages in qualification and bid submission.

As described in chapter 4 appendix A, in one-stage processes the project contract will be tendered out after the final versions of the request for proposal and contract are drafted and approved. The qualification conditions are included in the same document and form part of the RFP. In these processes, the tender package is one single package covering qualifications and selection requirements, requirements to submit proposals, evaluation criteria, and contract regulations.

Even if the tender package is published in a sequential way under a two-stage process (first the request for qualification [RFQ] and later on the RFP and contract), it will include all these aspects, which are explained in respective subsections of this chapter.

It is good practice in two-stage procurement processes to have already defined the foundations of the proposal requirements, the evaluation criteria, and especially the contract at the time of formally launching the process (that is, issuing the first stage of the process, the RFQ). The period between the launch of the qualification and receiving the submissions is time that is available for the authority to refine and finalize the RFP.

In two-stage processes that include a dialogue or interactive phase, it is good practice to include a description of the proposed key terms of the project contract together with the RFQ package. This is the basic structure and fundamental features that are being considered, as well as a brief description of the selection process (appendix A to chapter 4 further explain these differences, and figure 5.1 shows the different timing in document production and issuance).

Therefore, this PPP Guide assumes that structuring is done in full before initiating the tender process, regardless of which type of process is selected. The PPP Guide also explains the structuring and drafting matters based on that supposition for convenience.

FIGURE 5.1: Different Tender Process Routes

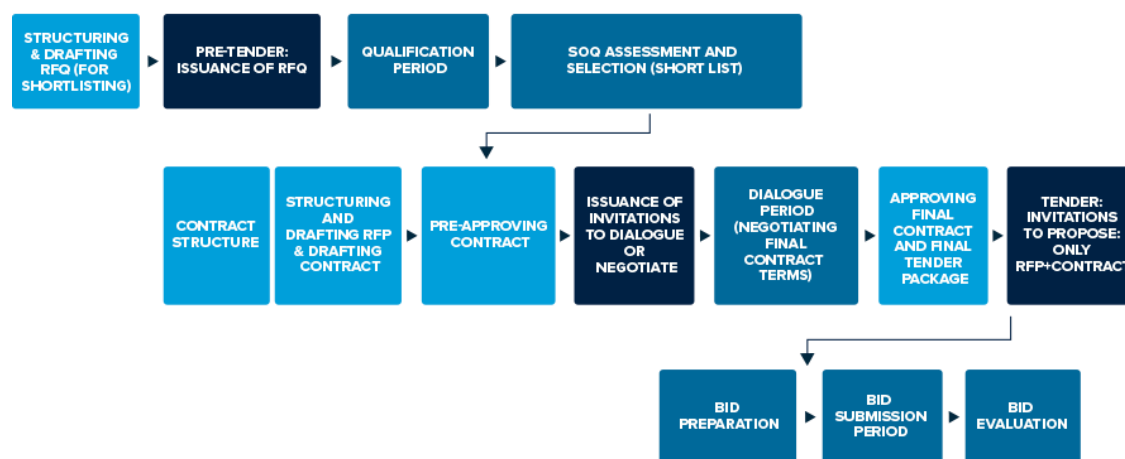
Open tender with prequalification



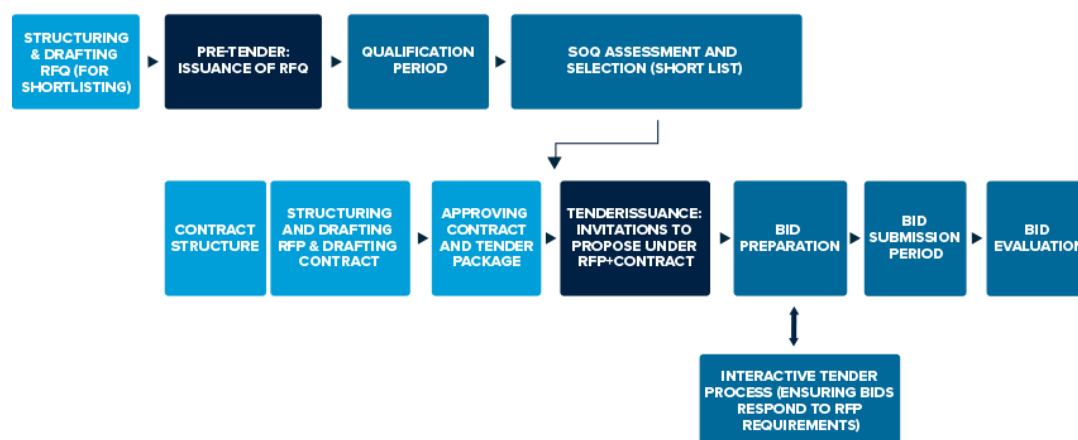
Open tender – one stage



Dialogue or interactive process – EU Competitive Dialogue



Dialogue or interactive process – Australian / New Zealand Interactive Tender Process



Note: EU= European Union; RFP= request for proposal; RFQ= request for qualification; SoQ= Submission of Qualifications.

BOX 5.1: Learning Objectives

Readers of this chapter will be able to do the following.

- Understand the interactions between the Appraisal Phase and the Structuring Phase (section 1).
- Understand the structuring concept and the importance of allowing sufficient time to design the project contract (section 2).
- Understand the composition of tasks that are covered during this phase (section 3).
- Understand the need for the refinement of other analysis — affordability, financial, economic, and so forth, and how preparation may be expanded during this phase (section 3).
- Understand the concept of financial structuring from the public perspective (section 4).
 - Define public financial support mechanisms that can be implemented without compromising Value for Money (VfM).
 - Understand specific structuring matters depending on the revenue regime (user-pays versus government-pays) and the most relevant payment mechanism systems.
 - Understand the main elements of a payment mechanism based on availability payment.
 - Understand payment mechanisms and their processes, and assess which may best fit the project.
- Understand the concept of risk structuring and risk allocation, and the most common approaches to allocating risks (section 5).
- Understand the importance of marketing the project and re-testing the project with the market before launching (section 6).
- Understand how to incorporate the risk allocation, financial structure, and payment mechanism into the contract (sections 4 and 5), and develop other fundamental provisions of the contract (section 9).
- Define prequalification or qualification requirements, the concept of short listing, and other issues when designing an RFQ (section 7).
- Define awarding/evaluation criteria, especially when the jurisdiction allows different criteria (qualitative and quantitative), and other issues when designing the RFP (section 8).
- Understand the relevance of managing approvals and authorizations, and getting ready for launching the tender (section 10).

1. Objectives of this Phase and Where We are in the Project Cycle

1.1 Objectives of the Phase

Through a proper structuring and drafting process (of both of the contract and the RFP package), the government is aiming to ensure that the procurement of the PPP Project will be a success by launching an affordable and feasible project that will deliver the desired levels of service and a VfM outcome, while reducing the risk of failure to a minimum. This can be specified as follows.

- Structuring and designing qualification criteria defines the minimum level for what is regarded as sufficient capacity to deliver the project and operate it. This must avoid the risk of failure due to any insufficient preparation or lack of capability of the awardee, given that the balanced requirements are consistent with the characteristics of the project;
- Structuring and designing the RFP provides clear instructions to proposers about the documents needed for the assessment of proposals. This also provides clear evaluation criteria to guarantee the comfort of proposers regarding transparency and equality in the selection process, as well as understanding the tender process and timing;
- The structuring of the contract must protect and maximize the potential VfM by defining the most appropriate financial and risk structure. This includes the most suitable payment mechanism or revenue structure, and the appropriate risk allocation arrangement to optimize VfM, with risks allocated to the party that is best placed to manage them. This also includes an appropriate balance between risk and reward;
- By properly drafting the contract, government will seek the following;
 - To incorporate the structure into the contract, in the clearest and most enforceable way;
 - To ensure the contract will be a valid and effective tool for successful contract management (contract management is covered in chapters 7 and 8), especially with regard to the potential changes that may occur during the contract life; and
 - To ensure that sufficient protections/safeguards are put in place, both for the procuring authority and the bidder to align the investor's interests toward achieving the government's objectives for that particular PPP.

1.2 Where We are in the Process Cycle

During the Appraisal Phase, all relevant aspects of the project were assessed for feasibility purposes, and in many countries public investment in the project would have been approved. Some feasibility exercises may be subject to confirmation during the Structuring Phase. This is especially true if further development of the project's details and structure give the procuring authority a reason to reconsider certain aspects of the project scope and/or previously assumed features of the PPP contract structure. For example, the financial analysis will most likely have to be adjusted to complete a definitive affordability analysis on the basis of the final structural elements of the project contract. Similarly, the economic analysis/cost-

benefit analysis (CBA) could be reopened if substantial changes in project scope or cost estimates emerge. Furthermore, if other changes occur during the preparation and structuring process (for example, changes in the legislative landscapes that affect the authority's base case assumptions, such as changes in tax or environmental legislation), this may also mean that the feasibility study has to be revisited. See figure 5.2.

Risks were assessed during the Appraisal Phase through a careful due diligence process, and preparatory work was conducted to offset any limitations and/or threats detected. Some specifically identified risks and contingencies may need to be further investigated during the Structuring Phase in parallel with the final preparation of the contract (that is, structuring or final structuring of the contract, and the design and drafting of the entire tender package).

During appraisal, the PPP project structure, including the PPP contract structure (see box 5.2) has usually been preliminarily defined (at a basic level) as follows.

- The project scope and responsibilities (including the definition of the technical requirements) should already be well defined because they were originally settled within the Identification Phase and subsequently refined in appraisal (since the socio-economic appraisal was necessary to move forward into the Structuring Phase);
- Commercial feasibility and affordability analysis was carried out in the Appraisal Phase and required a preliminary definition of any potential public co-financing and other means of support, for example, the contract term, the preliminary risk allocation structure, and so on. In some (but not all) jurisdictions, a VfM test will have been done, requiring a business case model and a basic risk allocation structure; and
- If a preliminary market testing was conducted in the Appraisal Phase and feedback was incorporated into the preliminary structure and financial plan.

During the Structuring Phase, the preliminary structure should be challenged and refined. This is especially true for the financial structure, payment mechanisms and risk allocation, as it is usually at this stage that the risk analysis is developed in substantially greater detail.

On the basis of this “pre-structure”, new exercises and work must be done during this phase to complete the preparation of the project prior to being tendered out as a PPP. The new tasks to be developed in this phase may be classified into two broad groups:

- Structuring and Drafting the RFQ and RFP. This includes defining qualification requirements and criteria, proposal requirements, evaluation criteria, and others explained within this chapter; and
- Finalizing the structure of the contract and drafting the contract (implementing the structure in an enforceable document). This mainly includes defining the technical requirements, defining a detailed risk allocation structure, preparing the payment mechanism, and other tasks described below.

As explained in the introduction, the choice of procurement model will influence the timing of the finalization of the PPP contract structure and of the requests for qualifications and proposals. However, for convenience this chapter assumes that all

structuring and drafting of the whole tender package (contract, RFQ and RFP) is prepared during this phase before launching the tender as if it were a one-stage process.

The results of the different analyses (for example: financial feasibility that will set the limits for payments or the concession fee floor if the project generates excess revenue; or VfM analysis, affordability analysis and socio-economic analysis when they have been revisited) are reviewed and validated. The tender document package, which implements the structure, must be duly approved and authorized by the relevant entities. Here is where this phase finishes as the process is considered and explained in this PPP Guide. After that, the tender process is launched.

After the tender launch, the process will have to be managed, in particular, the receipt and response to consultations from interested parties (during a pre-qualification phase if that is considered in the tender process and/or during bid submission or the Tender Phase, or through a structured dialogue and interaction with a short list of bidders in the case of competitive dialogue or other interactive processes) and finally receiving proposals, carrying out the evaluation and selection, and signing the contract (all of which are covered in chapter 6).

FIGURE 5.2: Where We are in the Process Cycle



Note: RFP= request for proposal; RFQ= request for qualification.

BOX 5.2: How Appraisal Interacts with Structuring and Drafting

During appraisal, the project has been defined and prepared to a significant extent. This includes the development of a definitive scope and preliminary technical design or a detailed project outline, testing for economic sense (CBA), commercial feasibility, affordability, PPP suitability (VfM), analyzing in terms of asset and debt classification (in some countries), and significant preparation in the form of risk assessment and due diligence of legal, environmental and technical risks.

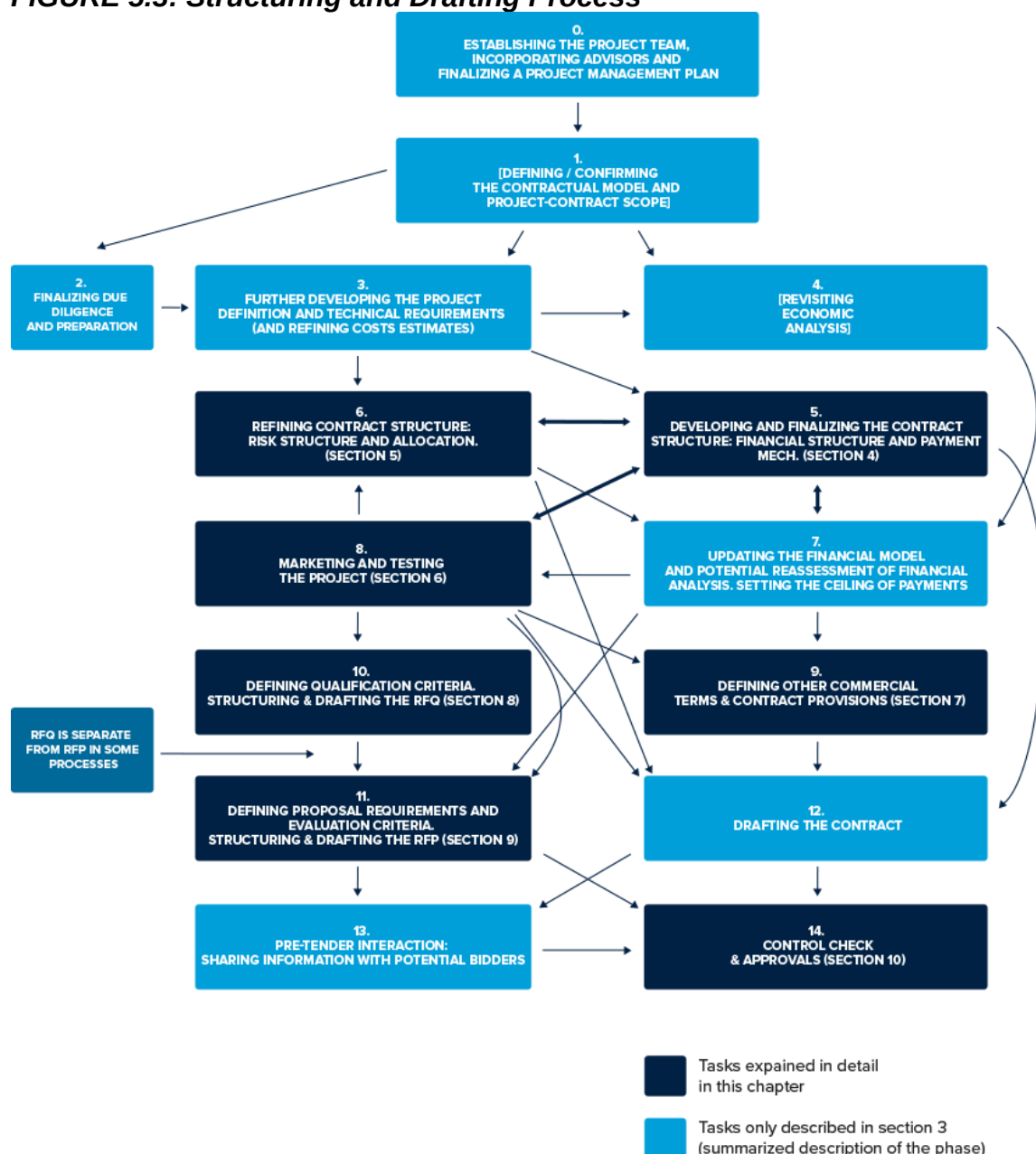
Some of these assessments or feasibility conclusions may now be challenged or updated depending on the changes that may be introduced in scope, project outline and structure. Other changes may occur during preparatory activities (for example, certain tests to finalize assessments of some risks) that may continue during structuring (although in some jurisdictions or some particular projects, appraisal may end with a more detailed and definitive project outline and assessment).

Together with a defined scope and project outline, the appraisal has assumed and defined at least a preliminary contract structure (pre-structure, in terms of risk allocation, contract term, revenue regime and payment mechanism, public financial and guarantees support, and so on), and a procurement strategy has been defined (as in an outline of the tender process).

On the basis of that pre-structure — the pre-design (including the technical requirements defined during appraisal) and the procurement strategy — the contract structure will then be further and definitively developed to reach a final draft contract (which may be subject to changes in some tender processes). Additionally, the tender process will be determined and documented in a RFQ and RFP, before submitting the tender package for final approvals to launch the tender.

2. Overview of the Structuring Phase

FIGURE 5.3: Structuring and Drafting Process



Note: RFP= request for proposal; RFQ= request for qualification.

The main work developed in this phase is the structuring of the contract and the tender process itself, followed by the detailing of the structure and technical terms in a clear and detailed set of documents (comprising legal, technical and financial documentation) which will be made available to bidders.

According to the *PPP Reference Guide* (World Bank Group and Public-Private Infrastructure Advisory Facility [PPIAF] 2014)², “structuring a PPP” means allocating responsibilities, rights and risks to each party to the PPP contract. That “structure” will be subsequently documented in the PPP contract, a task that may be also defined as “drafting” the contract. See also box 5.3.

For the purpose of this PPP Guide, “structuring” has a wider meaning than that in the PPP Reference Guide. In the PPP Guide, structuring includes not only the contract, but also the procurement process because the qualification conditions, marketing and interaction approach, bid requirements, and selection drivers are all policy decisions that influence the sustainability and success of the PPP. Therefore, they must form a coordinated Bid Pack that sends a consistent message to bidders.

The structuring task may be also defined by describing the commercial and financial impact of the analysis, and the decisions taken on the key aspects of the project contract and its tender process. It may be said that there are three main types of “structuring”, which in turn are highly interrelated.

- **Financial and budgetary or fiscal structuring:** When it is considered as value adding or because it may be necessary (for example, in the case of market/user-fee oriented projects) to define and shape the public financing support or public financial instruments (for example grants, deferred payments, complementary payments, participative loans, equity contributions, and guarantees). The decision on the contract term/length is another instrument of analysis that relates to financial structuring. The definition of the payment mechanism is also part of the financial and budgetary structuring, linked to the risk structuring, because the payment mechanism underpins the risk allocation. This is explained in section 4;
- **Risk structuring:** Assigning or allocating risks to each party. This is explained in section 5; and
- **Tender/procurement structure** – especially the qualification criteria and evaluation criteria.

² *PPP Reference Guide* (World Bank Group and Public-Private Infrastructure Advisory Facility [PPIAF] 2014) <http://ppp.worldbank.org/public-private-partnership/library/public-private-partnerships-reference-guide-version-20>

BOX 5.3: Defining PPP Project Structuring

Structuring the PPP project is the process followed for defining the risk structure, the financial structure (including the payment mechanism) and other key commercial terms of a PPP contract³, as well as the structure or main features that will govern the tender process.

The "structure" will be implanted into a set of documents — the RFP (and potentially the RFQ), and the contract itself — in a sub-phase or stage that may be called drafting or documenting the tender package (including the contract).

The structuring starts from a clear definition of the scope of the contract and an outline of the procurement strategy.

The next section describes the main steps of the structuring and drafting process illustrated in figure 5.3, including follow-up activities related to the appraisal and preparation — to the extent that they were not finalized during the Appraisal Phase. The focus is on those tasks that are most relevant and inherent to the structuring process and the drafting and preparation for the Tender Phase. The main analysis and types of appraisal are explained in chapter 4.

Many of these tasks may proceed in parallel. Indeed, some tasks must proceed in parallel as they are mutually dependent (for example, VfM analysis may require that the risk structure is revisited, as the VfM result may not be acceptable without altering the risk allocation). The order of certain tasks is also influenced by the legal framework or policy framework (official guidelines for the procurement process) of the respective jurisdiction.

A realistic timescale is essential

Regardless of the envisaged order of the tasks, it is crucial to schedule and organize the work properly in advance, so as to minimize time disruptions and smooth the process. This work, like the appraisal work, is time consuming and requires a realistic time scale to ensure the required quality (see box 5.4). Structuring and drafting, as well as the whole process of the PPP, is a project in itself. As in any project management function, work organization and time scheduling are paramount factors to successfully manage the project. In this case, project success is achieved through the outcome of tendering out the project in the time expected (and announced in the market) with all conditions checked and approvals received.

³ As stated in Chapter 0, while normally the contract will 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 up the private partner with other public sector parties rather than the procuring authority (for example, off-take agreements with a third party authority or body).

BOX 5.4: How Much Time Should be Spent on Structuring and Drafting the Tender Package?

The length of each task and the time required for the whole work process of this phase depends on many factors, especially the level of work done in appraisal, the need for further assessment and preparation, and the level of progress and certainty in the defined pre-structure.

The existence of a clear framework that sets out the criteria to be met by the project contract, the process of authorizations and approvals, and guidelines will help to ensure a smoother process without compromising the quality and reliability of the outcome. Proper planning and organization of the work, identifying key stakeholders and defining/allocating responsibilities clearly within the project team are also paramount.

Insufficient time lies at the heart of many failures in PPP projects. Rushing these critical tasks to meet unrealistic time frames will produce unreliable project structures not duly tested or not properly incorporated in a clear contract that can handle future changes and uncertainties.

The time required for this phase of the cycle (as with appraisal) depends on the particularities of the specific project. The length of time used in countries globally to structure and produce the tender package may vary from around 6 months for simple projects (with no significant challenges in terms of technical and risk complexity) undertaken in accordance with sophisticated guidelines and standards, to 12 or 18 months for more complex projects. This range assumes that the Appraisal Phase produced a highly prepared project with sound feasibility tests and a significantly developed preliminary contract structure. The time must also be sufficient to allow the procuring authority to implement any appropriate early risk mitigation measures (see section 5.5).

If preparation of the tender package is rushed but appropriate quality checks are in place, the approving bodies may require further refinement before tendering. The reputation of the procuring authority will be damaged if this results in rescheduling of the time announced for tendering (see “marketing and testing the project” in section 6). However, if the preparation of the tender package is rushed and appropriate quality checks are not in place, there is a high risk of failure of either the tender process or any PPP contract entered into as a result of that process.

The description in the following section reflects a common structuring and drafting process, notwithstanding that many countries may use variations.

3. Summary Description of Main Tasks to be Carried Out in the Structuring Phase

3.1 Establishing the Project Team, Incorporating Advisors and Finalizing the Project Management Plan for this Phase

It may happen that the project team was established before appraisal, contracting advisors to handle both appraisal and the structuring and drafting of the tender package. Otherwise at the end of the Appraisal Phase, the team responsible for analyzing and managing the PPP process should have analyzed the capabilities and resources required for the structuring and drafting tasks. The need for the support of external resources depends on the availability of internal resources within the government or the procuring agency, as well as on the scope of work already developed during the Appraisal Phase (see chapter 3.13).

At the inception of the structuring, the project team should be fully defined and advisers should have been hired as needed.

The focus of the work for this phase for each type of capability or expert on the project team is as follows.

- Procurement or transaction-specific experience in managing, or supporting the management of, international PPP tenders. This role is usually offered by one of the other experts;
- **Financial:** For risk structuring and final financial structuring, VfM analysis, the refinement of financial analysis, and affordability calculations;
- **Economic:** This capability may not be required if the project solution is already defined and approved, and no changes are considered through this phase;
- **Technical:** For the refinement or further development of the project design and technical specifications, especially to develop performance requirements;
- **Legal:** Most of the due diligence will have been done in the Appraisal Phase. Therefore, the primary legal capability needed is for procurement advice and contract drafting; and
- **Environmental:** To the extent environmental issues are still open and may influence the final technical design, risk allocation/performance requirements of the project, or when work to obtain environmental permits is continuing in this phase.

As explained in earlier sections, when hiring advisers it is necessary to decide between an integrated team, appointed under one single advisory contract (this can provide a more cohesive team), or separate selections (this can provide more flexibility for hiring the best experts in each discipline, but will demand/consume more time and resources from the government). See chapter 3.13.3 for details.

Also, as suggested in chapter 3, international experience is very relevant (when duly combined with local expertise). Advisors may add significant value by providing access to knowledge of relevant precedents and best practices when defining RFQ, RFP and contract provisions⁴.

Apart from implementing the project team structure and selecting advisers, a project management plan should be in place before starting the specific work of this phase,

⁴ Using similar precedent contracts may be useful but should always be done with caution. There is no single structure valid for any project even in the same sector and project type, and there is no perfect structure as all of them will have their own strengths and weaknesses. The World Bank Group provides intelligence on real precedent contract and tender regulations in the PPP Infrastructure Resource Center (PPPIRC, at <http://ppp.worldbank.org>).

including a working plan and stakeholder management plan, especially regarding decision-makers that will give the final green light for launching. As with any project, these plans should be developed as part of the procuring authority's application of good practice project management principles such as those contained in the Project Management Body of Knowledge (PMBOK⁵) or the PRINCE2⁶ methodology.

3.2. Defining/Confirming the Contractual Model and Contract Scope (if needed)

This step will not usually be necessary if the pre-structure and project definition were sufficiently advanced during the Appraisal Phase. However, when different legal contract types or legal forms⁷ are contemplated and suitable for the project in the relevant jurisdiction, the final decision may not have been taken yet or may require further due diligence.

The final contract scope (for example, whether or not to separate the operations of a train system from management of the rail/system infrastructure) may also not have been finalized during the previous phase, but a preferred route or a short list of solutions should have been identified.

In such cases, the decision about the contract model and scope should be made after final legal due diligence analysis and further reflections on alternative contract scopes, but before commencing the structuring and final shaping of the project.

3.3. Finalizing Due Diligence and Preparation

Preparation lies at the heart of the Appraisal Phase and has been explained in chapter 4.

However, some investigations and due diligence (for example, geo-technical conditions, developing an archaeological map, collecting utility allocation information, developing an environmental management plan and related requirements, and so on) may not have been completed during the Appraisal Phase and should be finalized during this period.

Taking short cuts in preparation (either to avoid the cost or in a misguided attempt to speed up the tender process) by omitting the data collection and passing the burden of work and cost to the bidder(s) is bad practice that causes many projects to fail (that is, by receiving no bidders, or having significant delays in initiating construction or extensive renegotiations).

3.4. Further Developing the Project Definition and Technical Requirements (and refining cost estimates)

⁵ See <http://www.pmi.org/pmbok-guide-and-standards/pmbok-guide.aspx>

⁶ <https://www.prince2.com/prince2-methodology>

⁷ As described in chapter 0, in some jurisdictions the same scope (e.g. DBFOM) may be granted and contracted out under more than one particular contract figure according to the legal framework for procurement, one being more or less appropriate than another for the particular project scope and project objectives.

Technical requirements will usually have been defined during the Appraisal Phase, including the technical specifications for construction and/or a reference design (on the basis of which bidders will prepare their technical proposals for construction). However, in some processes, the final definition of the technical requirements is completed during the Structuring Phase. Performance requirements will usually be refined or detailed during this phase too, especially since they are intrinsically linked to the payment mechanism.

The definition of the technical requirements is a natural evolution of the definition of the contract scope. When defining technical requirements, too much inflexibility should be avoided; PPPs focus on providing opportunities for innovation and paying for service outputs (see chapter 4.4.2).

Section 9.2. in this chapter explains the relevance of the performance requirements to the commercial terms and contract architecture, as well as how they link with the payment mechanism or the revenue structure of the contract.

3.5. Revisiting Economic Analysis (if needed)

In some projects, the design/technical solution is only preliminarily defined during the Appraisal Phase, and the cost and revenue estimates may be provisional or uncertain. In these cases, deeper technical/cost analysis (and traffic and revenue for volume-related projects) should be carried out during the Structuring Phase. Depending on the results, it may be necessary to revisit the Cost-Benefit Analyses as well.

3.6. Developing and Finalizing the Contract Structure: Financial Structure and Payment Mechanism

The contract was pre-structured or the preliminarily structure was defined during the Appraisal Phase. In the current phase (Structuring Phase), the final structure is defined (or the pre-structure is refined), so as to confirm all of the principal commercial terms before it is documented by drafting the contract. This is one of the essential tasks to be carried out during this phase.

Some examples are listed below:

- It may have been decided during appraisal that 30 percent of capital expenditures (Capex) will be directly financed by the government during construction. Typically, however, it will not have been decided whether there will be works progress payments or milestone payments and so on, and this must be determined during structuring;
- A range or limit for the contract term may have been approved during appraisal, but the final decision on an exact contract term will usually be made during structuring; and
- The basic payment mechanism will have been defined during appraisal (for example, payments based on availability in a rail PPP project, with the main criteria defined), but the service levels must be defined or refined during structuring, as well as the mechanics for deductions.

This stage usually, in practical terms, overlaps with the definition of the main parameters of the qualification and evaluation requirements, as well as with the final development of the project technical requirements (both for construction and operation and maintenance – O&M).

Several of the main areas of structuring are financial.

- Financial support mechanisms;
 - Overall compensation instruments, especially when a co-financing scheme is used; and
 - Other support instruments, for example, public funding instruments and guarantees (explicit or contractual), which interrelate with risk structuring.
- The payment or revenue mechanism; and
- The contract term.

All of these issues must be reflected in the draft contract. They also influence the financial model and plan, and hence affect the ceiling of payments (or the floor on any concession fee in user-pays projects). Also, in the event of exceeding previous estimates it may be necessary to reopen or reassess the commercial feasibility, VfM, and affordability analysis.

Financial structuring matters (mechanisms for co-financing and the overall compensation structure), the payment mechanism definition, and the final service requirements are explained in detail in specific sections of this chapter (section 4).

3.7. Refining the Contract Structure: Definitive Risk Structuring and Allocation

A preliminary risk assessment will have been conducted in the Appraisal Phase, identifying the main categories of risks and main risk events for the particular project, and a decision on overall allocation will have been taken. Generally, risks should be allocated to the party most capable of managing them; circumstances in which other approaches to risk allocation may be appropriate are discussed later in this chapter.

During this phase, the risk structure is refined: more specific risks events may emerge, but above all, some risks allocation decisions will be further detailed to define the risks retained by the government and the extent to which some risks are shared (for example, defining benchmarks and impact ceilings to restrict the right for claims).

The risk allocation influences the financial feasibility analysis and the VfM exercise, and this is an essential input for drafting the contract.

Contract drafting work should start once the risk allocation is defined, unless there are significant signs that the project is not feasible due to new information that emerged during the risk analysis.

Risk structuring and allocation are explained in detail in a specific sections of this chapter (section 5).

3.8. Updating the Financial Model and Potential Confirmation or Reassessment of Financial Analysis Matters. Setting the Ceiling of Payments⁸

The financial base case must be updated to reflect the refinement of the risk allocation structure and any changes in the financial structure of the project. This will result in changes to the procuring authority's financial model and plan.

This definitive financial model will determine the ceiling for payments (or floor for concession fees) to be reflected in the RFP provisions. This is done to establish the maximum (or minimum) payment acceptable for a qualifying bid.

Provided the level of payments required to make the project commercially feasible remains below the limits approved in the Appraisal Phase for affordability purposes, the decisions made in the previous phase, based on the financial mode (in those cases when an investment decision is taken at the end of appraisal), do not need to be reconsidered.

3.9. Testing, Marketing and Communicating the Project

The project should have been sounded out with the market during the Appraisal Phase (see chapter 4).

It is good practice to conduct further market testing during the Structuring Phase to collect reactions, suggestions, and concerns from the industry (investors, contractors, and lenders).

When the government decides not to test the project any further (based on the fact that it has been meaningfully tested during the Appraisal Phase), the project should be marketed to promote the interest of the industry and to let the potential bidders prepare themselves for the tender.

Communication is also a concern during this phase, as it is during appraisal.

All these matters are explained further in section 6.

3.10. Defining and Drafting other Commercial Terms and Contract Provisions

Many other commercial terms or structuring matters are standard in a particular PPP market or they may be established by law or a framework. Nevertheless, they must be appropriately drafted into the contract. This can be a significant task, especially when there are not many precedent PPP contracts in the jurisdiction, or where adequate standards are not in place.

These additional and important matters (apart from financial structuring and risk structuring, although many of them are related to these) may include the following.

⁸ Under the process in this PPP Guide, the financial /commercial feasibility, VfM, and affordability tests take place in the Appraisal Phase. Some countries may carry out some of these feasibility exercises in the Structuring Phase, or they may simply be refined for approval purposes when the authorization/ investment decision is deferred to this phase.

- Performance requirements, performance management issues, and other provisions, such as reporting obligations and monitoring provisions;
- Contract breaches, penalty system(s), and possible default events;
- Occasions calling for compensation and rebalancing regulations;
- Other financially related provisions: financial structure (minimum equity), changes in financing (refinancing) and ownership, insurance requirements, performance guarantee, and lenders' rights;
- Intellectual property and confidentiality;
- Contract changes;
- Dispute resolution matters;
- Early termination provisions; and
- Hand-back provisions.

A selection of the most relevant of these matters will be explained in section 9.

3.11. Defining Qualification (and potentially short listing) Criteria. Structuring and Drafting the RFQ

Qualification is a condition that must be met by a party seeking the right to make an offer or bid on any public contract. The objective is to set a minimum bar of capability for entering into a procurement (works or services) contract. As in many other structuring issues, qualification is an art related to the search for a suitable balance. The qualification levels required should diminish the risk of project failure caused by a lack of capabilities and capacity, but the criteria should be carefully defined (and appropriately tested) so as to avoid unduly limiting competition. All projects should customize qualification requirements in order to achieve an appropriate balance, based on the particular project's needs.

In some jurisdictions, the qualification requirements and criteria are provided at the same time and in the same document as the requirements for bid submission and the evaluation criteria (for example, many countries in Latin America name the document "*bases de licitación*" or the "basis for tender"). In other words, the RFQ and RFP are combined. In this case it is not customary to restrict the number of potential bidders in a short list, but to qualify all companies or consortia that meet the minimum criteria.

In some other cases, qualification (then usually called pre-qualification) is completed before the RFP is issued. In many cases, this is done without restricting the number of qualifying bidders. However, some countries restrict the number of qualifying bidders through a ranking and short listing process, issuing the RFP to a short list of the most capable bidders (for example, in India and the Philippines).

Section 7 provides further information on this topic, including when and why short listing may be appropriate.

3.12. Defining the Proposal Requirements and Evaluation Criteria. Structuring and Drafting the RFP

This task refers mainly to the following.

- Defining the formal requirements for bid submission. What should be presented/submitted, and in what form, to allow for evaluation; and
- Establishing the evaluation criteria on the basis of which the awardee will be selected and called for contract signature.

The evaluation criteria will usually reflect provisions within the procurement framework (for example, possible inclusion of qualitative criteria, maximum or minimum weightings for price versus qualitative aspects, and so on). This may be guided by the policy framework (PPP guidelines) to create consistency in a PPP program, but many sub-criteria (especially those of a qualitative nature) will need to be adapted or defined in an ad hoc manner for the specific project.

In addition to evaluation and proposal requirements, the RFP regulates other relevant matters, such as protection for the government (for example, the right to cancel or to negotiate with a bidder or anyone else), the process of issuing questions, the time limit to submit, the validity period of the proposal (that is, the time during which the proposal is binding on the bidder), and so on.

Section 8 provides guidelines, intelligence, and reflections in this respect.

3.13. Drafting the Contract and Packaging the Tender Documents

The structure of the contract (the main commercial terms definition, including risk allocation, financial structure⁹, compensation mechanisms, and other relevant commercial related matters — including the control and monitoring of performance, dispute resolution mechanisms, and other contract governance matters) must be largely defined before the contract agreement is drafted. However, inevitably discussions on some structuring issues will continue during drafting, and some decisions will have to be made regarding different options to develop or refine a particular key commercial issue.

Drafting a contract is about documenting the structure in legal and accurate terms. Accuracy and clarity are paramount drivers in this task. The decision regarding the allocation of one particular risk event is useless if the contract does not provide a clear understanding of when and how the event has occurred and how to implement the potential compensation mechanisms.

The technical specifications and performance requirements (defined previously – see step 3 above) are also defined in detail within the contract drafting, normally in the form of appendixes or schedules annexed to the main body of the contract.

It should be noted that for an open tender with no prequalification, the contract drafting must be completed in time for the project launch. However, it may be finalized later in dialogue processes, or prior to release of the final RFP in two-stage processes.

⁹ For the purpose of this PPP Guide, the term finance structure, in the context of appraisal and structuring, refers to the definition of the types of public compensation or payments to the private partner and their conditions, as well as to the resulting fiscal profile of such payments in terms of NPV and yearly expenditure. Therefore, the term financial structure does not include or refer to the financial strategy of the bidder, as this should generally not be prescribed by the government.

3.14. Pre-Tender Interaction. Sharing Information with Bidders and Data Rooms

Once the RFP and contract are drafted, including all relevant annexes, some jurisdictions publish the information in draft format and open a period for consultation. During such periods, potential bidders submit questions and suggestions in writing. This process usually includes one or more meetings in which the administration provides answers and explanations before issuing formal responses and reporting on potential changes. In some other jurisdictions, this only takes place after the official launch.

When the tender process includes structured dialogue before the invitation, offering this interaction naturally occurs during the dialogue phase.

In addition to the tender documents, there may be a large amount of information (reference information, not necessarily binding contractually) that should be provided to bidders. Much of this information (particularly information that is considered confidential or not for public disclosure) is usually provided through a data room. This may be physical (a room with restricted access for authorized bidders in which there are hard copies of the documents) or more frequently — which is more efficient — electronic (a secure website through which bidders can view electronic copies of the documents). There should be clear protocols for access to and use of the data room (including Non-Disclosure Agreements, “NDAs”), and bidders should be required to agree to these.

Setting up a data room and developing the protocols takes time, and therefore should be thought about early in the Structuring Phase.

Where possible, it is preferable to make this information available to prospective bidders before the launch of the tender, as this will give them additional time for due diligence.

3.15. Control Check, Approvals and Authorizations. The tender package of documents will finally be approved and the launching of the tender will be authorized

A check should be run to confirm that all documents are in place, duly approved, and that all tests and exercises have been duly conducted.

The tender process should be carefully planned, programming the work to be done. The roles and responsibilities of the project team should be adapted to the tasks relating to the management of the process, from launching to contract signature (which is the subject of chapter 6).

This process is explained in section 10.

4. Financial Structuring (from the Public Perspective): Defining the Financial Structure and Payment Mechanism

For the purpose of this chapter, the term financial structure is taken from the public perspective, that is, the financial structure of the contract as opposed to the financial structure of the project company (which is how the private partner would use the term). In this context, the financial structure refers to the definition of the means of public compensation or payments. This may be in the form of grants (to co-finance the Capex) and/or service payments to be granted to the private partner in the contract as well as relevant conditions (including timing, indexation, and potential adjustments/deductions). It also includes other potential public party participation. For instance, the provision of financing (guarantees and other credit enhancement measures, equity, or debt contributions), as well as the resulting profile of government payments in terms of net present value (NPV) and yearly public expenditure, or indeed the profile of payments to be received from the private partner (in 'over-feasible' projects).

In order to document the financial structure, the contract term, the payment mechanism, and also the means, if any, must be incorporated into the contract for the government to co-finance the project or participate in the project as a lender.

The basic financial structure will have already been defined in the Appraisal Phase (see chapter 4.5) through the process of commercial feasibility analysis, affordability analysis, and VfM. See figure 5.4. In the current phase of the cycle, the financial structure will have to be confirmed, or redefined, in an iterative exercise so as to establish the final base case and set the ceiling of payments (or the floor of payments to be made by the private partner in some user-pays PPPs).

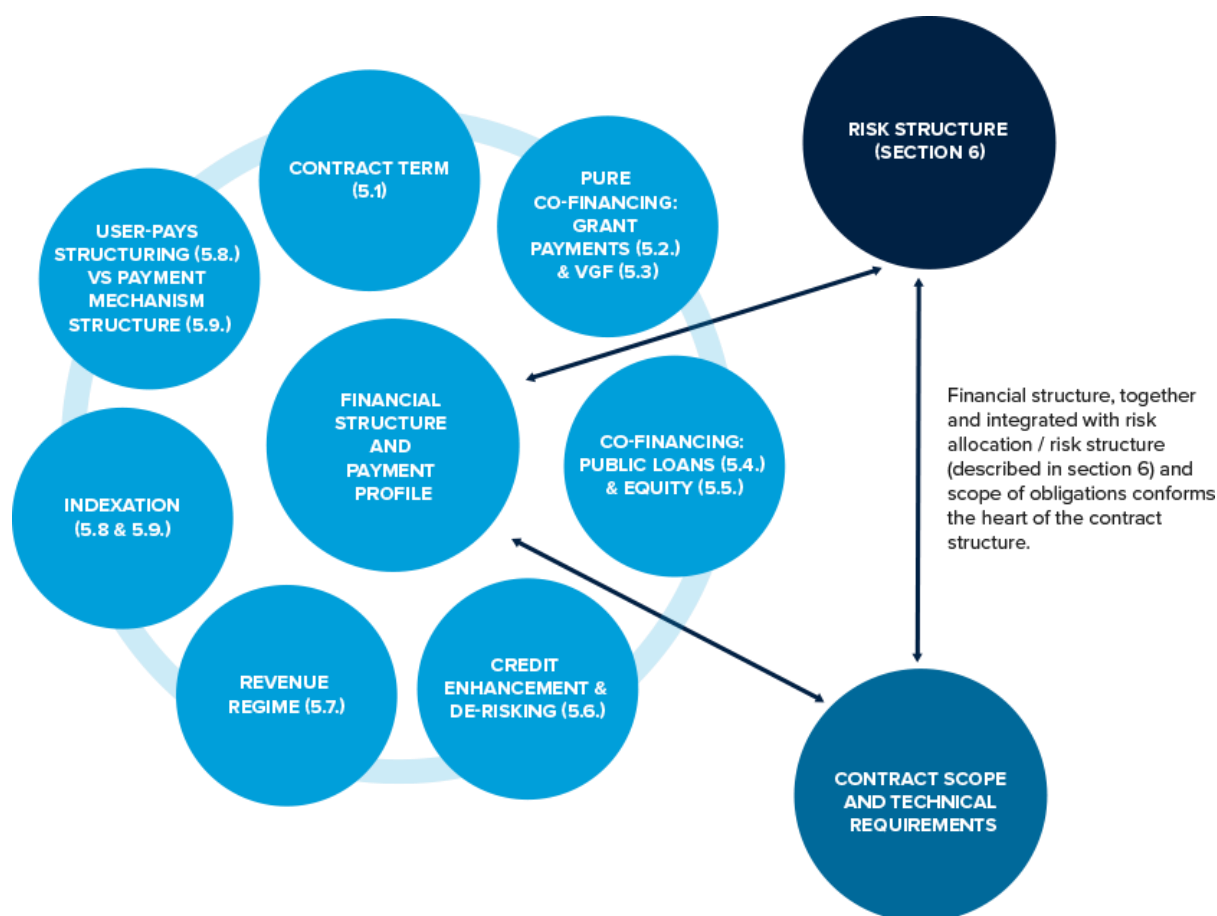
- The contract term will have been pre-defined (or defined within a range, subject to the final financial analysis and affordability exercise);
- If a co-financing approach has been considered (with a portion of Capex being financed by public funds), the amount of the co-financing will have been basically defined (within a range) during appraisal;
- Other financial support and participation by the public party will have been already decided, such as potential equity participation, provision of certain explicit guarantees and credit enhancement measures;
- In a user-pays project that is not financially feasible (that is, there is a financing gap), there should already be a basic decision on how to fill the gap. This decision may be subject to changes in a refinement process during structuring; and
- The basis for payment mechanisms (quality/availability based and/or volume) have already been defined, including the indexation approach and the main parameters of the payment scheme (availability criteria and adjustment factors, traffic or volume bands in a volume payment, and other features).

Public financial instruments available in the relevant market (for example, long-term loans provided by public financial agencies or public credit enhancement mechanisms) will have been considered when financially assessing the project. The intervention or participation of such financial agencies should have been triggered or mobilized during appraisal, while administrative management may still be needed

through this phase¹⁰. If using such a structure, the government will need to be sure that the respective institutional financing is available; this is a preparatory activity that must be finalized before the tender is launched.

¹⁰ Financial support by means of public loans or loans provided by a public agency, as well as guarantees, may be limited in some jurisdictions by “state aid” rules. That is a subject that is beyond the scope of this PPP Guide. However, it may be said that generally when the terms of the financing or guarantee are close to or reflect market terms, or when the financing is available for any interested party, the financing is usually in compliance with state aid limitations.

FIGURE 5.4: Elements of the Financial Structure and How they Relate to Contract Structuring



Note: VGF=viability gap funding.

It should be noted that co-financing, properly speaking, should only refer to the non-reimbursable/non-revolving provision of funds or in-kind support provided by the government (for which the cost of capital to the private partner is zero). These funds are considered public financing in the fiscal sense (even when the funds will come under a deferred payment mechanism). The PPP Guide will refer to such support as pure co-financing, to avoid confusion with the provision of funds through public funded loans (usually on favorable conditions, also referred to as concessional financing). The latter may be also a tool to financially support the project, with minor or no fiscal implications as long as it does not differ significantly from market conditions.

These and other elements of the financial structuring, which will be discussed in this section, will (or should) be finally defined with the intention of maximizing VfM, ensuring both affordability and feasibility (see box 5.5).

BOX 5.5: Competing Objectives of the Financial Structuring

The objectives of the financial structuring are ultimately the same as those objectives of the general structuring task: the government is aiming to ensure that the procurement of the contract will be a success by launching an affordable and feasible project that will deliver VfM.

The higher the payments (or the tariff levels in a user-pays PPP) or the longer the payment period (for the same payment or tariff), the higher the commercial feasibility — but the higher the burden either for the government or the public.

As in any structuring task, the objective is to find the right balance, but consideration should be given to the competition in the tender process, which provides an opportunity for the market (the prospective bidders) to set the bar of commercial feasibility through competition. If there is strong competition and the government sets the key affordability measure (for example, the level of user charge or the net present value (NPV) of government payments) as the financial variable that is subject to competition, the bidders will have a strong incentive to develop the most affordable solution that is commercially feasible for them to deliver.

Chapter 4 discusses commercial feasibility analysis and how it interacts with the affordability analysis and the technical definition of the project in an iterative manner (see chapter 4.8).

4.1 Term Definition

Privately financed infrastructure PPP contracts have long terms so that the government can obtain VfM from life-cycle management and from effective risk transfer. There are other factors that can provide an incentive for the government to extend the term. However, at some point, increasing the contract term will not provide any additional or incremental VfM, or it may introduce more disadvantages than advantages.

Many legal frameworks restrict the term that may be granted in a PPP contract (even prescribing different terms for different legal types of contracts in some jurisdictions). Regardless of the legal limit, for some projects and in some markets, there will be term limits beyond which the project contract is not adding VfM.

There are a number of considerations to be taken into account when assessing the optimum term for a specific project (see figure 5).

- Life-cycle management and effective risk transfer;
- Private financial structure optimization;
- Affordability;
- Commercial feasibility (especially in user-pays projects);
- Political pressure;
- Budget management rigidity;
- Flexibility to accommodate risk and uncertainty; and
- Relationships with other projects and other contracts.

In addition to these factors, there is also the influence of precedents and the convenience of setting a standard term for all projects in a PPP program (for example, all health PPPs). This is explained later in “other considerations”.

Life-cycle management and effective risk transfer: PPP contracts should provide long terms so as to capture VfM from life-cycle management and for risk transfer to be effective. It is important that the term is long enough to include life-cycle costs, such as refurbishment of mechanical systems in social infrastructure projects or, for example, the resurfacing of road projects. This then focuses the bidders on providing an optimal whole-of-life solution, and it ensures that at the end of the contract (when the asset reverts to the public sector at the end of the concession), the asset is in good condition. However, for certain infrastructure (especially social infrastructure), terms above certain limits can introduce significant renewal risks for bidders, or (for example, in roads) risk/uncertainty of significant upgrading. Also, when the project is highly dependent on technology, longer terms may unduly increase the risk profile.

Private financial structure optimization: Longer contract terms allow for longer debt terms (up to the limit established by the respective loan market), and longer debt terms permit a higher leverage (see box 5.6 below).

When a PPP contract is shorter than the debt term available in a particular jurisdiction (including the customary debt or “loan tail”), or it is shorter than the debt term available abroad, if a cross border financial structure might be possible, then the contract term will be sub-optimal in financial terms.

In normal circumstances, a sufficiently long term (equal to the maximum debt term achievable plus a “loan tail” cushion) will allow for higher efficiency in terms of average cost of capital for the private finance package because it will allow bidders to maximize the gearing. However, this benefit will be limited by the local financial market’s capacity (particularly the maximum debt tenors available) and will depend on the risk profile of each project.

BOX 5.6: Debt Term, Contract Term, Tails and Leverage

Typically, providers of senior project debt will require a cushion in the form of a “loan tail” between the term of the debt or debt tenor and the duration of the project contract itself. This gives the private partner the ability to restructure the debt if it faces temporary solvency difficulties (renegotiating a lower yearly debt service in exchange for an extension of the loan term).

Let’s say that in the financial market of a particular country, it is customary for project finance loans to have terms of up to 20 years. If the contract has a term of 20 years, lenders will only be willing to consider a term of 17 or 18 years for the loan.

Consider that a certain amount of revenue and cash flow is available for debt service, and a certain debt service cover ratio (DSCR) (for example, 1.3 times) which equals the minimum DSCR required by lenders, which itself limits leverage to a particular percentage (for example, 70 percent). If the contract term is expanded by two years, allowing the private partner to take advantage of the “other two years” of debt term available, this will allow for an increase in the debt amount because with

the same amount of debt and the same gearing, the actual DSCR will be higher, that is, it will surpass the minimum requirement of 1.3. This creates room for increasing debt service and therefore allows bidders to ask for more debt (that is, higher gearing).

The weighted average cost of capital (WACC) of the project will be lower than with the original 20 years of contract term (as there is more debt in the mix of funds, which is a cheaper source than equity), and therefore the financial package will be more efficient. That efficiency will be passed through to the procuring authority in the form of a more competitive proposal (under a properly structured tender with the proper incentives built into the evaluation criteria).

The term should also be long enough to provide room for the potential benefit of a refinancing if and when market conditions improve (enabling the private party to take advantage of longer tenor, lower margins, and potentially additional debt, that is, a “recap”). Alternatively, it may give space for a refinancing strategy “from the outset” (based on “mini-perm” loans or other bridging loans to finance the construction period), so that the financial package can be refinanced on a long-term basis after construction.

Affordability: Another consideration in favor of long contract terms is that the longer the term, the lower the yearly burden on the budget (in government-pays projects). This factor is correlated with project size, that is, the larger the project, the more likely it is that affordability will be an issue. Consequently, longer terms are more frequently seen in larger projects. However, this benefit should be balanced against the fact that the private finance package is usually more expensive than government financing. Indeed, the government’s aggregated exposure on fiscal accounts will increase with the term, and increasing the term beyond certain limits specific to the project will not generate any additional Value for Money from risk transfer.

Commercial feasibility (especially in user-pays): In user-pays PPPs (and for a fixed budget allocation in each year in government-pays PPPs), a longer term project is more feasible simply because it will provide revenues over a longer period. Especially in user-pays projects, the term will define the feasibility (unless co-financing or other public support — such as complementary funding — is considered). This is especially relevant if the government wants tariff levels to remain at what may be considered socially acceptable levels.

Political pressure: The general public and political stakeholders may argue against longer terms on the basis that they allow the private partner to make “unwarranted” profits. This is more common in user-pays PPPs, and governments/authorities may handle this through profit-sharing mechanisms (to limit or share profits above certain thresholds, or by ending the PPP contract when it has reached a certain amount of revenues, for example, toll road concessions in Chile) and through a proper and careful communication approach.

Rigidity: Governments should remember that PPP contracts introduce rigidity in fiscal management and service delivery, and strategic priorities may change during the course of the project. That is another factor, in addition to the potential

decrement in VfM that should be balanced against affordability when deciding upon the appropriate term.

Flexibility to accommodate risk and uncertainty versus incremental risk profile in some projects: In contrast to the point above but consistent with the first point on risk transfer, contracts need a longer term to be able to accommodate the financial impact of changes and certain risk events. This is particularly important where the private partner is requested to finance any additional investments required as a result of these events (see section 9.3). However, some projects have risk profiles that necessitate shorter terms if VfM is to be achieved. For example, in projects exposed to high rates of technological change, it may not be VfM to require the private party to take the risk of such changes over a long term, and in countries with limited creditworthiness or higher country risk, longer term contracts may be unattractive to the private sector.

Relationships with other projects and contracts: In some cases, the project will have a relationship with an existing project or existing contract that will influence the appropriate contract term. For example, if there is an existing operational light rapid transport (LRT) PPP with 17 years of its contract remaining, and the government is structuring the contract for a new separate LRT PPP, it may wish to have the new contract end on (or around) the same date as the existing contract, as this will provide flexibility to put in place either combined or separate operating arrangements for the two LRT lines when the PPP contracts expire.

TABLE 5.1: Pros and Cons of Long Term PPP Contracts	
Factors in Favor of Longer Terms	Factors for Tempering the Term
• More effective risk transfer and proper life-cycle management. • More financial efficiency by higher debt/higher leverage in the respective financial market. • Lower yearly burden/higher affordability (in year-by-year budgetary terms). • Greater flexibility to accommodate changes and deal with risk events. • Greater feasibility due to a longer term for collecting user payments.	• Incremental risk profile in some projects (especially those highly exposed to technological risks) that may reduce commercial feasibility (in terms of risk acceptance) and spoil VfM. • Financial market term limits and decremental value of the equity invested. • Higher fiscal commitment (in overall/aggregated terms). • Lower flexibility in fiscal policy/budget management and service delivery. • Political pressure against potential unwarranted profits. • Lower country creditworthiness (especially in government-pays projects) will demand shorter terms by investors and lenders.

What is the optimum term?

There is no possible methodology to determine the best possible term for a project contract, as this will depend on specific features such as the fiscal constraints of the relevant country at a certain point of time, the country risk and creditworthiness of the respective government, the access to finance in that market for the specific type of project, the technical and physical nature of the asset and its life-cycle profile, and other factors. See table 5.1 and figure 5.5.

It is, however, possible to identify a minimum term that should be considered for a specific project, which should not be extended significantly unless fiscal restrictions/affordability require doing so. It should also not significantly compromise VfM.

The term of a contract should be at least long enough to capture key life-cycle costs (that is, material renewals and refurbishments in the asset that must be developed and planned in advance), and to enable lenders to provide maximum debt tenors capitalizing on the leverage — subject to the minimum equity that will be requested in the RFP as a sufficiently material financial commitment by shareholders/bidders.

In terms of experience and common practice, to define a reasonable range of PPP contract terms is not possible. Ultimately they may range from what may be commonly regarded as long term (above 10 years) to 50 years or even above for certain user-pays projects (for example, toll roads up to 99 years).

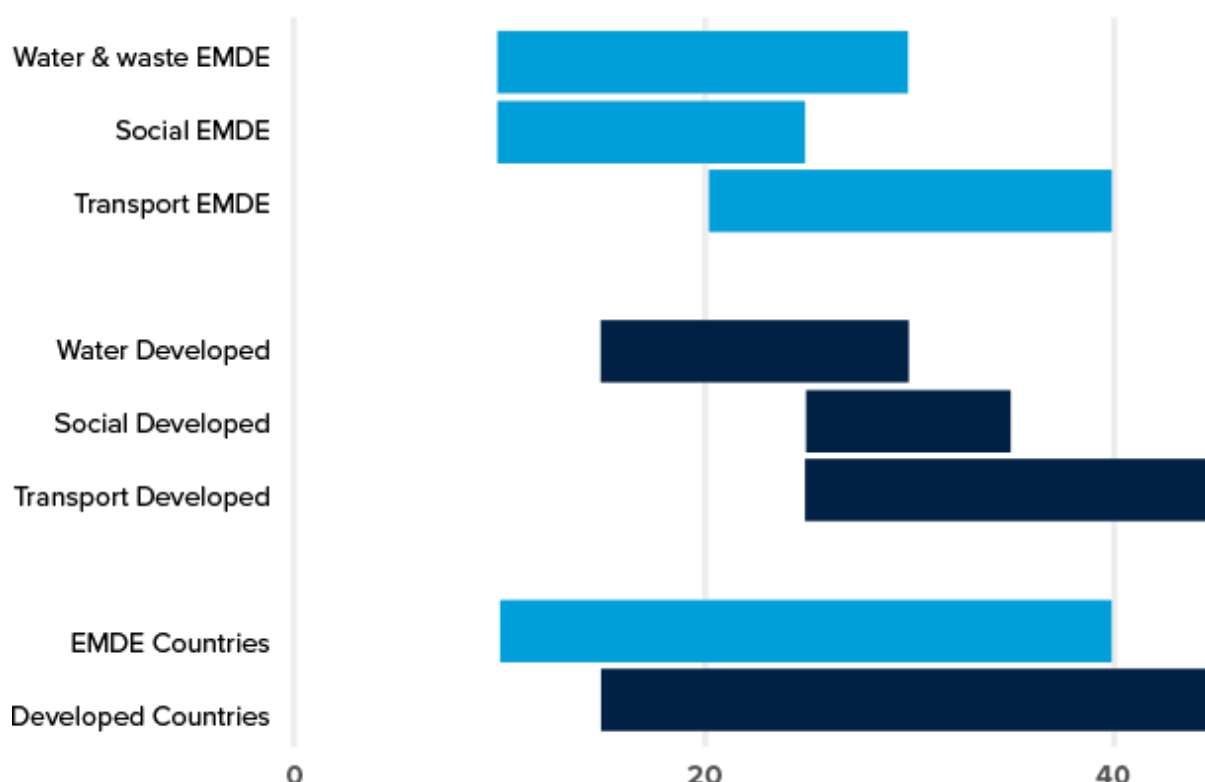
It may be said that most of the PPP contracts of a Design-Build-Finance-Operate-Maintain (DBFOM) form (that is, with significant capital investment) are within a central range of 15-30 years. However, toll roads in developed countries can increase this range up to 40 years and above, and water and social infrastructure projects can bring the range down to 10 years in some projects, especially in Emerging Markets and Developing Economy (EMDE) countries.

In general, the terms will often be shorter contracts in EMDE countries. This may be due to many factors, including the more limited terms available for financing, potentially higher restrictions by law (shorter maximum contract terms available) or higher political concern about “granting too much profit” to the private sector.

This should not be a recommendation or statement about good or bad practice as any project will have its own optimum term, plus there are other factors besides VfM that will influence the term definition.

FIGURE 5.5: Approximate Ranges of Contract Terms per Sector and Country Profile

Contract terms



Note: EMDE= Emerging Markets and Developing Economies.

Other considerations related to term definition in the contract

Some countries opt for making the term a bid factor, so that the term will be that proposed by the successful bidder (together with the price). In the evaluation, bidders that request lower terms score more highly on this criterion than bidders that request longer terms. This evaluation approach should be carefully considered as it may result in a term that does not incentivize effective risk and life-cycle management, especially in government–pays PPPs¹¹.

Another non-customary approach (but used in some projects) when defining the term within the contract is to define the contract term as the final term for construction (that is, the actual time that construction will last) plus a fixed number of years of operations. This approach is less effective in transferring construction risk, and may undermine the alignment of interest between the public and private sectors to construct and start operations as soon as practicable.

Finally, contract terms should be considered in the context of the overall PPP program. While each specific project will have its own optimum term, it may be

¹¹ This approach has been applied in real toll roads in Chile. The variable proposed by bidders in these projects was not the term, but the total revenue required by the bidder. This means that instead of being a fixed period, the term is variable and continues until the project has generated the revenue amount proposed by the winning bidder.

beneficial to tender the same type of projects (in the same sector and with the same basic structure) with the same term, so as to be consistent with the market. This may be preferable to tailoring a particular term for each specific project, especially when a government is developing and launching a sectoral program (for example, if the government has a program of projects pre-announced for refurbishing and managing hospitals, it may be more efficient to have the same term (say 20 years) for each project).

Hence, in programs it is better to analyze and define the most appropriate term for the projects of the program and be consistent with that term.

4.2 Pure Co-financing

Pure co-financing refers to public financing that is included in the mix of finance that is non-revolving, that is, it is acting in a conventional, public-financed project by means of direct payments for a certain proportion of Capex expenditure that the private partner is not required to pay back. It is also referred to as grant financing, as these funds are usually granted to the private partner and treated for legal and/or private accounting purposes as grants.

Situations in which the government provides pure co-financing generally fall into three categories.

- **Viability gap financing in user-pays unfeasible projects:** Co-financing by means of grants is one of the most common methods to solve a viability gap in a socially and economically sensible infrastructure project that is not self-viable on the basis of user-payments. This is explained and developed in section 4.4;
- **Increasing commercial feasibility (in viable projects):** The government may decide to co-finance (by means of grants or by public loans or equity investment, usually on favorable terms), for the purpose of increasing the commercial feasibility of the project, even when a financial structure relying entirely on private finance may be viable (that is, user-payments are expected to provide sufficient revenues) or affordable (that is, the yearly burden of government payments in that project may be affordable for a 100 percent private financing). This is most often done when the specific country does not have deep financial markets and there is a risk that the winning bidder will be unable to raise the funds required for the project. It is more commonly seen in “megaprojects”. These are projects that are of a very significant scale or size. There is not a standard definition for megaproject, but this nomenclature is normally applied to projects above US\$1 billion in size (Capex); and
- **Increasing affordability/lowering the cost of capital:** In other cases (in government-pays PPPs), the government may simply prefer to avoid creating a large deferred budget burden as a result of the project. In such cases, the most effective solution is grant financing; loans on favorable terms will also help to decrease the weighted cost of capital, depending on the level of implicit subsidy (see chapter 1.7.4).

When a government is considering co-financing, it should carefully consider the risk of compromising VfM. If public financing is too significant as a financing component of the project, it will reduce the risks and derived motivations of the private partner to properly operate the project. The risk allocation and incentives may be converted into those of a normal procurement. Excessive public finance may also have fiscal/national accounting treatment consequences (that is, considering the project as a public investment and consolidating it with public debt).

The public direct co-financing evidenced in co-financed PPP projects commonly ranges from 30 to 40 percent of capital costs (for example, for Light Rail PPP schemes in Spain, 30 percent is the common percentage for the grant financing portion of the project). However, a greater degree of co-financing may be sensible depending on the specific features of the project and/or PPP program (see Spanish High Speed Rail PPP model and other examples in box 5.7).

Types of grant financing

Direct grants are the most common form of co-financing. Funds will be granted during construction under a non-reimbursable mode, usually being accrued and paid as a percentage of the value of work in progress or conditional upon the achievement of certain milestones. They may also be paid partially or totally at construction completion.

Sometimes grant financing will be paid on a yearly deferred basis as fixed payments. This uses a payment stream that goes beyond the construction term, not subject to deductions or adjustments related to volume or performance (as if the project was partially a Design-Build-Finance [DBF] project). This represents a good solution when the public sector wants to co-finance a portion of the project, but does not enjoy sufficient liquidity. In these cases, the special purpose vehicle (SPV) will raise the funds related to the grant, but the financial facility to “pre-finance” the public deferred committed funds will be much easier to negotiate since the basis of that loan agreement will be public fixed and irrevocable payments (as if it were a government bond).

As a structuring decision, the government must consider whether to increase the risk tension by making the co-financing conditional on achievement of milestones or completion and whether to defer the payments. As with any structuring decision, this is a question of VfM: more risk implies more incentive to meet milestones, but it introduces more uncertainty for the lenders and a higher price in terms of financing costs. Additionally, more time (deferring the payments) implies financial costs which will usually be above the cost of public debt, but below the cost of the private financing portion of the financial structure that is subject to deductions or adjustments related to volume or performance.

Finally, grants may also be in kind. For example, providing land, or elements of the future infrastructure already constructed and financed (e.g. depots in a LRT system).

Contract development matters

Whether the payments will be made as construction is in progress or on a deferred basis, the most important aspect of the co-financing scheme is when the payments accrue, that is, when the private partner has earned its right to claim the payment, as the absence of construction term risk and risk of final acceptance is paramount for the co-financing to be effective in decreasing the cost of capital. For example, in some projects (such as high speed rail PPPs in Spain), the co-financing portion of the project is paid on a deferred basis over a number of years on a pre-established timetable, and the right to receive the amounts of the future payments is earned monthly, based on a determined percentage of the value of works executed each month.

When and how payments accrue and when they are effectively paid has to be clearly incorporated into the contract, especially to facilitate access by the project company to a line of credit purely based on public counterpart risk.

Another potential complication related to grants is when the grant finance is coming from another administration, rather than from the authority or government that is procuring the project. This is typically the case in projects that are of interest to or even under the power and responsibility of more than one level of administration. This may be the central government and regional government (for example, a State in Australia, Mexico or the United States [US]), or regional government and local municipal government. This happens more commonly in transportation and especially in rail projects. Good practice is that the commitments assumed by the third party government are also assumed by the procuring authority in the contract. This avoids duplicating the counterparty risk for the private partner or the need for it to deal directly with another administration that is not its client.

A further question that must be considered is who will set the grant amount. In government-pays PPPs, the amount of co-financing is most commonly set by the government in the tender documents. This is not subject to offer, so the bidder will offer the service fee (availability or volume-based) depending on the structure.

Conversely, the size of the grant will usually be proposed by the bidders in user-pays PPPs, particularly where the co-financing is being used to solve a viability gap.

BOX 5.7: Examples of Pure or Non-revolving Co-financing

Brazil (regional rail and metro PPPs)

Co-financing is quite typical in rail PPP projects, especially when the grantor of the PPP contract is a regional or local authority that receives financial support from the central government.

In Brazil, many large metropolitan or regional rail PPPs (usually metros or light rail transit [LRT] schemes), promoted by the states or municipalities, receive central government funds. These funds are typically assigned to the project by means of Capex grants, that is, funds are received during construction.

In other projects, the government constructs part of the infrastructure and then transfers the works to the private partner after completion. This integrates the whole construction and management of the project and the service specified in the PPP

contract (so in such cases, the grant may be considered to be “in kind”).

Spain (regional rail and metro PPPs)

In the early 2000s, several regional governments in Spain developed LRT schemes. Many of these projects (in Barcelona, Malaga, Seville, and Tenerife) received central government funds of up to one-third of the estimated Capex. Money was committed by the central government to the regional grantor by means of an inter-administration agreement. The regional government in turn committed those funds into the project as an obligation with the private partner.

In the case of the Zaragoza Light Rail Train, the project was tendered by the local government (the municipality of Zaragoza) and the co-financing came from the regional government (the Government of Aragón).

The normal approach in Spain is that the co-financing comes from fixed and irrevocable public payments deferred beyond the construction period. These are pre-financed within the financial PPP structure by the PPP, usually through a specific credit tranche.

Peru (metro and roads)

In the Peruvian case, where most of the PPPs are controlled and tendered by the central government through the public procurement agency (*Proinversión*), it is common that the relevant state commits direct public support by means of fixed and irrevocable deferred payments. This scheme is called CRPAO¹².

One recent example has been Line 4 of the Lima Metro, in which the majority of the costs were funded by a public deferred grant payment in a long-term stream of fixed payments.

The level of public support varies by project. In this context it was quite large. However there are two reasons contributing to the structure of the scheme: is large. However, there are two arguments in favor of the scheme: (i) the large size of project (considering the size and depth of the local financial market); and (ii) the interest in promoting access to capital markets for financing infrastructure.

Chile – hospitals. The financial/revenue scheme in hospital PPPs in Chile is based on two main payment streams: an operational payment (subject to deductions and adjustments based on quality and availability), and a fixed construction payment (which is in fact a long term/deferred grant).

Spanish High Speed Rail PPP model

The Government of Spain issued various PPP contracts to develop and manage certain elements of two corridors (Levante and Galicia). In each of these contracts a private partner is responsible for the Design-Build-Finance-Maintain (DBFM) contract of a certain infrastructure element of a line (for example, the track, or telecommunications and signaling, or electrification). The payment scheme relies significantly on construction deferred payments (known as PDIFs or “pagos

¹² The *World Bank PPP Reference Guide, Volume 2*, details the example of CRPAO (*certificado de reconomimiento de pago anual de obras*) on page 61.

diferidos”). Payment for a percentage of the construction works is made by the government issuing instruments similar to promissory notes, which the private partner may pledge as security for non-project risk financing or even sell to a bank (the instruments are discounted without recourse). That credit right is earned monthly as work is progressing. This deferred public finance (similar to the Peruvian CRPAO) amounts to up to 90 percent of Capex in some projects. An availability payment serves as compensation for O&M costs and the remaining portion of the initial Capex.

Australia

In a recent Australian prison PPP, the responsible government agreed to make a payment at the commencement of the Operations Phase equal to 40 per cent of the debt, which was forecast at financial close to be outstanding at the commencement of the Operations Phase. The government stated that this contribution would provide an optimal level of private finance in the Operations Phase and drive a Value for Money outcome. The remainder of the cost will be met through quarterly service payments by the government over the 25-year operating phase.

4.3 Public Loans: Hard or Soft Public Agency Loans

PPPs are generally (in developed countries and EMDEs with a certain degree of financial market development) financed in the local currency¹³.

National agencies (national development banks [NDBs] and other national financial institutions) may play a significant role in lending to projects, especially in countries with a lesser degree of financial development (that is, with a potential insufficiency of debt market mechanisms to finance the project).

In some cases, private lenders may not have the capacity to fully underwrite project loans for larger projects. In such instances, a public development bank or public financial agency may help to fill the loan market gap, providing part of the loan (for example, the *Banobras* in México, and *Instituto de Crédito Oficial* (ICO) in Spain). The most conventional approach is when these agencies act as “co-lenders”, lending on the same conditions as the banking community and subject to their leadership.

In other cases, the financial agency may provide the cornerstone piece of the financial structure (that is, the financing may not be achieved on the terms considered without the involvement of the agency). This is the case for many projects in Brazil with the Brazilian Development Bank (BNDES) lending on favorable or out of the market conditions (for example, loans at longer terms than those provided by the commercial lenders). It may also be the case when the public debt instrument provides special advantages or comfort to the private sector project

¹³ The situation in which a country needs to rely on cross-border financing is much different. When a country does not have a minimum financial capacity (so as to provide loans in local currency on reasonable terms), it has to rely on cross-border financing. When this is the case, foreign exchange (forex) issues may arise. Multilateral Development Banks (MDBs) have a more relevant role to play in these projects. This has been discussed in chapter 0.5.6.

financiers. For example, under the Transportation Infrastructure Finance and Innovation Act (TIFIA) scheme in the US, the government provides up to 30 percent of the project finance on subordinated terms, thereby increasing the rating of the project and making it more attractive for commercial lenders and/or bond holders).

The use of these mechanisms should be carefully considered, as systematic financing by public agencies may produce a crowding out effect because the banking industry may be unable to compete on the same terms with the public lenders. In addition, through public sector lending (even from a public independent financial agency), the government is indirectly retaining a part of the project risks that the PPP contract has transferred to the private partner.

Strictly speaking, the presence of these agencies does not constitute financial structuring of the contract (that is, structuring the payments to the private partner), as these funds are not from the respective department promoting and procuring the project. However, if the loan conditions are more favorable than those provided by the market, these structures indirectly affect the payment profile of the project and increase affordability.

When the government is relying on public agency loans, it should ensure that the financing is available. Therefore, some preparatory work must be done before tender launch. If the participation of the financial agency is necessary for the feasibility and affordability of the project, it should be available for any bidder. Therefore, the project should be assessed in advance by the financial agency and its requirements for capacity and eligibility should be clear and accessible to all interested parties. They should also be consistent with the qualifications criteria of the tender package.

Box 5.8 explains some examples of national (TIFIA and BNDES) and multilateral public financial agency loans (European Investment Bank [EIB] loans within the European Union [EU]). Chapter zero described the role of other MDBs through A/B loans as well as export credit agency (ECA) financing (see chapter 1.7.2.3).

Public subordinated loans as a support mechanism

In addition to loans provided by financial agencies, loans may also be provided by the very department or procurement agency in charge of the procurement process and contract. The contract may provide for such a loan, on favorable conditions and subordinated terms, to compensate for part of the works.

For example, this is the case in Spain for a number of user-pays toll roads. It is used to fill the feasibility gap in those projects as an alternative to direct and pure (non-revolving) co-financing. The next sub-section describes the particularities of user-pays non-feasible projects.

Like grants, soft loans (on favorable or below-market conditions, in terms of tenor or price) may also be used to reduce the weighted average cost of capital of a project. This then reduces the long-term burden committed in the payment mechanism (in government-pays PPPs), or decreases the feasibility gap (in user-pays PPPs). But unlike a grant, a loan can leave the public debt records unaffected. This is only possible if the loan will not be treated as a public investment in terms of budget or fiscal treatment.

Soft loans, especially when provided by the procuring authority, will have clear implications in the drafting of the contract. The contract should clearly state how to deal with inter-creditor issues (that is, the relationship between the government lending agency and the private sector lenders). A soft loan provided by the procuring authority is usually a subordinated loan (but senior to the equity provided by the investor). It is also common that the soft loan is in the form of a participative loan (for example, as in Spain), that is, the government receives part of the upside of the project in exchange for the below-market conditions (see box 5.8). Remuneration and rights to receive distributions have to be clearly described in the contract.

BOX 5.8: Examples of Revolving Co-financing (public loans)

TIFIA financing mechanism

In the US, the Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA) established a federal credit program for eligible transportation projects of national or regional significance. Under this Act, the U.S. Department of Transportation may provide three forms of credit assistance: secured (direct) loans, loan guarantees, and standby lines of credit.

TIFIA loans (secured loans) are direct federal subordinated loans to project sponsors. They offer flexible repayment terms and provide combined construction and permanent financing of capital costs. These loans are complementary to other financing sources as the TIFIA contribution is limited to 33 percent of total project costs. The senior debt, complemented by the TIFIA loan, must be rated investment grade.

TIFIA loans are available for large surface transportation projects with dedicated revenues for repayment. The TIFIA credit instrument must be supported in whole or in part by user charges or other dedicated non-federal funding sources that also secure the project obligations.

The maximum term for TIFIA loans is 35 years from substantial completion, and repayments must start 5 years after that completion.

Interest rates on TIFIA loans are quite low, set at rates comparable to US Treasury securities. Interest capitalization is allowed for up to 35 percent of the total TIFIA original debt.

BNDES financing

In Brazil, most infrastructure projects are financed by BNDES or other state banks through long-term senior loans at below market conditions. Loans are usually structured as yearly equal principal amortization quotes or yearly equal debt service quotes (principal and interest). Loans are generally asset backed and repayments must start between 3 and 5 years after substantial completion, depending on the sector.

The main characteristics of the mechanism are shown in the chart below:

Sector	Maximum leverage (% over eligible costs)	Interest rate	Maximum term	Maximum grace period
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Highways	80%	TJLP* +1.5%	20 years	5 years
Railways	80%	TJLP* +1%	30 years	5 years
Airports	70%	TJLP*+0.9%	20 years	3 years
Ports	65%	TJLP*+2.5%	20 years	3 years

*TJLP= *Tasa de Juros de Longo Prazo* (interest rate set by the Brazilian Central Bank)

Generally these loans are complemented by another senior funding source (usually bonds or debentures).

European Investment Bank (EIB) loans for Infrastructure

Like other MDBs and international financial institutions (IFIs), the EIB provides financial support by means of loans to governments, but also provides financing to the private sector under PPP schemes. In certain projects, the EIB may provide a direct loan to the special purpose vehicle (SPV) assuming the project credit risk. However, two other routes are more commonly used by the EIB to provide long-term financing to a PPP project.

- On-lending structures. The EIB will lend the debt amount to a private commercial bank which will “on-lend” the amount of debt to the project company for the same term, but charge a markup for the credit risk. The EIB lending is against the intermediate bank creditworthiness, so the private bank is responsible for repaying the loan to the EIB, regardless of the success or failure of the project.
- Wrapped loans. As in the previous case, EIB will lend against the creditworthiness of a bank (or another guarantor), but will provide the loan directly to the SPV (against the issuance of a first call guarantee from the bank guaranteeing the debt). The SPV will repay the loan with interest to the EIB (the interest rate will be in line with the credit standing of the guarantor), and will pay a guarantee fee to the institution that provides the guarantee to the EIB.

The EIB participation in EU projects provides additional certainty about the availability of financing. It offers longer terms than those offered by the private lenders, and a lower all-in cost (based on the lower base interest rate of the EIB due to its AAA credit rating).

4.4 Filling the Viability Gap of a User-Pays Project

As explained in section 4.2, one reason for co-financing may be simply to fill the viability gap in a user-pays PPP, but there are other approaches.

A market-oriented or revenue maker project (based on user payments) may not be completely feasible on the basis of those commercial revenues (that is, the revenues net of O&M costs are not enough to amortize the funds invested).

This is common, especially in rail infrastructure, and primarily in the context of passenger transportation. No heavy metro or high-speed infrastructure is financeable on the basis of its commercial margin.

The fact that a rail project is not commercially feasible does not imply a lack of economic sense; there may be significant externalities and strong socio-economic benefits which may justify the procurement decision.

Although less common, a road infrastructure project (tolled roads) may also be non-feasible unless the public sector complements the inadequate revenue or supplements the lack of funds. This is usually the case for road infrastructure projects with very significant structures (bridges and especially tunnels) or PPP projects that are specifically for such structures (a specific bridge or tunnel). The same principle of care regarding economic feasibility or sense should be applied.

In these projects, a pure co-financing (construction grants) or a soft loan scheme may be an appropriate solution to fill the feasibility gap.

However, the government also has the option to complement revenues instead of complementing the initial funding (creating a hybrid payment mechanism), or it can proceed with a combination of the two support mechanisms.

When providing complementary revenues through public budgetary payments, it is preferable to structure these as service-type payments. For example, rather than being irrevocable or unconditional, they should be conditional on the performance of service (availability payments) or the volume served (shadow tolls). This is especially true if the public funding support represents a significant portion of the revenue mix (for example, more than 40 percent of the revenues).

A PPP program that illustrates different routes to fill the viability gap is the toll road PPP program in Colombia – see box 5.9 below. Box 5.10 also presents more examples of viability gap financing and similar funding from around the globe.

BOX 5.9: Colombian Toll Roads PPP Program and Viability Gap

Road and highway construction in Colombia is very costly compared to typical costs in other countries, mainly due to the geography of the country. Most of the roads include a significant number of bridges and tunnels, which make the construction costs very high. As such, many of the projects are not financially feasible bearing in mind the projected toll revenues. Therefore, significant public financial support has to be included in order to make such projects commercially feasible.

The need to develop roads and highways quickly and reliably led the government of President Santos to create the Fourth Generation (4G) Highway program. The 4G program covers the construction and/or replacement, operation, and maintenance of 27 corridors with an investment of \$50 billion over a horizon of 10 years.

The approach taken by the government of Colombia, to solve the viability gap is a combination of deferred support by means of availability payments and a traffic income guarantee.

The government contributions in the form of availability payments are subject to deductions for unavailability, poor quality, or service capped at 10 percent of total payments. These payments are received for each “Functional Unit” or section of the road finished and opened to traffic.

The government also provides a guarantee of minimum traffic income payable every five years if the present value of traffic income does not reach a certain value previously determined within the contract.

BOX 5.10: Examples of Filling the Viability Gap in a User-Pays PPP

- Lump sum payments/grant financing. In many user-pays projects with insufficient revenues, governments provide public co-financing and this is the economic driver for the offer and the evaluation. The amount requested is usually disbursed during the construction period.
 - This has been the case in a number of road projects in Mexico, where publicly funding of Capex was provided by PINFRA (*Promotora y Operadora de Infraestructura SAB de CV*), a role now assumed by FONADIN.
- Deferred grant. The government may prefer, for liquidity reasons, to extend the period of co-financing and provide the public funds by means of a long-term fixed payment stream.
 - for example, some PPP roads in Peru.
- Complementary or mixed revenues. Complementary revenues in the form of service payments (based on availability or on volume) are sometimes provided in real toll projects (see Colombian road program in box 5.9). One infrastructure type that often provides examples of user-payments combined with service payments (usually in combination with grant financing) are vertically integrated metro or light rail transit (LRT) schemes (in which the PPP includes both infrastructure and service operations).
- Spain provides a number of examples, such as in Barcelona, Seville, Tenerife, and Zaragoza (Trambaix and Transbesos). In these schemes, the private partner will receive and retain the tariff box but will be entitled to receive complementary payments from the authority which may be based on the number of passengers (a shadow fare), vehicle/kilometers served, or availability.

Zaragoza LRT PPP is an interesting example of co-financing, with the government of the region providing a deferred grant to finance a portion of the project. It also provides a service payment based on actual patronage (a shadow fare as quoted/bid by the successful bidder) with a system of bands to temper down the volume risk and to share any potential upside. The fare box is retained by the private partner and deducted from the shadow fare earned every year.

- Participative public loans.
 - The traditional Spanish model of gap filling in toll roads was based on a subordinated/participative long-term loan, the amount of which was the economic driver of the offer. The participative loan is structured with a small fixed interest rate plus a variable rate that is linked to the amount of revenues from the concession.

4.5 Equity Participation by the Government

The government may provide equity to the project company directly (participation from the procurement agency) or through a public infrastructure fund.

Sometimes the motivation is to increase day-to-day control and have direct access to accounts and daily management of the company. This should always be considered with caution as it may be a strong factor in discouraging bidders and creating conflicts. For example, the government/public sector agency might have to share in the liabilities arising from early termination of the contract. There can be obvious conflicts of interest between being the 'client' and an equity holder. The nominated director from the government/public agency has a duty to the company that could put him/her in a difficult position, particularly in relation to the confidentiality of information and organizational strategy/intent in dealing with disputes/termination.

One approach to mitigate this concern is for the government's equity participation to be made through a trust fund (to avoid conflicts of interest).

Another reason for government equity participation may be to have access to any upside in the project, that is, it is a method to share the profits from the project. There are other ways a project can be structured to allow the government to share in profits without the need for it to take an equity stake; the pros and cons of each of these options should be considered if the government wishes to have access to the upside of the project.

In other cases, the objective is to help make the project commercially feasible. This may be the case if there is no appetite in the financial investor market to co-invest with promoters, and/or if the requirement for equity investment is of a challenging size. It may also be the case if the government wishes to increase affordability by decreasing the net overall burden of the project in terms of costs (by participating as an equity partner on favorable conditions, in terms of return or rights), as in the case of other public financing mechanisms described in the previous section.

The government equity investment may have significant implications for the financial structuring, especially when participation is on favorable conditions. For example, in Spain, there are many "mixed equity companies" (which are by legal definition a type of contract, but which usually have all the characteristics of a PPP) where the private shares are granted with preferred economic rights. This is done by means of preference in dividends or the recognition of a special management fee that is only granted to the private equity partner to increase its equity return vis-a-vis the equity internal rate of return (IRR) of the public shareholder.

Contract provisions concerning government equity participation

The impact of this scheme on the contract provisions is clear: the contract package must clearly define the rights and obligations of the public partner as a shareholder and the special rights of the private equity holder. This should be captured in the Articles of Association of the SPV, and it should be further developed in a specific shareholders' agreement between the private equity investors and the public equity partner (a draft of which will form part of the contract package tendered out).

Examples of specific conditions to limit the presence of the public party as an equity partner are as follows.

- In some contracts, the public equity partner accepts a lower equity IRR than that of the private equity holder. The mechanisms for such economic preference should be included in the articles of association or shareholders agreement, but sometimes they are also incorporated in the body of the contract;
- The public party as an equity partner may not be obliged to inject additional equity if an unexpected capital increase is required by a risk event. If this occurs, the public party has to accept a dilution of its economic rights;
- The public party shares may not have voting rights, but only economic rights (sometimes known as class B shares); and
- The need to set out the rights to sell to third parties — trying to avoid or mitigate the inflexibility that public ownership of shares will usually imply due to regulations on the disposal of public assets.

4.6 Other Ways to Increase Financial Feasibility and Affordability¹⁴

Apart from providing public funds to partially compensate for construction, or through public debt or equity instruments, there are other indirect means by which the government can increase commercial feasibility and/or reduce the budgetary burden of the PPP. These can also be considered, in broad terms, as public financial structuring techniques which have implications in the contract drafting. They have been introduced in chapter 1, but further examples are presented here.

- **Contractual guarantees.** This concept is inherently linked to risk allocation. An example is a minimum revenue guarantee in road PPPs, in which the government makes payments to the private party if revenue falls below certain levels (for example, in South Korea) or under more sophisticated schemes, such as the Chilean road PPP model. In this model, the term is extended until revenues meet an agreed NPV. In water projects (for example, waste water treatment projects [WWTP] or desalinization), as well as in energy PPPs (such as a power purchase agreement [PPA]), the public party may structure the contract on the basis of a take or pay approach, guaranteeing a minimum off-take or a minimum price for the plant being available. These guarantees facilitate access to project finance on better financial terms, that is, they help to decrease the financial gap or increase feasibility by lowering the WACC. Strictly speaking, contractual guarantees are more closely related to risk structuring matters than financial structuring;
- **Foreign exchange risk guarantees.** One specific case of guarantees deserves special attention. In the case of EMDEs with under-developed local financial markets, there is likely to be a foreign exchange risk. This can be

¹⁴ While it is not a “matter of structuring”, governments in EMDEs should seek the involvement of MDBs and IFIs as financiers (or insurers/guarantors) of the projects by informing and encouraging them to participate in the financial package. This is especially the case in least-developed countries (LDC) countries and those countries where the local market is not deep or capable of financing the project with long-term structures. See chapter 0.7.2.3 about A/B loan structures or other kinds of financial support from MDBs (the Multilateral Investment Guarantee Agency [MIGA], partial guarantees).

mitigated by foreign exchange risk guarantees in which the public party will assume the risk of devaluation and its impact on the project debt raised by the SPV in hard currency;

- **Explicit/financial guarantees or direct guarantees from the treasury** (on a first call, unconditional and irrevocable basis). These guarantees are usually given to protect or guarantee the project debt. In some cases, the guarantee is only effective during the construction period (for example, in the UK). An example of this approach is the Mersey Gateway Bridge PPP in the UK¹⁵;
- **Guarantees in respect of government counter-party risk (“guarantee funds”)**. These guarantees do not transfer a risk back to government, but provide security for government payment obligations under the PPP contract. The Indonesian Infrastructure Guarantee Fund is an example. Brazil also has the same instrument;
- **Guarantees of a portion of the service payments** (that is, limiting the deductions due because of potential under-performance), which may evolve to fixed payments schemes, such as Cessions Dailly, are described below. The difference is that the fixed portion of the payment is not a separate payment stream, but the same payment mechanism in which there is a contractual commitment by the authority limiting the deductions from the payment to a certain percentage (for example, 20 percent). This is done without renouncing the ability to terminate the contract on the basis of default by the private partner. This is a usual adjustment in availability payment mechanisms in emerging markets, especially in markets in the early stages of the PPP maturity curve; and
- **Specific credit enhancement mechanisms**. These are usually in the form of subordinated debt provided by an official agency (sometimes multilateral or supra-national, as in the case of the European Investment Bank’s (EIB) Project Bond Credit Enhancement (PBCE) mechanism), which are priced at market rates (clearly above senior debt price) with the aim of increasing the credit rating of the project and facilitating access for the project to capital markets (allowing the private partner to issue project bonds). Even when funding or protection is not coming from the state/government that is procuring the project, these mechanisms have to be considered in the financial structuring, as the availability for such support will impact commercial feasibility. However, unless the access to such support is already granted and committed, it should not be included in the financial model for affordability or feasibility purposes. As in the case of public agency loans, the government should prepare the access to these facilities if it wants to rely on their potential advantages and provide a level playing field for competition.

Another technique commonly used to de-risk projects and increase commercial feasibility is the de-composition of the payment mechanism, creating a tranche that is an irrevocable and unconditional payment obligation which is potentially transferable or can be sold to a financier. This scheme, which can also be regarded as form of a deferred grant financing, is common in France for large infrastructure PPPs such as high-speed rail (HSR) projects, and it is known there as “Cessions

¹⁵ The project is financed by project bonds that enjoy the unconditional and irrevocable guarantee from the UK Treasury (HMT), based on which the project was granted with a provisional Aa1 rating by Moody’s in March 2014. See https://www.moody.com/research/Moodys-assigns-a-PAA1-guaranteed-rating-to-Merseylink-Issuer-PLCs--PR_294979.

Dailly". This mechanism allows the private partner to transfer part (typically 70 percent) of its rights for payment from the public sector under the contract directly to its creditors, subject to public sector agreement. This transfer is permitted after the assets built by the private partner have been commissioned. Once transferred, these rights for payment are secured and are independent of the PPP contract. Even if the PPP contract is terminated, the public authority will have to pay the bank for its share of payment.

The main consequence of such a transfer is that the credit risk rating of the tranche of debt serviced by this part of payment under the PPP contract is increased to the level of credit rating of the public authority. This in turn reduces the project WACC and its overall costs.

This scheme is similar to the CRPAO also discussed in section 4.2.

4.7 Categories of Revenue Regimes in PPP Projects

Some PPP projects are funded wholly or primarily through user payments. This is most common in economic infrastructure sectors. Financial structuring matters that arise in user-pays PPPs are discussed in section 4.8.

Other PPP projects are funded wholly or primarily through government payments. This is the case in most social infrastructure projects, but government payments also occur in many economic infrastructure projects. There are several reasons for this.

- For some forms of economic infrastructure (such as rail transport or water), a PPP project may be just one component of a broader network or service that is operated by another entity (the incumbent operator) and the user is paying that operator for the final service (transportation, water supply to homes). Examples are HSR projects in Europe (mainly in France and Spain), or WWTP and purification plants where the water is taken off by a public water authority that operates the service;
- For other projects, where it would be possible to charge the user for the use of the infrastructure contracted under the PPP (for example, a road), it may be decided that no charge will be applied (that is, it would be a toll free highway). That is a public finance decision as to whether the project should be funded through user charges to the specific users or through utilizing tax revenues to make government payments (the tax revenues could be derived from usage-related taxes, such as a fuel tax, or from general tax revenues). Examples are found worldwide, including in Canada, Hungary, Mexico, Spain, and so on);
- There are projects in which charges to users will be applied (for example, a light rail transit system) and collected by the private partner. But if those user charges are insufficient to meet the private partner's costs and provide a return on its investment (that is, the project is not commercially feasible and there will be a viability gap), the government can assign the user payments to the private partner and supplement the user charges with government payments to fill the viability gap (see section 4.4.);
- Finally, there may be user charges, but the PPP is structured so that the private partner's revenue consists entirely of government payments. The government retains the user revenues in public hands (so as to offset part or

all of the payment to the private partner and retain the risk and reward of the toll collection). An example of this approach is the I-595 road project in Florida¹⁶ (US), the Port of Miami Tunnel¹⁷ project, and the newly-renegotiated road PPPs (the former SCUTs) in Portugal; and

- The choice between these options relates to risk and VfM considerations, and is made in the Appraisal Phase.

In all these cases where there are government payments, the contract will have to provide a payment regime (the payment mechanism) which is usually based on volume or usage, or on availability and/or quality. These concepts and the most relevant structuring matters are explained in subsequent headings (4.9 and 4.10).

¹⁶ See the Florida I-595 road project case study in *Paving the way* (World Economic Forum [WEF], 2010). http://www3.weforum.org/docs/WEF_IV_PavingTheWay_Report_2010.pdf

¹⁷ See Port of Miami Tunnel Project in *Paving the Way* (WEF 2010).

4.8 Financial Structuring Matters in User-Pays Projects

As introduced in chapter 4, when the private partner's revenue is based on user-payments, there are a number of structuring parameters that should be carefully considered and outlined during appraisal. These should then be refined (and in exceptional cases reconsidered) in the Structuring Phase. See figure 5.6.

- **Definition of toll/tariff levels.** In road projects subject to tolling, the government typically sets maximum toll levels (per type of vehicle) and other general parameters for the toll structure. In some projects, a maximum average tariff is defined, giving some flexibility to the private partner to apply different toll strategies subject to general caps within the basic tariff structure. Higher flexibility is seen in some projects, especially those with dynamic tolling¹⁸. The basic strategy (that is, the extent to which flexibility will be granted to the private party in defining toll levels) and the basic structure of tolls (especially defining caps) is usually determined in the Appraisal Phase, but marginal changes might be made during Structuring Phase.

In water projects related to the integrated water cycle (that is, including infrastructure provision, water supply to homes, and tariff collection), the tariff is always regulated because of its nature as a basic 'public good' and there is usually no room for tariff definition by the private partner. This is also commonly the case in public transport projects;

- **Tariff revision or indexation.** When tariffs are capped, they will usually be reviewed (yearly in arrears) and indexed during the term of the contract. While a basket of indexes may be used, the most common approach is to index the tariffs to a general inflation index (usually known as the Consumer Price Index, or CPI), while in some countries (for example, in Spain), a correction factor is included to incentivize higher efficiency in cost management (for example, tariffs are indexed at $0.85 \times \text{CPI}$). In some sectors with independent regulators, there are periodic tariff reviews (mostly for consumer tariffs) that take a wide range of factors into account. For example, in power generation, it is common to include an automatic pass through of fuel costs in the tariff, with monthly, 6-monthly, or annual adjustments.

Some schemes in road projects provide for flexibility in the indexation of the tariffs, allowing for linking the indexation to gross domestic product (GDP), or whichever is higher between GDP and inflation; and

- **Payments to the procuring authority (in projects expected to have excess revenues).** When the project shows revenue potential in excess of that required for commercial feasibility, governments may opt to decrease the tariffs and pass that benefit thorough to the final users, or to capture that benefit as a financial revenue for the government (or a combination of the two).

The most typical routes for sharing the excess revenue are:

- upfront payments (also called an upfront "concession fee"); and

¹⁸ Dynamic tolling or dynamic pricing refers to tolling levels that may vary in real time in order to respond to congestion. It is related to facilities in which there is a toll-free alternative so that drivers have the ability to use tolled or non-tolled options, depending on the level of traffic and the price. These projects are sometimes referred to as "express lanes".

- sharing mechanisms during operations which may, in turn, be in the form of a fixed yearly payment or in the form of a variable payment (defined in terms of a percentage of the revenue earned)¹⁹.

Sharing the potential “excess revenue” by shortening the contract term should be carefully considered as this approach to sharing gains will likely affect VfM and financial optimization.

An upfront fee should only be considered when there is clear evidence of the value of the excess revenue to the project company. The cost of capital matters should be considered, as the project company will have to raise additional capital in order to pay the fee. Concession fees should not be required at the cost of overcharging users with a higher than economically reasonable fee.

When the government decides to request an upfront fee (or needs to do so for fiscal reasons), it may be preferable to estimate a prudent value for the concession fee (that is, based on realistic and close to pessimistic traffic and revenue assumptions). The government may also capture the rest of the excess value or a part of it through a variable fee during the life of the contract.

Excess revenue most often arises in existing projects, that is, in existing infrastructure (usually roads²⁰, airports, and some ports), for which there is an established and known level of current use. Potential excess revenue can also be identified for some greenfield projects (mainly roads), although this is less common;

- **Unfeasible projects.** Conversely, there will be projects that are not financially feasible on the sole basis of user fee collection (not feasible on a stand-alone basis). This will have been identified in appraisal and the basics of the strategy to fill the gap will have been established, subject to a refinement in terms of financial structure.
 - If a co-financing approach has been selected, the shape and form (especially the timing) of the grant payments will be defined at this stage to the extent it was not done previously; and
 - When feasibility is supported by participative soft loans (subordinated debt provided by the procuring authority), the terms of such loans will be determined now, although basic conditions should have already been settled during appraisal.

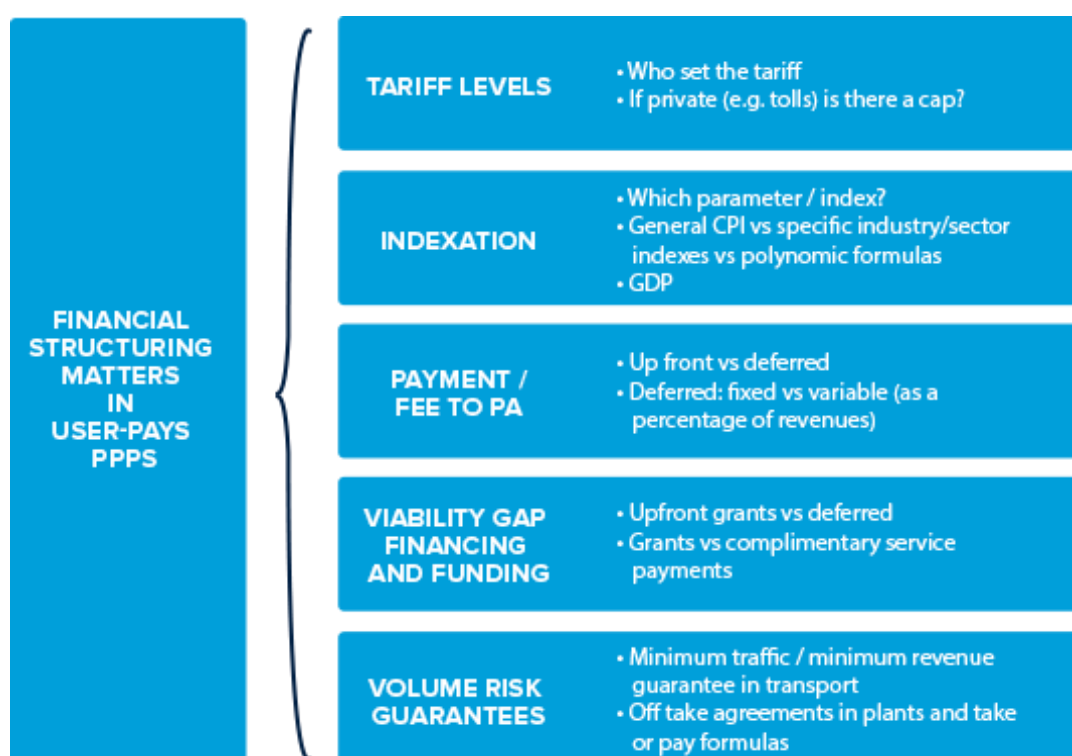
¹⁹ A variation of this approach is to apply the percentage to be shared to the net profit or the Earnings before Interest, Taxes, Depreciation and Amortization (EBIDTA) of the project company. This has the disadvantage of being more complicated to calculate and may more easily result in disputes. Another more complex approach is to base the sharing of excess revenues or excess profit in the equity returns (equity IRR) levels so as to share revenues or make payments to the procuring authority when the equity IRR exceeds certain thresholds.

²⁰ Box 1.10 in chapter 1 explains “Long term leases or concessions of an existing user-pays infrastructure as a special case of management or service PPPs with significant private finance”, including an example of a relevant project, the Chicago Skyway.

In these cases it is customary to include some mechanism to share potential upsides. This and others means to support feasibility of a project have already been explained in the previous section; and

- **Risk structuring matters related to volume.** When demand risk is perceived as significant (for example, in a greenfield project for which there is no historical data that can be used to estimate demand), it may be necessary to limit or share such risk. This can be done through such contractual mechanisms as guarantees of minimum traffic/revenue or other similar mechanisms (see box 5.11).

FIGURE 5.6: Key Factors in Financial Structuring of User-Pays Projects.



Note: CPI= consumer price index; GDP= gross domestic product; PA = procuring authority.

BOX 5.11: User-Pays Road PPPs: An Example of a Revenue Shortfall Mechanism²¹

The 157-kilometer (km) tolled motorway M5 (Hungary) forms part of the Pan-European Transport Corridor IV (Berlin-Prague-Bratislava – Budapest-Thessaloniki-Istanbul). It was developed as a user-pays PPP (concession) in 1994 with a contract length of 35 years.

The contract includes a “revenue shortfall mechanism” to make up for revenue shortfalls due to traffic during the first 7.5 years of operations (a mechanism that was in fact used to a limited extent).

This provision contributed to the project being financially sustainable. However, the previous and the first road PPP in Hungary (the M1-M15 Motorway) defaulted and had to be rescued by the government.

The mechanism is a revolving type: the contributions by the government to meet revenue shortfalls are construed as a subordinated loan that will be repaid on the basis of future benefits, with priority over the dividends to the private partner.

The project also benefited from the participation of the European Bank for Reconstruction and Development (EBRD) under an A/B loan structure. It included the right to review toll levels by the private partner on the basis of changes in currency exchange rates, and it was confirmed as a model for future projects in Hungary and the region.

4.9 Volume-Linked Payment Mechanisms

The basic form of the payment mechanism is defined during appraisal, whether the project is a user-pays PPP that relies on significant service payments to complement the revenue, or the project is a pure government-pays PPP where the operational revenue is entirely in the form of public payments.

If the payment mechanism provides for the government to make shadow payments based on volume (for example, shadow tolls, shadow fare payments in public transport, or payments per cubic meter in water treatment projects), this will introduce demand or volume risk to the risk structure. This risk is generally difficult for either party to control or manage, and lenders are wary of it — unless, that is, the nature and context of the infrastructure or service make the risk reasonably predictable (for example, with regard to demand in a road corridor with a long track record and an absence of competing roads now or in the future).

Volume risk structures should only be considered when there is a clear alignment of interests (that is, the public party is interested in higher demand or higher volume, for example, in urban public transport) and when the traffic or volume risk is considered to be reasonably assessable and manageable by the private partner. There may be cases in which the public party is interested in higher volumes, but there is no rationale for transferring volume risk. One relevant case is that of some rail corridors

²¹ *Resource Book on PPP Case Studies* (European Commission 2004) case study 19.

where the private partner is responsible for the Design-Build-Finance-Maintain (DBFM) of the infrastructure of the line, but the line itself will be operated by an incumbent operator or by other private operators. In this context, it is irrational to pay the private partner on the basis of traffic (the number of trains that use the infrastructure) as the volume is under the control and management of a third party. See also table 5.2.

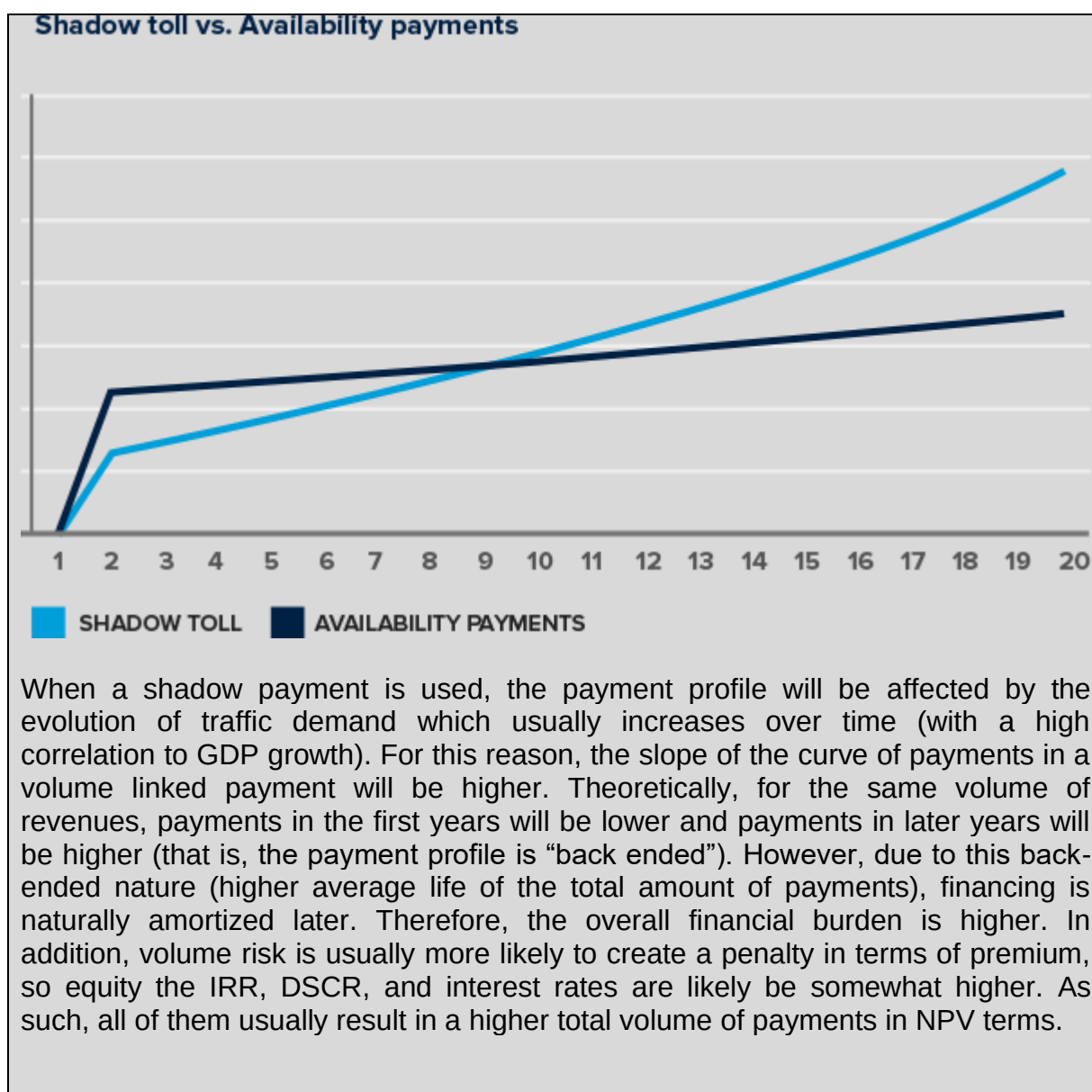
TABLE 5.2: Examples of Improper and Proper Volume Risk Transfer in Government-Pays PPPs

Improper Volume Risk Transfer	Proper Volume Risk Transfer
• A WWTP PPP contract where payments are purely volume linked and there is no ‘take or pay’ provision (that is, there is no minimum volume or revenue guarantee). The plant may be treating water in full compliance with the quality and capacity specifications, but water inputs are lower than expected. Therefore the PPP Company will suffer financially for reasons out of its control and despite performing correctly. • A hospital PPP is contracted for the design, build, finance, and maintenance of the facility (no clinical services are included as these continue to be operated by the public health service). Payment per occupant might create an unfair situation if health authorities decide to send patients to another new hospital. • A toll-free road that is developed under a PPP model where payments are linked to the number of users. If there are far more users than originally expected by the government, the payments by the government will be far greater than scheduled and the private partner will earn unwarranted profits. If the number of users is well below the original projections by the government, then the private partner will suffer unduly even if the road infrastructure was well built and is	• The government decides to maximize the value of revenues in an existing toll road with a long track record of traffic and a demonstrated willingness to pay by the users. It is not customary to provide any guarantees or protections against low traffic risks. The public sector’s objective in this situation is often to maximize its revenue (in the form of an upfront fee payment and/or as a percentage of excess revenues). • A LRT PPP includes the infrastructure development and management, provision of rolling stock, and operation of the trains. The procuring authority decides to pay on the basis of a shadow fare system distributed by bands of demand (that is, payment per user is higher with low demand and lower with higher demand), as well as availability payments.

being properly maintained. Payment mechanisms in transport should be based on availability/quality or, where based on volume, the volume downside risk. Windfalls should be tempered by means of minimum traffic or revenue guarantees and profit-sharing schemes (usually under a band system approach). • A rail infrastructure link between two countries is developed under a PPP scheme, and the private partner is paid on the basis of the number of trains (operated by the respective country public operators) using the link. The private partner completes the works on time, but one of the countries has not finalized the necessary upgrades in its HSR system, so traffic is much below the original expectations. There is a perverse incentive for the public authorities to delay the effective use of the corridor to save costs to the respective rail systems.	
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Volume payments (in transport) give the public party a theoretical advantage as they provide payments that increase over time in real terms because the long-term demand is expected to grow at a pace approximating the growth in GDP. Therefore, the payments can be back loaded (that is, lower in the early years of the PPP and higher in the later years). However, this has the inherent disadvantage of increasing the overall financial burden of the PPP scheme because the average life of the financing is longer, and it is likely that the DSCR required by lenders and equity IRR requested by the investor will be correspondingly higher. See figure 5.7.

FIGURE 5.7: Payment Profile in a Road PPP: Volume versus Availability



The following are the most relevant features of this type of mechanism, so structuring decisions should focus on them.

Volume risk structuring

In shadow tariff or shadow toll projects, the final structuring or refinement of the structure will usually be focused on delineating and limiting the volume risk. Where demand may be volatile or suffer material changes in the course of the project (which is typically the case in transport projects), it is not uncommon to establish a system of bands to share part of the risk and reward. For traffic or volumes below certain thresholds, the shadow fare will increase so as to compensate for part of the loss of revenue due to the lower traffic volumes. Conversely, the tariff will decrease if the traffic volume is above certain bands, that is, it is in excess of the baseline curve of the traffic forecast.

The bands or any other method used to temper the traffic or volume risk should be carefully assessed to avoid entirely protecting the private partner from the risk. This would harm the VfM and affect the rationale of the entire PPP contract.

In some projects, the payments are not capped and governments have faced unexpectedly large payments as a result. This creates undesirable, open-ended fiscal risks for government. Regardless of whether a band system is in place, there should be a maximum traffic level above which government makes no payments.

However, where traffic is above the maximum traffic threshold, the contract should compensate the private partner for the risk related to extraordinary levels of traffic (above the traffic limit set out for payments) because they will face higher O&M costs and likely increased or accelerated renewals. Such compensation can be achieved, for example, by defining a small shadow tariff as an approximation of the marginal O&M costs, or by establishing a right to negotiate compensation if traffic is permanently above the maximum traffic threshold.

Shadow tolls, usually with bands, have been very common in countries such as Portugal and Spain²² in the early stages of the development of their PPP frameworks. However, from the early 2010s, all projects in Spain have made use of availability payments, and in Portugal some projects have been restructured to implant the availability approach. The UK also initially used shadow tolls for road projects before moving to models based primarily on availability and measures of traffic congestion.

Indexation of shadow tariffs

The other basic factor in delineating the final form of the shadow payment mechanism is indexation. The most common approach to indexation is again to link the payment to the CPI²³ or other suitable price/cost inflation indicator (sectoral index).

The rationale of this is obvious: to link the inflation of the price of the service to that of the general economy or relevant sector. It also has the advantage of increasing the payments over time, which may be desirable if the government wishes to increase the affordability of the payments in the early years of the PPP.

In some projects, a fixed indexation factor (for example, 2 percent) is applied regardless of the actual CPI level for each year. The rationale for such an approach is doubtful, as the government will finally pay the price/cost of transferring inflation risk to the private partner. In turn, the private partner will either charge a premium on the equity IRR requested or enter into a hedge against inflation risk (for example, an inflation swap).

²² For a review of the Spanish experience in shadow toll PPP roads, see *La Experiencia Española en carreteras* (Andrés Rebollo, 2009) commissioned by the Inter-American Development Bank (IDB) in <http://publications.iadb.org/handle/11319/4890>, where annex 2 provides for a case study of a PPP based in shadow toll bands.

²³ Also referred to as Retail Price Index, RPI.

Some projects consider an indexation formula (polynomic) based on different price indexes for different cost factors. While this may be appropriate for very specific projects and circumstances, simplicity is the recommended general approach.

Regarding the CPI, the index is usually the national or general CPI for a particular economy. However, some sub-sovereign procuring authorities use their regional or state CPI. This can be appropriate as long as the cost inflation for the specific project correlates better with the domestic (local or regional) economy than with the national economy. This is frequently not the case.

Performance correction

As explained in the introduction to payment mechanisms (see chapter 1.4), volume-linked payments are not inherently linked to performance requirements. However, the contract may provide that a breach of established performance levels will result in the private partner being required to pay a penalty or liquidated damage (LDs) to the government. In this sense, the structure of volume-linked payment mechanisms is independent from the ultimate design of the performance requirements and target levels of service.

However, as in an availability payment mechanism (discussed in section 4.10 below), rather than imposing monetary penalties on the basis of each individual breach of requirement, some systems include a “quality component”. This fixes the deduction in two stages, based on the number of performance points accrued and then calculating the deduction as a function of these (see box 5.32 “Performance Point Systems and Persistent Breaches”).

Shadow payments work well as a complementary payment mechanism (that is, to supplement user revenues in unfeasible user-pays PPPs) when the feasibility gap has not been filled with capital grants or other forms of financial support. In these cases, the supplementary public payments often include availability or quality elements. These decrease the volume risk of the project.

4.10 Availability Payments

When the usage level of the asset is not relevant for the purpose of the public party (that is, it is not of itself a public objective), but it is still paramount that the asset be available for use by the final users, for instance health workers in a hospital, then payment should be based on the availability concept. These schemes are the most common payment regime in social infrastructure, while in some transport sub-sectors this practice is becoming increasingly common (toll free roads, rail, and water transportation). In energy (power generation and transmission infrastructure), the payment scheme is quite similar to the availability concept, with the PPA typically providing a fixed payment as long as the plant is able to supply energy (plus another variable payment depending on the energy effectively supplied).

The government should only pay for the asset as long as it is available (so, never before construction is completed) and to the extent that it is available (but considering “exemptions” such as planned maintenance periods or certain events

out of the control of the private partner. This is a matter of risk allocation). For example, only parts of the infrastructure may be available for use or the ability to use others may be limited (for instance, parts may have been downgraded for not meeting certain performance criteria, or they may not be available at all).

As suggested above, availability will generally respond to two general criteria. One related to physical availability for use (that is, the asset can be used effectively) and one related to the condition criteria (while being available for use, the asset may not be deemed available for the purpose of calculating the payment). Each situation can result in different payment adjustments or deductions (see section 4.10.1).

The availability payment mechanism should be unitary (subject to the caveat explained in box 5.12 below), as it is the revenue based on payments by users (no user, no user payment) or on shadow tolls. The unitary concept implies that the payment related to a section or portion of the asset (as described below in section 4.10.2) should be zero for the period of time during which that section or area of the asset is unavailable.

The availability risks are ultimately operational risks, intrinsically manageable and dependent on the performance and management capabilities of the private partner (subject to the availability and performance criteria being reasonable).²⁴ Also, it is customary to segment the payment into sections of the asset or areas of the facility and then pro-rate the unavailability and payment deductions by time units. Additionally, time will be granted to the private partner to rectify events that cause unavailability (for example, a lane closed because of an accident), which further diminishes the credit risk (see section 10.5).

BOX 5.12: Availability Payments and Immature PPP Markets

The natural structure of a PPP payment mechanism is unitary in nature, as the government is paying for services and if there is no service there should be no payment.

However, certain EMDE countries, particularly those LDCs and any immature PPP markets, are opting for non-standard approaches to availability payments; this has the aim of significantly diminishing the risk perceived (especially by lenders), and in so doing support the bankability of the projects.

This de-risking approach takes two main forms.

- Tranching the payment, dividing the payment amount into three components: one covering the repayment of the principal, and interest of the senior debt, which may be exempted from any deduction once the asset is built and commissioned; one for the equity repayment and reward (subject to penalties or deductions in case of low performance), and one for

²⁴ When unitary payments were first introduced in PPPs in developed countries, there were concerns that they may not be bankable since, at least in theory, all of the private partner's revenue is at risk and the private partner may be unable to repay its lenders. However, as the risks are largely in the private partner's control and there is now an established body of experience with these payment mechanisms, unitary payments no longer give rise to bankability concerns if they are appropriately structured.

O&M costs (with limited potential adjustments or deductions).

- Limiting the deduction to be applied in payment calculations so as to protect banks but also then crediting the deduction not applied against future payments. Alternatively, providing that if, without applying the limit, the deductions exceed a specified amount then the contract will be terminated.

Breaking the unitary concept to protect lenders and/or limiting deductions in order to increase the commercial acceptance of the PPP contract may be sensible in country/markets introducing the availability concept for the first time. This can also apply during the time in which the respective market is in its early stages of development. But otherwise, this should be avoided because this payment approach does not create the proper incentive for high standards in performance, and therefore the VfM may suffer.

The contents of this section assume though that all performance requirements are embedded in the payment mechanism, and when breaching any condition criteria this will directly impact the unitary charge.

The performance requirements and ultimately the service levels defined in the performance or condition criteria must be objective and measurable, but also realistic.

The government can set high performance standards without creating excessive risk for the private partner. There are multiple factors that influence the potential payment to be earned, and all of them have to be balanced so as to impose the desirable level of tension and risk on the private party: high standards may be compensated for by generous rectification periods or with modest deductions. High deductions might be associated with low or flexible standards, and so on. All factors should be driven by the value of the availability (or the loss in terms of unavailability) for the public party and the urgency with which breaches or faults affecting availability are remedied. The final definition of these factors has to be carefully analyzed by conducting “dry runs” of the payment mechanism (see box 5.13 about payment mechanism calibration).

Some performance criteria (generally speaking, those that are not regarded as critical for the purpose of the asset, for example, the cleanliness of the waiting room in a hospital rather than in an operating theatre) may be dealt with separately from the unitary payment. This is achieved by allocating a specific payment stream to a specific service, rather than paying for that service through the unitary payments. Deductions relating to that service are only made from that specific payment stream, not from the unitary charge.

Paying for specific services and deducting payments or imposing penalties for services separately from the unitary payment is common in respect of soft services (such as cleaning and catering), as well as in some accommodation-type social infrastructure projects such as prisons, hospitals, court buildings, and schools, where the government is retaining the ultimate public service concomitant to the infrastructure.

The rationale for these compound payment systems is the need to retain flexibility in order to accommodate certain specific risks and the ability to change the scope of soft services during the course of the contract (see section 4.10.10).

The factors that define the availability payment mechanism have to be tailor-made for each specific project. Nevertheless, it is useful to analyze successful precedents for similar projects. It is also very useful to create generic standards in the form of guides or white papers.

The ultimate structure of the payment mechanism, as with volume payments, will most likely be defined during the structuring process. Even if the basic structure of the payment mechanism was defined at an earlier phase, the mechanism should be carefully calibrated before the final definition²⁵.

As a general rule, the procuring authority should avoid unnecessary complexity when designing the payment mechanism, as complexity generates increased costs related to reporting and monitoring.

All these features and other elements of the payment mechanism, as well as structuring matters affecting this payment regime, are explained in this section.

BOX 5.13: Calibrating the Payment Mechanism

Calibration means the process of refining and assigning final numbers and values to the various parts of the payment mechanism. These include the availability criteria and the performance standards or condition criteria, the rectification periods for each unavailability event, levels of deduction (the weightings and ratchets), and the caps for performance deductions, and so on.

The process requires the construction of a model to simulate different scenarios of performance (for example, different numbers of breaches and rectification times in one year and in the long term) in order to assess the financial implications of the payment mechanism design on different grades or categories of performance (for example, outstanding, high, medium, and low or poor).

The objective is to understand the potential real impact in financial terms of the performance standards and other factors. The project team can then assess whether the performance mechanism is effectively balanced. They can ensure that acceptable performance scenarios do not produce undesired outcomes, such as insolvency, and that the potential reduction in payment between outstanding performance and high performance is commensurate to the effective loss in terms of level of service received. Also, at any rate to receive 100 percent of the payment should be challenging but achievable for a high standard operator.

²⁵ Section 7.5 ("Calibration") of the *Standardization of PFI Contracts* guide (HM Treasury UK, 2007) provides useful information and advice on this matter.

4.10.1 Availability or Unavailability Definition. Categories and Faults as Service Level Targets or Condition Criteria

Availability will be determined based on two general sets of criteria: those related to physical availability for use and those related to the condition criteria (while being available for use, the asset may not be deemed available for the purpose of calculating the payment). Each set of criteria may result in different payment adjustments or deductions.

It is challenging to define “deemed unavailability”, as a significant level of judgment is required to define when something should be considered unavailable even though it is being used. The relevant question is to clearly define the performance thresholds that must be met for there to be an acceptable level of service — especially those requirements, which if breached, will represent a danger in terms of safety and security.

Therefore, a paramount factor for the structure is the definition of the level of performance required for each of the requirements or criteria defined,²⁶ that is, how challenging or demanding the government will be in setting the required service levels or thresholds for the “condition criteria”. Examples include: the index of roughness in a road, the luminosity of the lights in a road, the number of lights working properly in each stretch of the road, the number of lights required to be functioning in each of the defined areas of a school, the temperature in specific parts of a hospital, and so on.

To effectively assess unavailability and calculate deductions, a performance monitoring regime must be in place. Considerations as to who performs and who pays for the monitoring, and the monitoring and reporting obligations of the private partner, are covered in section 9. The UK “Standardisation of PFI2 Contracts” guide provides additional information and recommended standards for dealing with monitoring²⁷.

4.10.2 Composition of the Payment in a Unitary Payment and Time Pro Rata

In a unitary payment, the payment covers all of the private partner’s costs including the amortization of capital, the cost of the financing, taxes and operations, and the maintenance costs.

However, the payment (and the availability or unavailability concept) should be divided into segments corresponding to parts of the infrastructure when practicable. This is for the purpose of calculating the payment and deductions by sections or areas.

²⁶ In some payment systems, especially in the field of social Infrastructure and particularity in accommodation or building-based projects, some performance requirements (which are not regarded as critical for this purpose) may not affect the unitary payment directly through measurements of unavailability. Deductions may be better dealt with through performance points and a penalty regime. On other occasions, there may be different thresholds defined for a requirement (therefore different levels of criteria), with the minimum or threshold level directly affecting the unitary charge (in such cases double counting should be avoided).

²⁷ See section 20 in “Standardisation of PFI 2 Contracts” (HM Treasury UK, 2012).

In some infrastructure, a section or part of the asset may be considered self-contained as long as it is providing a complete service with its own economic and social sense. For example, a road project will usually be divided into sections of the road, each section being a stretch of road that allows users to reach one specific destination (for example a stretch of road between two cities, or between one city and the connection with a different highway that is out of the scope of the project).

In many social infrastructure projects, different areas serve different purposes, but all of them together provide a single ultimate service. For example, in a hospital project, rooms or patient places may be available, but if the area dedicated to clinical care is not available, patients will not be provided with the full services expected in that hospital. Even though patients do not have the full range of expected services available to them, it makes no sense for the government to consider that the facility is entirely unavailable, since many of the needs of the patients will still be met²⁸. Conversely, the unavailability of the clinical care area will adversely affect the care of some patients, and therefore the private partner should not be entitled to full payment.

Therefore, it is necessary in these projects to identify and define different areas because the relevance of each area for the public service is different. Some areas are regarded as more critical than others, and this should be reflected in the severity of deductions²⁹.

Each functional unit of the asset (such as a segment of a road, or a room or department in a hospital) will have its own weighting that determines the size of the payment deduction if that functional unit is unavailable.

In a road project or other transport infrastructure projects whose purpose is to provide users with the ability to move, the weighting criteria is clearly related to that use. Sections of a road that represent a higher demand will affect more users than other sections used by a lesser number of drivers.

In building-based PPPs, this is a more complex exercise, which will ultimately depend on the procuring authority's own view of what parts or areas of the building are more critical to the service.

The yearly payment will be earned for each section or area by units of time, that is, availability may be measured in units of days or even hours or minutes. In some projects, the payment may be related to other units such as trips (a trip served by a rail system that is not meeting the availability criteria may be deemed as nonexistent for the purpose of calculating the payment).

²⁸ An exception to this would be projects with multi-facilities, that is, two different buildings to accommodate patients and provide different clinical attention would be considered as separate assets for the purpose of payment calculations.

²⁹ According to HM Treasury, UK (Standardisation of PFI Contracts), accommodation in a hospital infrastructure PPP will usually be grouped into three areas: the most important area includes accident and emergency facilities and patient spaces including bathrooms, operating theaters, and intensive care; the area of medium importance includes general waiting areas and clinical support areas such as pharmacy, physiotherapy, and chiropody; and the least important areas are office areas and educational facilities.

4.10.3 Adjustment Factors or Deductions

If the availability criteria and the condition criteria (target levels for each of the performance requirements) are not met, the government will be entitled to make deductions from the payments. Deductions should be commensurate with the seriousness of the criteria breached and the seriousness of the breach (that is, the unavailability event).

Other factors that will define the amount of the deduction are as follows:

- The area (or section in a road) that is unavailable, as some areas will have higher weightings than others;
- The length of time for which the area is unavailable;
- Potentially, the specific time of the day and year (month or day of the week), especially in transport projects – see next heading;
- Potentially, the persistence or repetition of the breach; and
- Whether the asset (or the area affected) is effectively being used despite the unavailability. This is implicit in the payment mechanism in road projects through a specific category of unavailability which is related to the road section being blocked and to what extent (that is, how many lanes out of the total number of lanes designed and constructed in the respective section).

In road projects, it is not uncommon that the payment is built and calculated from bottom to top, that is, summing up the availability periods of each of the sections and therefore summing up the payment earned per unit of time. The payment related to each unit of time will be adjusted by an unavailability factor which usually ranks between 1 and 0 (including 0.5 or potentially other intermediate grades), with the former being related to full unavailability and the later to full availability.

Depending on the weighting of the area in some PPPs, especially social infrastructure projects, a deduction may be higher than the value of the payment that can be theoretically obtained during the unavailability period, even without considering ratchet factors (a factor that, when applicable, increase the deduction applied to the payment under a particular subperformance situation or unavailability event – see 4.10.6) and other potential adjustments. Some guides (for example, “Standardisation of PFI2 Contracts” by the UK’s HM Treasury) describe a typical range of the potential value of the unavailability between 150 and 200 percent of the value of the corresponding payment.

This means that payment may be zero before the facility is completely unavailable.

However, it is not customary to require the private partner to make payments to the procuring authority, so the actual deduction will always be limited to 100 percent for the purpose of payment calculations.

4.10.4 Time Weighting Factors

The adjustment applied to the payment in an availability period so as to deduct the earned payment is sometimes further adjusted by a time factor. This is quite common in transport projects so as to align the relevance of a lack of availability with the actual time in which the fault is occurring: the impact of unavailability of public

transport services is clearly higher at peak hours and on peak days (business days), so the deduction may be higher in those periods and lower in off-peak periods.

4.10.5 Rectification Periods. When does Unavailability Start?

Another factor to be defined and which will influence the risk and incentive for optimum performance is the time for rectification.

It is customary that an availability fault or unavailability (that is, the failure to meet the threshold of a condition criteria) will not result in a deduction as long as the partner rectifies the breach within a certain period of time from the moment that the breach was detected (the rectification period).

Technically speaking, the private party is at fault and the asset is unavailable, but the unavailability will not be considered to have occurred for the purpose of the payment calculation if it is rectified within the time frame established for that particular condition criteria. If the fault has not been remedied within the rectification time, unavailability will be considered to have started at the time at which it was detected (and not at the time when the rectification period is finished).

- Some considerations in this respect. Not every breach should have a rectification period. For example, a breach of the specification for serving three meals per day should result in a deduction without a rectification period;
- Rectification periods should not provide a disincentive for proactive or preventive maintenance. Therefore, some critical criteria should not have rectification periods and the extension of the period should be short for other critical criteria. For example, electricity supply is critical in hospitals, so in a hospital PPP the private partner should install and maintain back-up generators. If the external power supply fails and is not immediately rectified by the back-up generators, it should automatically lead to a deduction. The private partner should have maintained the back-up generators so that they immediately took over (a rectification period should not be needed to restore the power supply);
- For requirements and their respective criteria that are not regarded as critical, or when the degree of the breach is not significant, longer rectification periods may be granted;
- Unavailability is considered to start when the unavailability event has been detected or reported. The main means to identify or detect unavailability events is through the monitoring process, that is, through the monitoring systems to be put in place and the inspections to be made of the asset as defined and prescribed in the contract or proposed otherwise by the private partner in its bid. Reports may come from the procuring authority or from an interested party (for example, a teacher in a school PPP); and
- Some events may require an immediate remedy so as to temporarily solve or mitigate the breach of the requirement, regardless of the existence of a rectification period. These are often referred to as “temporary fixes”. For example, if a window in a school PPP breaks, the private partner may have a five day rectification period in which to replace the glass, but may be required to place boards over the window within 24 hours of the breakage as a temporary fix. The requirement for a temporary fix should be clearly set out in

the contract. Any failure to perform the urgent remedy will constitute by itself a performance breach, which is usually handled by penalties directly or indirectly through a performance point regime.

4.10.6 Ratchet Mechanisms

Some payment mechanisms apply ratchet factors, increasing the value of deductions to penalize repeated or persistent under-performance, or unavailability that continues unresolved.

4.10.7 Maintenance Work and other Exceptions to Unavailability

When part of the infrastructure (a section or an area) is closed or is not available for use due to maintenance work, this will not constitute an unavailability event as long as the maintenance work is undertaken in accordance with the agreed maintenance plans. Other approaches to permit maintenance work, without affecting payment, are to allocate time weighting factors (TWF) of zero value to some periods of the day (for example, to some periods during nights) or to grant a "bag of maintenance hours" on the condition that these are only used at less disruptive times (which may be particular hours, times of the year, or months).

Other exceptions to unavailability (that is, unavailability periods that will not be deemed unavailable for the purpose of calculating the payment) may include:

- Unavailability due to police orders or other lawful requirements;
- Accidents in road projects (in some project contracts). This is generally not advisable, as accidents can be allowed for by simply providing a sufficient rectification period); and
- In general terms, any excused event to the extent that may affect availability.

Exempted unavailability events should be duly described and regulated in the contract.

4.10.8 Indexing the Payment

Although increasing the curve or slope of the payment stream may be a temptation (for example, back-ending the curve of payments so that the payments are lower in the early years of the contract), but this should be avoided. The price of the service should (at least in real terms) be the same during the whole life of the contract, with the exception of changes in capital works or services.

Indexing the payment to yearly inflation may appear logical on the surface. However, this should be also carefully considered as the cost of the service (including capital costs, that is, repayments to the lenders and investors) is not entirely linked to inflation.

Debt service is not generally related to inflation. Under most of the financial structures commonly applied to PPPs, debt service is a fixed cost because the

private partner hedges the interest rate risk, converting the interest payable to a fixed rate for all or a majority of the life of the loan.

Conversely, equity is exposed to inflation risk, and many of the private partner's operating and maintenance costs will change over time roughly in accordance with the CPI. However, the costs that are linked to inflation typically represent the minority — usually less than 50 percent — of the total pay-outs by the project company.

To better fit with the real cost curve profile of the cash flows, many availability-based projects opt for a compounded indexation formula where only a proportion of the unitary charge is adjusted for inflation. That proportion is based on the expected or actual proportion of the project company's outflows that will be affected by inflation.

This has the advantage of providing higher payments in nominal terms in the early years of the contract. Therefore, balancing the stream of payments in nominal terms will allow the project company to accelerate the debt repayment compared to a full CPI indexation³⁰.

4.10.9 First Payment and Early Completion

Availability is about paying for the ability to use the asset. Therefore, payments during construction should generally be avoided, regardless of how advanced the construction is.

An exception may be made when there are parts or areas of the infrastructure that can be effectively used and as long as there is an intention to use them, which should be clearly stated in the contract. This could be the case in projects such as the following.

- In some road projects where certain stretches of the road may be effectively used prior to completion of the remainder of the road, it makes social and economic sense to enable that use; and
- In a multi-facility project where different buildings are being contracted and each provides a stand-alone service without heavy dependence on the existence of others (for example, a number of schools on separate sites under the one PPP contract).

Another exception may be projects related to existing infrastructure where there is a need to keep the existing infrastructure in use during the course of the initial works for upgrading. Payment should be granted at least to offset the O&M costs of the existing infrastructure (but not to pre-finance the upgrade works).

The contract should regulate the situation when a project construction is completed before schedule or before the target date prescribed in the contract. In general terms, the procuring authority should not have an obligation to pay for the asset if availability starts before the target date, but should state clearly whether it will accept the asset for use (and therefore start payments) before that date.

³⁰ However, it should be noted that more recently there has been an increase in the participation of institutional investors in the financing structures, and these investors are frequently interested in assets linked to inflation.

Early availability of the infrastructure is usually in the interests of the procuring authority, however the government may, or most likely will not, be ready to make payments if the project is completed early.

In that sense, one possible approach is to establish an early completion floor, before which the procuring authority will not render any payment, and let the best bidder define the completion date. The most efficient bidder in terms of the construction term is likely to be able to offer a lower price, therefore there is a natural incentive to share the benefit of early completion.

If the project company completes the project before the date scheduled (and priced) in its bid, it is customary, in order to capture a part of the benefit of earlier completion, to establish a "cut" in the payment so as to cover O&M costs and some level of incentive or bonus for the equity holders.

4.10.10 Other Payments and Adjustments

In a number of circumstances, there may be additional payments out of the unitary charge or as a complement to it.

Examples include the following;

Inverse volume risk adjustments in transport projects

Availability of transport infrastructure is unrelated to the actual traffic or volume. However, the maintenance and life-cycle costs will vary with the intensity of the use, which will cause a perverse misalignment of interests between the two parties.

There are two approaches for this. The first is to define a shadow payment linked to volume intended to cover the "marginal O&M cost", with the intention to neutralize the marginal increment in costs per vehicle. This is usually based on heavy traffic vehicles, and it may be settled as a payment from vehicle zero or above certain thresholds of demand.

The other common approach is to revisit the unitary charge value if and when traffic consistently exceeds a threshold (for example, for three consecutive years).

The latter has the advantage of being simpler to regulate. However, it is more complex to implement in reality as it will be controversial to calculate and agree on the actual additional cost due to excess traffic. This would, however, be the best method as long as the asset is designed to stand for materially higher levels of traffic than the currently expected demand.

Service payments for some soft services in social infrastructure and benchmarking of costs

Availability based payments are appropriate for most accommodation facilities such as hospitals or schools. The government's objective in a hospital project is not to receive and treat more sick people. On the contrary, the government would prefer that there were fewer sick people requiring treatment, but it wants to be sure that the facility building is available to accommodate and treat those who require treatment.

Therefore, it would not be rational to pay the private partner on the basis of volume (number of users). Instead, payments in accommodation-type hospital projects are usually based on the number of beds available and other availability parameters designed for a certain occupation level specified in the contract.

However, more demand or use of the facility (more people to attend to) clearly implies higher variable costs for the private partner. Therefore, above certain thresholds of occupancy, O&M costs will rise, especially in relation to certain soft services (cleaning, waste management, catering, and so on).

In this context, two main approaches may be taken.

- To provide an adjustment to the unitary payment when occupation is above certain thresholds (to be settled in the contract); and
- To consider a separate ad hoc payment component for certain services, that is, those that are very sensitive to demand.

The CPI or other general indexes may not adequately capture changes in the cost of certain services over time. Some contracts (usually related to facility management, including soft services) provide a degree of protection for the private partner against changes in these costs. The costs are analyzed at specific points in the life of the contract and compared with the current market conditions for such services. If the costs are materially different to those expected at the inception of the contract, the unitary charge is adjusted. Methods to deal with this issue, apart from relying on partial adjustments to CPI in the unitary charge, are market tests and benchmarking of costs³¹.

Subjective adjustments and user satisfaction components of a payment mechanism

Objective criteria should be the basis of the availability system. However, the quality of the service in complex settings such as hospitals or schools cannot easily be wholly reduced to a practical set of availability and performance criteria (Standardisation of PFI Contracts, HM Treasury UK).

Therefore, in some projects, it may be appropriate to implement user satisfaction surveys as part of the overall payment regime, but the financial impact of these surveys should be small, as a recognition of the variability and subjectivity of such methods of performance measurement.

Advisable approaches for user satisfaction measurement may include the following provisions.

- The private partner may be obliged to conduct a survey at its own expense at specified periods (for example, once a year);
- The private partner may be required to carry out a performance audit at its own expense. When the scoring is poor, it will need to develop a remedial plan; and

³¹ See chapter 15 of *Standardisation of PFI Contracts* ("Price variations") for additional and more specific intelligence on contract tools to deal with this issue.

- Potentially when scoring is poor (and noting the challenge to define what is a poor level or negative result in these surveys), the government may be entitled to apply a direct deduction in the yearly payment (which should be small). Alternatively, it could grant performance points that may have financial implication only to the extent that the aggregated number of performance points (related to other breaches of performance levels or other breaches of contract) reaches certain thresholds.

When there are financial implications in cases of poor performance, the scheme may sometimes also grant a bonus payment which again should be small or modest in comparison with the overall size of the payments within the payment regime.

The general rule is that subjective quality factors such as this should only affect the equity return and only to a modest extent. Otherwise, the private partner may find it necessary to build up a cash contingency to mitigate the risk that payments are reduced due to user survey results, despite good performance by the private partner and its subcontractors.

4.10.11 Frequency of Payments and the Payment Calculation Process

The contract has to clearly settle when payments will be made and the process to calculate the payment earned (that is, the calculation of the deductions and the process of invoice and actual payment). There is a significant variety of approaches.

The process of monitoring and then calculating deductions is complex. Therefore, some procuring authorities prefer that payments are made no more frequently than quarterly. However, this requires the private partner to finance significant working capital, as many of its expenses will be payable monthly or more frequently. Requiring the private partner to finance significant working capital may not provide VfM, as private financing is more expensive than public financing.

To calculate deductions each month and make payments monthly in arrears is theoretically the most accurate and fair system. However, some procuring authorities opt for a middle path solution, making the monitoring calculations and determining deductions on a quarterly basis but making "advanced payments" within the first two months of the respective quarter. Those advance payments may be done on the basis of a provisional notional deduction (for example paying 90 percent of the availability payment corresponding pro rata to the respective month) or reducing the monthly payment by a proportion of the previous quarter's deductions.

Timing for payments after receipt of the relevant invoice will generally be subject to the government's general payments regime. Payments should be made within a reasonable time, and delays should be subject to interest at a rate consistent with the potential delay interest payable by the private partner under the financial agreements.

In all these cases, at the last month of the respective quarter, deductions applicable to the actual performance for the quarter will be calculated. The payment for the final month of the quarter will be adjusted to account for any under- or over-payment made in the previous two quarters.

5. Risk Allocation and Structuring³²

BOX 5.14: Clarifications regarding the Scope of the Risk Concept assumed in this Chapter

Risk from a financial perspective

This chapter deals with risk matters from a financial perspective. As such, it is centered on risks affecting the infrastructure asset and the economic business related to its management. It deals with how to allocate those risks within the contract in an efficient manner.

Governments care not only about financial implications but also more broadly about “the delivery of service or with the delivery of a beneficial outcome in the public interest” (HM Treasury, *The Orange Book: Management of Risk - Principles and Concepts*, 2004).

Consequently, the public sector may have a higher tolerance for certain (financial) risks while it is exposed to other uncertainties and risks during the life of the project cycle (for example, reputational risk, fiscal risk/aggregated affordability, and under performance of the private partner, or poor quality of the service not duly compensated for by penalties or payment abatements). Managing risks from the public standpoint will therefore include other issues and strategies (for example, public perception and communication) which also lie at the heart of the outcomes of the project as a public objective, and further relate to programs and also policies (for example, the fiscal sustainability of a program).

A broader explanation of risk management by governments and authorities may be found in the UK’s *HM Treasury: “Management of Risk: A Strategic Overview”* (The “Orange Book”) and the UK National Audit Office (NAO): *Supporting Innovation: Managing Risk in Government Departments. Guidebook for Risk Assessment in Public Private Partnerships*. The US Department of Transportation’s *Guidebook for Risk Assessment in Public Private Partnerships* (2013) also provides a sound explanation of risk management in the context of transportation PPPs. An in-depth coverage of appraisal and preparation matters from a PPP project standpoint is given in chapter 4, and the relevance of sound frameworks for the overall governance of PPP strategy is covered in chapter 2.

5.1 Introduction

Risk allocation: definition and rationale

Risk allocation is the exercise to define which party will assume each risk, identifying which risks the private partner will be (or remain) responsible for and to what extent,

³² Readers wishing to learn more about risk allocation may consult: Partnerships Victoria (2001), *Risk Allocation and Contractual Issues*, <http://www.dtf.vic.gov.au/Publications/Infrastructure-Delivery-publications/Partnerships-Victoria/Partnerships-Victoria-Risk-allocation-and-contractual-issues>.

and identifying which risks the public partner will be responsible for and to what extent³³.

Allocation of risk to the private partner is also referred to as “risk transfer”, and allocation to the public partner is also referred to as “retained risk”.

Risk transfer is related to the search for efficiency which is the key motivation for undertaking a project as a PPP³⁴ (see chapter 1.5.2). Transferring the financial consequences of the project risk to the private partner creates the incentive for the private partner to deliver the infrastructure and service to the public as scheduled and in the required condition. This is based on the theory that the party in the greatest position of control with respect to a particular risk (in a PPP, this is usually the private party) has the best opportunity to reduce the likelihood of the risk eventuating and to control the consequences of the risk if it materializes³⁵. Hence, the appropriate transfer of risk generates incentives for the private sector to supply timely, cost effective and more innovative solutions.

Therefore, transfer of risk generates efficiency (Value for Money – see chapter 4), but this is up to a limit. Governments should be ready to remain exposed to the financial implications of risk and the uncertainty affecting the asset and the service. Also, governments will always remain exposed from a reputational standpoint, as they are the ultimate owner of the asset and have ultimate responsibility for the service despite the delegation to a private party.

The private partner will include the cost of bearing and managing the risk in the price that it bids (for example, in the user charges or government payments). This cost is known as a risk premium. There are types of risks and/or levels of uncertainty (amounts of potential exposure) for which the risk premium may become too high or expensive. In addition, some risks may be simply un-assumable or the private partner (including its private investors and lenders) may not tolerate such risks. On other occasions, a risk may be tolerable by the private partner at a reasonable price, but the public partner may be better positioned to handle the risk and therefore may wish to take it back or to share it to some extent (so that the VfM will be increased by taking back the risk). The government should not push bidders too aggressively or recklessly to accept risks that the private partner is not, in reality, capable of managing, as this can result in serious project failure.

When there are clear signs that a risk transferred to the private partner will be unacceptable, or that it will only be accepted at a cost higher than the expected loss for the public partner if the risk were to be retained and managed directly (by the government), then the risk should indeed be retained (or taken back). Some risks will not be fully transferred or retained, but shared.

³³ As explained in section 5.7, retained risks (fully retained or shared) are incorporated into the contract in three categories: compensation events, relief events, and force majeure.

³⁴ There are three kinds of efficiency: allocative efficiency, technical efficiency, and X-efficiency (Fourie and Burger 2000, as cited in OECD 2008). The last two are the drivers for efficiency in PPPs, according to OECD (*PPPs in the Pursuit of Risk Transfer and VfM*, 2008).

³⁵ Partnerships Victoria (2001), *Risk Allocation and Contractual Issues*, <http://www.dtf.vic.gov.au/Publications/Infrastructure-Delivery-publications/Partnerships-Victoria/Partnerships-Victoria-Risk-allocation-and-contractual-issues>.

Risk analysis and allocation is clearly a progressive exercise. Risk allocation will normally have been preliminarily defined during appraisal in order to conduct the VfM exercise and the commercial feasibility analysis (see box below). This is done on the basis of a careful identification and assessment of risks (see box 5.15).

BOX 5.15: Interaction between Appraisal and Structuring in Terms of Risks

During the Appraisal Phase, the government will normally have identified and assessed the risks, and then defined the preliminary risk allocation structure. The extent to which risks are structured during the Appraisal Phase will vary from country to country. Risk allocation during appraisal is necessary for VfM calculations (the risk allocation will affect the shadow bid model). It is also needed for a proper commercial feasibility assessment as well as the affordability assessment.

In the Structuring Phase, the risk allocation will be reviewed and refined to incorporate it into the contract. When the risk structure (or pre-structure) has been shared in advance with the market (see section 6), the subsequent introduction of material changes should be avoided, or such changes should be carefully communicated.

Also, relevant changes in the preliminary risk structure will affect the results of the appraisal because the financial base case will have to be adjusted, affecting the VfM, commercial feasibility, and quite probably affordability.

The optimum allocation. VfM versus judgment

The essential driver for risk allocation and its refined structure is Value for Money, as in any structuring decision. Theoretically, the optimum point of risk transfer/retention or the maximum point of VfM will be that point at which the marginal VfM (the additional benefit in terms of incremental efficiency) of changing the risk allocation is negative. In other words, coming from a full transfer of risks, the optimum risk allocation structure will be reached at the point in which, if an additional risk is taken back, VfM decreases. Or, conversely, coming from a full retention, it will be the point at which, if an additional risk is transferred, the VfM decreases (see figure 5.8).

However, a quantitative assessment to calculate VfM has to be handled with caution, since innovation and management capability (to handle risks in particular) is difficult to evaluate and some risks are by definition unquantifiable. Therefore, for a number of risks, the analyst will rely on common practice and precedents as well as exercising judgment. The latter may be helped by asking the following question: “Is the private partner better placed or able to manage this risk more efficiently than the public partner?”

The general rule is to allocate the risk “to the party best able to manage it”.

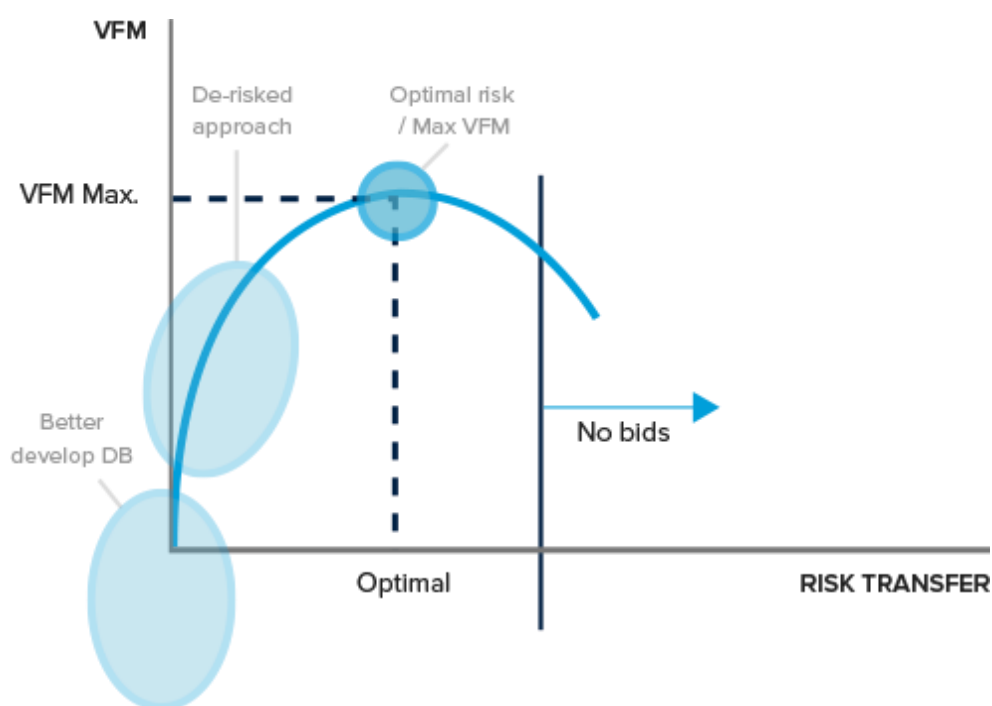
As the Organization for Economic Co-operation and Development (OECD) states, “it is not always straightforward what is actually meant by being ‘best able to manage risk’. It can be the party that has the greatest ability to prevent the risk from occurring, or it can be the party that can best deal with the consequences after the

risk occurs.” Furthermore allocation and transfer of risks depends on the ability to price risk appropriately — what the OECD and others call ‘risk profiling’.

Because of this, the OECD proposes that risk should be transferred to the party best able to carry it, and it clarifies that “best able to carry it” means the party that can carry the risk at the least cost.

This section develops these ideas and proposes a number of tips and signs for which party is best able to manage a particular risk (section 5.5).

FIGURE 5.8: The Optimum Risk Allocation



Note: DB= Design-Build; VfM= value for money.

It should be noted that optimum risk allocation may not be practical in some emerging markets or in less mature PPP markets. In this context, and especially when the availability of financing is an issue, it may be reasonable to sacrifice the VfM to some limited extent so as to ensure bankability and commercial feasibility by applying de-risking strategies, that is, until the respective PPP market matures and projects with optimal risk structures become bankable and commercially feasible.

Endogenous versus exogenous risks

Risks are sometimes divided into endogenous risks (“risks where the private partner can do something to ensure that the actual outcome approximates to the expected outcome”, OECD 2008) versus exogenous (risks that the private partner, and in many cases either party, “cannot control”).

However, the categorization of risks as endogenous and exogenous for risk allocation purposes may be misleading. The private partner might not be able to fully or accurately assess a risk, but it may still be well positioned to control (limit or

mitigate) the consequences or control the occurrence (by limiting the probability of occurrence). For example:

- A private partner that is building and operating a new LRT line may not be able to fully assess the risk of vandalism affecting the physical state of the rolling stock, but the private partner may be more efficient than the public authority in managing the risk by means of preventive measures (for example, by taking appropriate security measures); and
- A private partner that is building and operating a new hospital may not be able to prevent interruptions to the electricity supply to the hospital, but it can be proactive in mitigating the consequences by having a back-up generator on-site that automatically provides electricity if the main electricity supply is interrupted.

Risk allocation versus risk structuring

Once the risk allocation is defined, risk structuring can take place. By structuring risks, the risk allocation will be implemented and developed further into the contract. This is done through the appropriate provisions; specifying and nuancing the definition of the risk events (detailing when a specific risk event has occurred for the purpose of risk allocation); specifying the extent to, and the form in which, each party assumes each of the risks; and how the party that has not been allocated the risks will be compensated if the risk occurs.

Some of those contractual provisions will be specific to risk allocation and risk treatment, whereas in other cases risk considerations will be incorporated in other provisions by qualifying them (for example, by defining exceptions to unavailability events, adding qualifications to general obligations such as the need to complete construction, and commissioning within a specified time, and so on).

Section content outline

To reach the point where risks will be allocated and structured, a number of steps will have been taken. Identification and assessment of risks and early mitigation are the first steps in the risk management cycle (see section 5.2). This PPP Guide assumes that such tasks have been handled during the Appraisal Phase (see chapter 4.4.3), but the Guide will explain them in further detail in this section for convenience. Specifically:

- Section 5.2 introduces the concept of the risk management cycle. This puts risk allocation and structuring into context, as well as its interrelationships with other risk-related tasks advanced during the Appraisal Phase;
- Section 5.3 explains risk identification;
- Section 5.4 provides an overview of risk assessment and how it is pertinent to risk structuring;
- Section 5.5 explains the importance of mitigating risks by proper preparation and strategies to manage risks other than transferring/allocating the risk or accepting the risk;
- Section 5.6 explains the principles of risk allocation;

- Section 5.7 introduces the contractual categories of risks, based on how they are allocated;
- Section 5.8 proposes and describes a classification of risk event types, including the typical allocation of these risks. The analysis of potential allocations and its nuances is further explained in appendix 5A; and
- Finally, section 5.9 provides some additional recommendations for incorporating risks into the contract.

5.2 Defining Risk: The Risk Management Cycle³⁶

An exact definition for risk is hard to find and its measurement is controversial as well. In literature, the word "risk" is used with many different meanings. The Oxford English Dictionary defines risk as "chance or possibility of danger, loss, injury, etc."

In the context of an infrastructure project, there are also different definitions issued or used by different agencies and institutions.

Most of the definitions are focused on the probability or likelihood of the event. For example, the OECD³⁷ defines risk as the probability that the actual outcome (for example, sales, costs, and profits) will deviate from the expected outcome. A definition from Australia is as follows: 'the chance of an event occurring which would cause actual project circumstances to differ from those assumed when forecasting project benefit and costs'³⁸. See box 5.16 for differences between risk and uncertainty.

In the UK's Orange Book, risk is defined as the "uncertainty of outcome, whether positive opportunity or negative threat, of actions and events". This definition implicitly covers both the probability and consequences/impacts, and it is preferred for this PPP Guide. As the UK's *Orange Book* also states, "the risk has to be assessed in respect of the combination of the likelihood of something happening, and the impact which arises if it does actually happen. Risk management includes identifying and assessing risks (the 'inherent risks'³⁹) and then responding to them".

BOX: 5.16 Risk versus Uncertainty

The risk concept is inclusive of the uncertainty concept. Risk can be measurable or immeasurable, the latter also being referred to as uncertainty.

³⁶ The HM Treasury Green Book, *Appraisal and Evaluation in Central Government* (2003) includes a concise section on risk and uncertainty (annex 4, page 79), which explains risk management matters from the public party perspective, especially in the context of appraisal. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf

³⁷ *Public-Private Partnerships: In the Pursuit of Risk-Sharing and Value for Money* (OECD 2008), page 13.

³⁸ Chris Furnell, *Risk Identification and Risk Allocation in Project Finance Transactions*, paper presented at the Faculty of Law, The University of Melbourne, May 2000, p. 1., cited in Partnerships Victoria (2001), *Risk Allocation and Contractual Issues*, <http://www.dtf.vic.gov.au/Publications/Infrastructure-Delivery-publications/Partnerships-Victoria/Partnerships-Victoria-Risk-allocation-and-contractual-issues>.

³⁹ Inherent risk as opposed to residual risk, the latter being the risk remaining after the specific treatment applied to mitigate and manage the risk by any of the potential risk strategies.

As explained in OECD (2008), “uncertainty should be distinguished from measurable risk” (Fourie and Burger 2000; Grimsey and Lewis 2005). Uncertainty is defined as a case in which measurable objective or subjective probabilities cannot be calculated and then ascribed to the range of possible and foreseeable outcomes.

Prior experience or research might, but will not necessarily, allow the government and possible private partners to state expected worst case and best case scenarios. Nor will this ascribe subjective, ordinal (non-numerical) probabilities (such as “likely” or “very unlikely”) to each scenario. Such ordinal probabilities depend less on information and more on enlightened guesswork (“guestimates”) than on the case of measurable risk.

Despite this theoretical discussion, this PPP Guide generally refers interchangeably to risk and uncertainty, as the risk assessment to be made and the risk categories to be addressed will include measurable and immeasurable risks as well as objective and subjective valuations.

Therefore, the essence of risk is characterized by two factors: the likelihood of the event taking place and the impact of the event.

1. The likelihood: The probability of the risk event occurring within the time period of the project; and
2. The impact: The financial value of the risk event’s effect.

The value of the risk can therefore be calculated using the following “risk formula”:

Risk (Expected Loss) = likelihood x impact = probability of risk occurring x financial value of effects

As will be explained later in this section (see 5.3), prioritization is a must have in proper risk management. Therefore, the management should be focused on risks that have a high degree of expected loss defined as a combination of probability and potential impact.

From the government’s perspective, the outcome of the project (its success) is affected by a broad variety of risks, including social impacts, reputational risks, and the risk of the PPP process being cancelled. In addition, there is the risk of the project being delayed and/or more costly than projected in the pre-award phase of the cycle. However, for the purpose of risk allocation and structuring, when structuring the tender and the contract, the public partner must focus on the risks affecting the roles, responsibilities, and the financial position of the private partner under the contract — from contract signature through the life of the contract.

PPP project risk structuring must deal with uncertainty over long periods of time. In this sense, it is important to be aware of the fact that projects with long life cycles can be subject to an endless catalogue of events affecting their performance, and that even the most careful set of provisions and remedies can fail to consider them all.

Risks should be addressed in an organized and structured approach, which is defined as the risk strategy.

Risk management should follow the Risk Management Cycle (see figure 5.9), which, in sequence, includes: a profound effort to foresee such events (identification – explained in 5.2), a rigorous analysis of their implications (assessment of likelihood and size of consequences if they materialize – explained in 5.3), and an analysis and implementation of possible mitigating measures or remedies (explained in 5.4)⁴⁰.

Mitigation measures will provide feedback into the assessment so as to finalize a set of risks that will be the object of the allocation exercise and, subsequently, the risk structuring and incorporation of that structure into the contract. Through this process, some risks are transferred to the private partner, some risks are retained by the public partner, and some risks are shared.

Once risks are allocated and structured (section 5.5), an effective management strategy will be implemented (also known as treatment of risk).

- For retained risks, the public partner will develop specific management strategies for each risk. These strategies may include:
 - self-insuring and building up contingency funds in the budget;
 - contracting out insurance policies for some risks;
 - entering into hedging mechanisms for some financial or economic risks (for example, inflation; and
 - relying only on reactive management when a particular risk occurs.
- For all risks, the public partner will design and operate a risk monitoring system which will incorporate mechanisms to review the identified risks, detect new risks as they arise, and establish how to deal with the risks when they occur, including risks that have been transferred. The public partner monitors both retained and transferred risks because it has the ultimate responsibility to the tax payer for the asset and the service it provides. Managing the risks is part of contract management (risk monitoring and ex-post management) which is explained in chapters 7 and 8.

Management of the financial consequences of retained risks, which typically take the form of contingent liabilities, is discussed in chapter 2 of this PPP Guide⁴¹, and control after the contract signature of the transferred and shared risks is covered in chapters 7 and 8. The core objective of this section is to understand risk allocation and structuring.

Those tasks (identification, assessment, mitigation, allocation, treatment, monitoring, and ex-post management) comprise the risk management cycle.

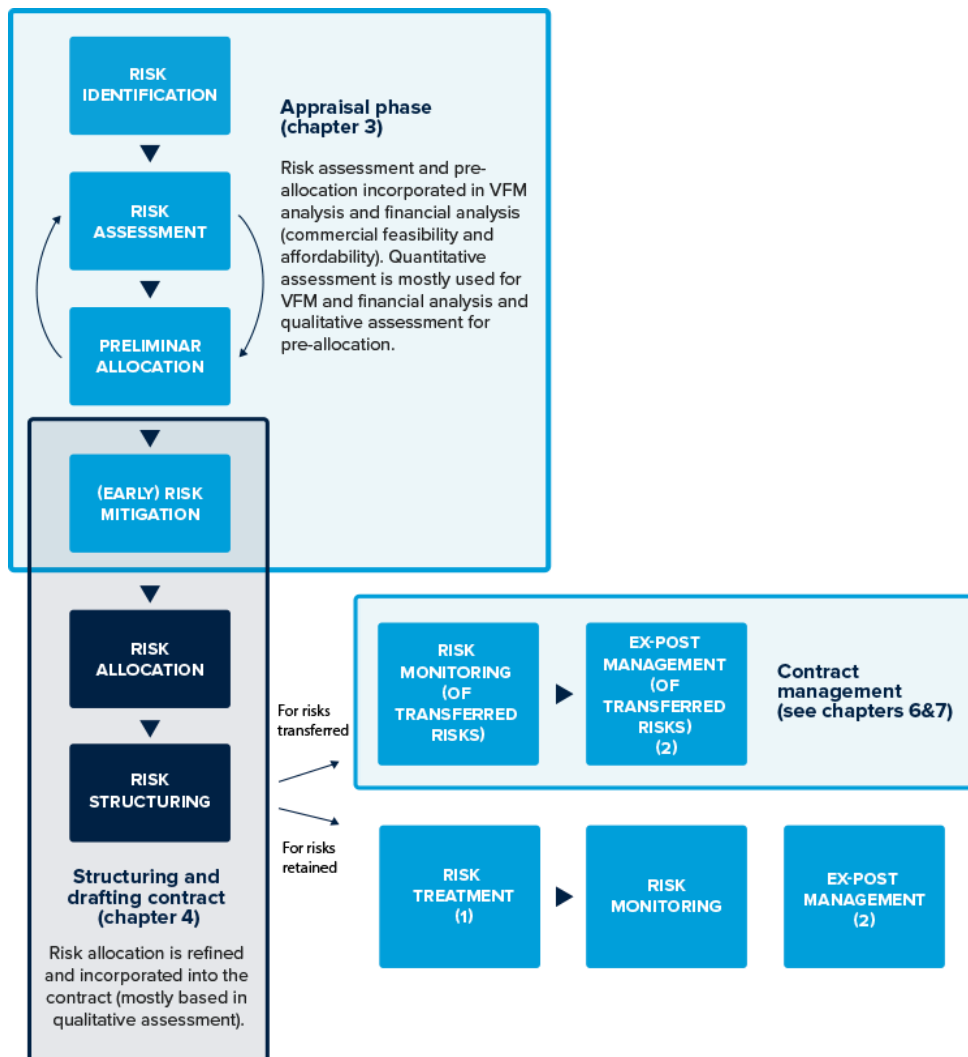
The first part of the cycle (identification and assessment) is usually done during appraisal, with the purpose of conducting the commercial feasibility analysis (and subsequent affordability analysis) as well as the VfM exercise. The appraisal

⁴⁰ Another potential output of the assessment may be rejecting the project or redefining it in such a material way (for example, a significant change in the scope) that the appraisal should start again from the outset. The existence of significant risks that may not be tolerated by the public or by the private partner, which is a sign of unfeasibility, is something that should be detected during the early stages of the appraisal.

⁴¹ For references to further reading on project risk management from a broader perspective, please see previous footnote or refer to the “References” section at the end of this chapter.

requires detailed assessment of the risks, usually through quantitative analysis. In contrast, the risk assessment required to define the risk allocation requires less detail and is mostly based on qualitative or semi-quantitative risk assessment. The risk allocation then feeds into the detailed risk structuring in the contract, which can require an assessment (either qualitative or quantitative) of many nuances in respect of particular risks. These differences are explained further in the next sections.

FIGURE 5.9: The Risk Management Cycle from the Perspective of the Public Partner in the PPP Context



(1) risk treatment refers to the management for of allocated or retained risks including self insurance and contingency funding and potential transfer through insurance or hedging.

(2) ex-post management: reacting or managing impacts of retained risk. But public party should be collaborative even with risks transferred as ultimate responsible of the asset and service.

The private partner will have its own risk management cycle based on the risk allocation structure of the contract and its own analysis of the project risks. The ability and options for the private partner to manage the risks that have been transferred must be considered by the public partner (see section 5.5). This is necessary when defining the risk structure and deciding the risk allocation (including the tolerance of the lenders for certain risks), because this is at the heart of the risk allocation. In fact, it is something to be considered when deciding the scope of the contract, as that is the basis of the future risk allocation – see box 5.17 below.

BOX 5.17: The Private Perspective: Instruments and Strategies for the Private Partner to Manage Transferred Risks

The public party must have a clear view of the ability of the prospective private partner to effectively manage the risks. Risks have to be allocated to the party best placed to manage them. However, there are risks that cannot be assumed by any party or by any agent in the market place (uninsurable risks). Those risks will have to be retained by the authority, as the government's decision to invest in or promote the project (regardless of the method of procurement) is not based on financial feasibility but on socio-economic factors. In this circumstance, a risk may be incorporated as a retained risk in the overall assessment, and the project may still evidence a likely positive outcome.

Assuming a certain risk allocation structure, the private side will proceed in the same manner as the public sector, analyzing the risks so as to identify and assess them, and then deciding how to deal with them. There are some risk events that are not considered or assessed by the public partner from a financial and project standpoint, but which will be risks for the private partner because they are implicit in the nature of the public partner as an authority and contracting party (its ability to meet the obligations to pay, or the counterparty risk in government-pays PPPs, or the financial risk of terminating the contract capriciously)⁴². However, some of these risks (included in the concept of political risk, as perceived by the private sector) may have been considered by the public partner from a framework and program perspective⁴³.

Assuming that the allocation is appropriate (that is, that no risks allocated by the contract are unbearable by the private partner), the private partner has a range of tools and possible strategies available to it.

- Absorb the risk and price it into the financial offer (the bid financial model). This may be considered self-insurance⁴⁴. The incorporation of a risk in the financial model may be done by introducing risk premiums in the equity IRR

⁴² Conversely, there are also risks that only affect the public partner and are not analyzed by the private partner (government reputational risk, failure to select the right partner, failure to achieve VfM, and so on).

⁴³ A sustainable PPP strategy requires managing aggregated fiscal implications and controlling liabilities, which has to be addressed by means of a proper framework, as explained in chapter 0 and developed in chapter 1. However, the risk perspective of this chapter is contract specific and relates to the direct financial implications of each specific project.

⁴⁴ Another more subtle way to treat certain risks, corresponding to a self-insurance approach, is by diversification of the portfolio of project risks, usually combined with the pricing of the risk in terms of equity IRR and/or contingencies. The more diversified the portfolio of an investor, the less the exposure to certain risks and therefore the lower the risk premium.

requested at bid submission, or by building up specific contingencies in costs or revenue projections.

- Pass on the risk to contractors through the project contracts (the downstream structure). This will affect both the bid financial model and the price proposal, but it will provide more certainty as the price of the risk (the risk premium) is certain for the private partner. When the private partner passes through a risk, the risk is transformed into a “counterparty risk”. The private partner is then exposed to the specific contractor’s ability to manage the risk or the contractor’s financial capability to bear the consequences of the event if it happens because the private partner will remain responsible for the risk as far as the procuring authority is concerned.
- Contract out a coverage or an insurance. In this case, rather than paying an implicit premium embedded in the price of a contract that passes through certain obligations and risks, a specific event is retained but covered by means of a coverage or insurance contract. For example, insurance against physical damages, civil responsibility, and so on, or coverage for certain financial risks (such as Forex risk, inflation, and interest rate hedging).

The private partner will have to develop and implement a risk plan that includes preventive and reactive measures, including a risk monitoring system for all risks, which in many cases is not just good practice but a contractual obligation with third parties (insurers) or with the procuring authority.

As with the case of the public partner with respect to the allocation of risks in the main contract (the PPP agreement), the decision by the private party to retain and price the risk or transfer it through to another party will depend on whether that third party (including the hedging market or the insurance market) can manage that risk by absorbing and pricing it efficiently, or even pass the risk through to subsequent third parties in a cascade.

Appendix A to chapter 6 further explains how the private partner faces the challenge of managing risks, especially by means of transferring them through to contractors under “back-to-back” schemes.

One further clarification has to be made with respect to the private perspective about risks vis-a-vis the scope of knowledge covered in this section. This chapter is about projects, so for convenience it ignores the previous strategic analysis of the private partner in terms of country risk (see chapter 1.5.6.c) and PPP program opportunity. It is assumed that the specific country hosting the project and the respective PPP program are acceptable in terms of risk and will be appealing as a strategic target.

Chapter 6, appendix A describes the cycle of country analysis especially project analysis from the private perspective.

5.3 Risk Identification

The risk management process starts with the identification of risks. Identification of risks refers to defining a comprehensive list of risk events, usually grouped in consistent categories, and then describing them so as to understand clearly how those risks will impact the project outcome if they materialize. Processes for

identifying risks are well established – see, for example, the International Organization for Standardization (ISO) 31000 Risk Management Standard.

Risk assessment (including identification) may be more or less exhaustive depending on the purpose of the assessment. For VfM and commercial feasibility exercises (carried out during appraisal), this work will usually be more exhaustive. For risk allocation, this work will be less exhaustive and will involve a degree of prioritization; the decisions about the allocation of the significant risks of the project (in terms of likelihood and/or impact), when documented in the contract, will implicitly allocate many of the less significant risks without the need to expressly consider and allocate those less significant risks.

This section introduces the concept of risk identification bearing in mind, in terms of risks, both the needs of the Appraisal Phase (related to VfM and commercial feasibility) and the allocation exercise (the focus of the Structuring Phase in terms of risk analysis).

As introduced, the categories assumed by a private partner when analyzing the risks (based already on a risk allocation structure) may differ in the sense that some categories or types of risks are only the subject of a private assessment. Basically, this covers some political risks in the broad sense (including the credit risk of the counterparty).

However, some risks which potentially can be incorporated into the political risk category by a private appraiser will be considered in the public assessment so as to allocate risk and define the risk structure of the PPP contract. This is the case for riots, wars (and generally “force majeure” risks), and similar risks. It is also the case for any changes in the legal framework or other potential political and policy actions that may affect the project outcome or directly affect the financial equation of the private investors or the lenders.

Some of these political risks (for example, controls on the convertibility of the currency) will be analyzed by the prospective private partner under the country risk category, that is, in an analysis screening the country and program rather than the specific project.

There are multiple classifications of risks suggested by different authors and institutions. No matter what categorization is used, the relevant issue is to be sure that all potential events are identified and treated in terms of qualification, quantification, and allocation. Eliminating the risk of “blind spots” and natural overlaps are taken into account in the assessment so as to avoid double counting.

When defining categories and events, it is necessary to accept that overlaps exist. Some risks can be difficult to assign to one specific category. For example, “market risk” may materialize in the form of lower demand for the service, but a change in demand may also be caused by a policy decision which, while not intended to, may impact the project. In this instance, the danger may equally be regarded as a “political risk”. Also, risks of cost and time overruns are interrelated as time overruns usually cause cost overruns.

To handle overlaps and avoid blind spots, it is useful to develop a “risk register” and conduct meaningful brainstorming sessions. Blind spots can occur when areas are

overlooked, either because of negligence or from paying too much attention to certain risks, but not to others⁴⁵.

The detailed risk register is used to conduct an orderly quantitative risk assessment. The purpose of this is to define the financial base case in order to conduct the commercial feasibility analysis and to handle the VfM exercise.

However, when handling the risk allocation tasks, it is obvious that it is necessary to identify and categorize risks so as to decide on their optimum allocation. However, this is frequently done on the basis of a less exhaustive categorization of risks, relying more on a qualitative assessment (see next section).

In defining the risk allocation strategy, it is common and good practice to use a “risk matrix”. The risk matrices usually mix categories of risks not only identified by their nature (for example, political, market, general economy), but also including and describing risks identified by their timing or as an obligation or element of the contract’s scope (for example, construction risks, O&M risks, and revenue risks).

A risk matrix identifies and systematically describes all risks properly, including how they affect the project (and in what form), as well as potential mitigation measures (a risk may potentially have a severe impact, but be easy to mitigate). Some risk matrices include the qualitative assessment of the risks (describing them in terms of relevance of impact), which is explained in the following section. See box 5.18.

As with the allocation analysis, this PPP Guide will work with the following broad categories of risks, noting that some of these categories may be more or less useful depending on the risk specifics of the respective project.

- Site risks: Availability of the site, design risks, environmental, permits, and ground conditions;
- Design risks;
- Construction risks;
- Commissioning risks;
- Revenue risks: Demand/usage (in user-pays and volume payment mechanisms), price or tariff risk (in user-pays), availability and quality risks, third party revenue risks, and so on;
- Maintenance risks;
- Other operating risks;
- Financial risks;
- Changes in law;
- Force majeure risks; and
- Early termination risks.

It should be noted that this risk classification is done from a project standpoint, that is, it does not cover or consider the “country risk” category, although some

⁴⁵ Federal Highway Administration (FHWA), the U.S. Department of Transportation (2013) provides an explanation of how to handle a meaningful identification exercise by creating registers and other tools, such as “Risk Relation Maps” (RRM). It also provides a check list to double check the correctness and reliability of the register. Also, Farquharson and others (2011) includes an example of a Risk Register for a PPP project in appendix B.

expressions of political risk may fall within some of the categories above, such as changes in law or force majeure.

BOX 5.18: The Risk Allocation Matrix as a Tool for Risk Management and Allocation (contents of a risk matrix)⁴⁶

In order to identify and allocate the risks, a specific risk matrix should be developed for every project that is being analyzed. Although a basic risk matrix may have been developed at the previous phase for the purpose of defining the PPP pre-structure, a detailed one should now be completed. The risk matrix should contain at least the following information for each risk.

- Risk name and category.
- Risk description.
- Risk effects/consequences.
- Measures to mitigate the risk, where available.
- Risk allocation – the party who bears the risk (and extent of risk when it is shared).

The risk matrix helps the government to organize the conduct of the risk analysis and to record the decision on the risk allocation so it can be incorporated into the contract afterwards. The decision will usually be made by means of qualitative assessment (with potentially some limited exceptions that may require an ad hoc quantitative assessment exercise).

The qualitative assessment is sometimes recorded in a separate document which will provide feedback to the risk allocation matrix to define the allocation for any unclear or difficult risk events (see section 5.4).

5.4 Risk Assessment

5.4.1 Quantitative Assessment and Appraisal

As noted, a quantitative assessment (estimating or defining values of the possible outcomes or “expected values”) is usually applied during appraisal for financial analysis and VfM. This is also referred as “adjusting values to risk”, and it is also necessary to conduct the CBA analysis.

The outcomes of the values may be presented or calculated in two different forms:

- a) The most likely of possible outcomes; and
- b) The full range of possible outcomes, including their probabilities.

As stated in chapter 4, “Since the reliability of the conclusions depends on the accuracy of the assumed probabilities, it is good practice to only conduct

⁴⁶ “PPP Manual of Rio de Janeiro” (2008) provides an example of a risk matrix in Annex 2, page 178. Appendix A of the “Risk Allocation and contractual issues guide” provides for a detailed risk allocation matrix describing the recommended or preferred allocation (Partnerships Victoria, June 2001).

probabilistic analysis when reliable information about the likelihood of events is available. When this is not the case, the simpler approach to risk should be chosen, as it is more intuitive, reduces complexity and simplifies the interpretation and communication of the results”.

When assessing the project for financial feasibility and affordability, risks will have been quantitatively assessed in order to determine the cost and revenue (for user-pays) inputs and to define a set of projections adjusted for risk. This is done to construct the financial base case on which commercial feasibility is determined. The most common approach is to define the base case of the project’s main cash flows (construction and O&M costs, revenues from users/demand, and third parties) on the basis of the most likely outcome.

However, as explained in chapter 4, the set of financial projections put together for a prospective bidder will have to be tested against different scenarios as recommended in the costs and risks assessment, that is, the sensitivity analysis (see chapter 4.6.9). This means that the financial impact of both adverse and positive changes in the main drivers can be observed. It will allow the government to assess the robustness or resilience of the project’s financial architecture and to estimate the contingencies likely to be built in by the private partner.

When conducting the risk allocation task, quantitative analysis may also be used when there are significant risks for which the qualitative assessment is unclear or of limited value. In such cases, the expected value of costs and revenues (duly adjusted for risk and/or based on an estimation of contingencies) will have to be compared with the alternative strategies of taking back the respective risk, sharing the impact, or capping the risk transferred⁴⁷ so as to estimate the specific VfM inherent to the alternative allocation of such risk.

It should be noted that in order to construct the financial model so as to create the financial base case needed for financial and VfM appraisal, a preliminary allocation will have been defined on the basis of a qualitative assessment (see below).

5.4.2 Using Qualitative Assessment as the Risk Assessment Approach to Risk Allocation

As introduced here, the risk assessment conducted in order to allocate risks is usually qualitative in nature, with limited exceptions.

In this sense, each risk will be assessed, bearing in mind the private sector’s ability to manage it, and will produce nominal (for example, 1, 2, 3, and so on, levels) or descriptive (high, medium, low, and so on) scales for each of the two dimensions of risk:

- The likelihood or probability of the risk occurring; and

⁴⁷ As explained in chapter 3, the commercial feasibility, VfM, and affordability analysis are, in essence, iterative exercises until the circle is closed with a satisfactory outcome, that is, unless the necessary risk to be taken back is so significant that the PPP is not providing VfM, and therefore the proposed procurement has to be re-considered.

- The size or financial relevance of the impact if the risk materializes.

Qualitative assessment is sometimes referred to as “semi-quantitative assessment”. The result may be explained as a “tolerability matrix” (in this case, from the perspective of the private sector). See box 5.19 and figure 5.10.

BOX 5.19: Qualitative Risk Assessment according to the UK Treasury’s “Orange Book”

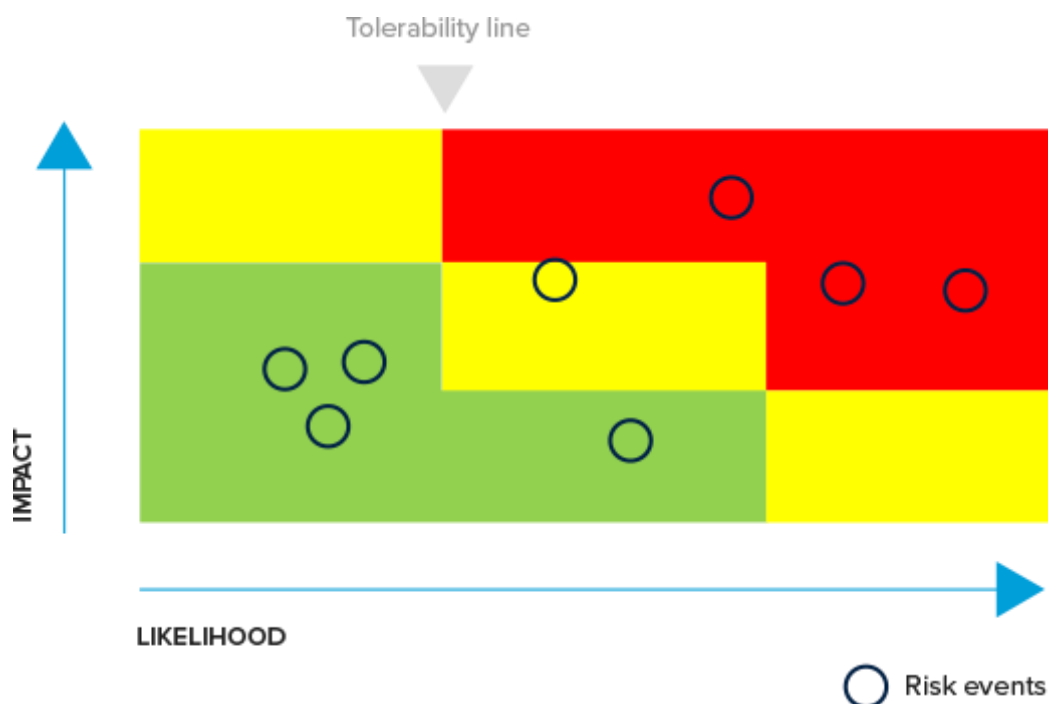
This assessment needs to be done by evaluating both the likelihood of the risk materializing and the impact if the risk is realized. A categorization of high/medium/low in respect of each may be sufficient, and this should be the minimum level of categorization. This, in turn, results in a “3x3” risk matrix.

A more detailed analytical scale may be appropriate, especially if a clear quantitative evaluation can be applied to the particular risk. In this context, “5x5” matrices are often used⁴⁸ with impact on a scale of “insignificant/minor/moderate/major/catastrophic” and likelihood on a scale of “rare/unlikely/possible/likely/almost certain”. There is no absolute standard for the scale of risk matrices. Color (“Traffic Lights”) can be used to further clarify the significance of risks. Ultimately, each organization should reach a judgment about the level of analysis that it finds most practicable for its circumstances.

Source: HM Treasury, *Management of Risk: A Strategic Overview (The ‘Orange Book’)*.

FIGURE 5.10: Simple Risk Tolerability Matrix

⁴⁸ As advised in FHWA, 2013, the likelihood and consequence factors are assigned with 5 ranges of qualitative values of very high, high, medium, low, or very low. These judgments are then entered into a risk impact matrix to determine the risk rating.



Source: Adapted from the HM Treasury, *Management of Risk: A Strategic Overview (The 'Orange Book')*.

The qualitative assessment conducted to allocate risks is relevant in general terms for all risk assessment matters, including those conducted during appraisal, as it helps to prioritize risks.

“The objective of risk prioritization is to preselect significant risks in order to separate them from insignificant risks. This step can save a great deal of time in the long run, because it prevents undue attention being given to the management of risks that, in actuality, matter very little. This prioritization is used to determine whether a risk is negligible, extremely important, or lies somewhere in between. This decision is, of course, variable and the criterion for what passes as ‘negligible’ and what is ‘extremely important’ must be defined on a project-specific basis” (FHWA, 2013)⁴⁹.

The exercise to define the optimum risk allocation will usually be concentrated in the red and yellow parts of the matrix, assuming the default position that all ‘green’ risks will be transferred to the private partner unless those risks, for some reason, cannot be managed by them.

Principles of risk allocation are discussed further in section 5.6 below.

Every risk will be assessed independently as to which party will finally bear it because those risks that are finally retained will have to be managed by the public partner, either by self-insuring by means of contingency funds — or by evaluating them in order to reflect them in long-term liabilities.

⁴⁹ FHWA, Department of Transportation, US. (2013). *Guidebook for Risk Assessment in Public-Private Partnerships*.

Another general rule is that the authority should, for all relevant risks, analyze the possibilities for mitigating the risks in advance of contract execution or even launch. The authority should also assess the ability of the private partner to mitigate and manage the transferred risks.

Identification and qualification of risk mitigation is an exercise that runs concurrently with risk assessment because mitigation and management capability will inform the likelihood and/or potential impact of the risks.

Some risk mitigating factors may be developed by the authority in advance of contract execution (this can even be the case for those risks that will be transferred to the private partner) whereby the authority has the ability to contribute to the reduction of the risk or to reinforce the capability of the private partner to manage it. This is explained in further detail below.

5.5 Mitigation Measures (early mitigation by the authority)

Many risks can be mitigated through appropriate action by the procuring authority during the Screening, Appraisal, and Structuring Phases of the project. This can be done by optimizing the scope of the project, the planning process, and through robust investigations that provide information about risks (and thus reduce uncertainty).

Typical ways to mitigate risk through optimizing the scope of the project and the planning process include avoiding innovation and complexity if the benefit does not outweigh the cost, choosing a realistic delivery date, or planning crucial building activities during the summer so there is less risk of weather related delays (FHWA 2013).

Typical ways to mitigate risk through robust investigations include studies that enable the parties to better assess risks. Regardless of whether a risk will ultimately be taken back or left transferred to the private partner, the public partner is in the best position to do as much risk assessment as possible in advance. For example, this can be done during the Preparation and Appraisal Phase (and during structuring if needed) so as to produce relevant and meaningful information that should be provided to the private partner as the prospective bidder.

Examples of information essential to the risk assessment, which would allow the private partner to evaluate the risks and/or decide how to manage the risk event (including whether bid or not), are archeological maps, geo-technical studies, traffic and revenue studies, utility allocation information, initial Environmental and Social Impact Assessment (ESIA), and so on.

In a number of contexts, this information (provided as reference information or “for information purposes”) may even be incorporated into the contract to create a baseline by which some risks will be allocated as they occur. For example, archeological findings may be generally allocated to the private partner, with the exception of findings that are unforeseen by the archeological study. Alternatively, a geo-technical study may provide the baseline of geo-technical conditions which will define whether an adverse condition that has materialized is materially different and therefore provides an entitlement to financial relief (compensation).

Other natural mitigating factors for both the retained risks and all risks in general concerns the selection process itself. This should ensure, as much as possible, the adequacy and capability of the successful bidder to develop and handle the project, as well as the level of reliability of its bid.

5.6 Deciding on Risk Allocation

Default Situation and General Rules

When allocating risks, the government should be clear that risk transfer is defined by the contract scope and the PPP contract structure. Subject to the refinement of risk allocation, all risks inherent to the scope of the contract, and those appropriate to the economic ownership of the asset and the nature of the business, should be transferred unless the risk assessment clearly recommends the opposite.

The contract structure and therefore the default position on risk allocation is defined by two interrelated factors.

- The scope of the obligations and the service requirements, that is, what is constructed and operated and/or maintained by the private partner and which services are included in the service requirements. In particular, it concerns which performance requirements must be met to entitle the private partner to payments (or the ability to charge the user) and to what extent the private partner has to finance the project; and
- The financial structure and the economic rights, that is, how and when will the private partner be paid and under which regime (including the payment mechanism in government-pays contracts).

This implies that the most basic and general rule to be covered in the contract regarding risk allocation is that design, construction, commissioning, operations, maintenance, revenues, and financial risks are to be generally borne by the private partner. In principle, all uncertainty and contingency over the cash flows inherent in those activities must be assessed, priced, and managed by the private partner, that is, to the extent that they relate to the economic operation of the asset or ordinary business activity. However, they should also include some exogenous events that may commonly affect the business outcome or are integral to it. For example, these can include the potential volatility of prices that affect costings, a shift in demand due to unexpected changes in the country's economic growth, and so on. However, a number of exceptions can be made, as explained later in this chapter.

The risks related to responsibilities that are not naturally embedded in the project scope do not form part of the revenue regime (or the payment mechanism). They are not risks faced by ordinary businesses and should therefore be retained by the authority. It should be noted however that some risks can be allocated by removing certain obligations from the contract scope. Examples of this are the risk of reduced demand levels in a transport project where operating the transport service is not included in the scope, or the demand/use of a hospital where the clinical services are not included in the PPP. This category will also include any direct act by the public partner that affects or changes the obligations of the private partner (for example, service changes). It also includes other direct acts by the government that

specifically affect the particular project (for example, a discriminatory change in law), which are a manifestation of political risks but do not include all potential political risks events (for example, a war or general strike, which are of a quite different category).⁵⁰ In some exceptional instances, responsibilities and/or risks that do not naturally form part of the project business are included within the scope of the contract. This is explained further.

In addition to these two principles about which risks should generally be transferred and which should be retained or taken back, there is a third general consideration. This relates to the risks that are beyond the respective responsibilities and capability of either party, and that neither party is able to manage. These risks should generally be shared to a significant extent. The general concept of force majeure explains the majority of these potential events, or their most relevance in terms of risk exposure. However, the contractual definition of the “force majeure” events is highly challenging (see section 5.7).

Even if a risk is completely out of the private partner’s management capability (either because it is not possible to assess the risk or control its occurrence), it may nevertheless be appropriate to have the private partner bear that risk to some extent. The private partner may be able to mitigate the consequences of an unforeseeable and irresistible event by making specific improvements in the design of a building, or it may be able to proactively reduce the impact by mitigating the consequences of the event. To be incentivized to do so, the contract should transfer some proportion of the risk, or the consequences of it, to the private partner.

The objective of risk structuring (leaving aside the public debt implications⁵¹) is to protect or maximize the VfM. Risk allocation should be structured so as to optimize the VfM of the project. In this sense, as proposed above, the first two general rules may have exceptions, in addition to the exceptional nature implicit in the third rule.

- It will be appropriate to fully or partially take back a number of risks (that is, to share them and limit the private partner’s exposure) that would naturally fall in the scope of responsibilities of the private partner if there is evidence that the private partner will not be able to add value in assuming and managing the respective risk. (This is addressed in the next section); and
- It may also be appropriate to require the private partner to partially assume some risks not naturally related to its responsibilities in the contract scope. For example, providing incentives for the private partner to assume some of the risk of vandalism carried out on other assets not constructed or managed by the private partner (but related to its assets and close to them). This might

⁵⁰ As explained in *Recommended PPP contractual provisions* (Gide, commissioned by WB, 2015), sometimes these political risks are included or regarded as force majeure risks (political force majeure). The treatment of these direct acts or decisions of the government should be borne by the public partner – i.e. they should not be shared – as these are events under the control of governmental authorities. For this reason, some practitioners apply the term “Material Adverse Government Action” for such events rather than “political force majeure”.

⁵¹ This PPP Guide does not consider accounting treatment as an appropriate driver for risk allocation. An optimum risk allocation structure in terms of VfM for a specific PPP may result in the project being classified as a public asset (and consequently impacting on public debt registers) by the respective national accounting authority. Such projects are often referred to as “on balance sheet”. In those countries/jurisdictions which base their accounting standards on risk allocation, e.g. EU members, a risk structure that meets the criteria for “off-balance sheet” treatment, under the respective national accounting standards, may provide lower VfM than the optimum.

apply where it is clear that this will be efficient for the private partner to provide security or protection for those other properties.

Jurisprudence, case law, some specific laws (in the case of force majeure), and experience of past projects have identified some categories of risk that should never be transferred, including:

- Force majeure events (which include acts of God). This risk may be partially transferred but cannot be fully transferred to a private partner because it has neither the capability to control the occurrence, nor the unlimited capacity that might be required to mitigate the impact. This is further discussed in section 5.6;
- Changes in service requirements or scope of works needed to adapt the project to new circumstances (for example, the need to increase the kilometers served by a LRT project and acquire more vehicles, or the need to upgrade a road as demand is much higher than expected); and
- Discriminatory changes in law or policy, and other actions by the government that negatively affect the project economics (for example, the omission of its obligations of approvals and authorizations, payment delays, restrictions to convertibility and transfer of dividends abroad, or capricious changes imposed to the contract).

Ultimately, work to allocate risks is an exercise of defining exceptions to the general rules. This is especially the case with respect to risks that are naturally linked to the responsibilities and rights defined in the contract. It also applies to refining some general concepts to the extent that the respective jurisdictions allow (as with force majeure) to better fit the specific contract.

Dealing with the exceptions to the general rules. Which other risks should be taken back?

First, the risk allocation exercise. This is the definition of the exceptional events that will deserve a specific treatment in the contract, usually so that the government fully or partially takes back the risk. It should focus on the key risks (see section 5.4.2). The natural risk allocation should not be adjusted for risks that are meaningless in terms of their potential impact.

The main driver for risk allocation is the VfM. Therefore, when it is clear that a risk transferred to the private partner will result in a higher cost (because of risk premiums) than the expected loss if that risk were to be retained and managed directly by the government, then the risk should be retained (or taken back). However, this will only be possible to assess this if the probability of the risk occurring can be reasonably estimated and the consequences can be realistically measured.

For this reason, judgment is of the essence. In general terms, transferring a risk will help maintain VfM when the private partner is adding value in retaining and managing that risk (see table 5.3.). This capability to manage the risk better and apply an efficient price (risk premium) or incur lower costs may be due to one or more of the following features, inherent to risk management abilities.

- Greater ability to assess the risk (calculate probabilities and estimate consequences, that is, having the ability to better estimate the potential loss

or diminish the uncertainty of the risk) due to experience and technical capability;

- Greater ability to negotiate with third parties so as to pass through the risk to them at a reasonable or efficient price (that is, more efficient than the price obtainable by the public partner);
- Higher capacity to reduce the probability of the occurrence of a risk. This is typically done by means of a more resistant design of the asset or by means of better protocols for control and monitoring of the risk, and so on, based on the experience, means, and methods; and
- Higher capacity to mitigate the consequences of the risk occurring and repairing the damage more efficiently.

When none of these factors are present, and the risk event has a significant potential impact, that risk should be retained or taken back from the natural risk position.

These exceptions may be identified on the basis of: (i) real precedents, (ii) knowledge and experience of advisers or government's own experience, and (iii) market tests/discussion with interested parties during appraisal and/or during this Structuring Phase.

This includes force majeure and similar risks in many jurisdictions where the freedom of the parties to agree on the contract terms prevails. In others that provide a legally defined term and leave narrow space for specific contract treatment, force majeure-related events would already be defined and prescribed by law.

The last heading of this section will discuss common allocation approaches for the risk categories suggested by this PPP Guide, noting that the most appropriate treatment of many risks will depend on, and vary with, each specific project. Appendix A of this chapter provides a deeper analysis and description of risk allocation matters.

TABLE 5.3: Examples of Risk Allocation Decisions based on the Private Partner's Ability to Manage the Risk		
Risk Category	Risk event	Allocation
Commissioning	Toll authorization procedure delayed.	The authorization procedure cannot be controlled by the private partner. The private partner can, to a certain extent, control the consequences (by avoiding the variable operational cost of toll operations whenever there is no toll revenue collection), so a sharing mechanism is often applied in the PPP agreement.
Construction costs and term	The government decides to change the scope because of local interests.	The risk cannot be managed by the private partner at all and would be expensively priced if transferred. The government retains this risk.
Construction costs	Costs increase because of rising oil prices.	The private partner procures material in large quantities and is experienced in using hedges to mitigate cost increases.

		Therefore, the risk is transferred to the private partner.
Construction costs	A concrete truck hits a construction worker.	The risk is related to the construction site. This is managed best by the private partner.
O&M costs	Vandalism during the operational period.	The private partner can decrease the probability of this risk by implementing anti-vandalism measures. The risk is transferred to the private partner.
Construction costs and construction term	Leakage in excavation for tunnel during construction.	The private partner can influence the probability of the event by following all plans and procedures in this circumstance. Furthermore, it can mitigate the damage by applying measures to stop the leakage quickly, and can manage the consequent delay by adjusting the construction schedule. The risk is transferred to the private partner.
Construction term, commissioning	Decision-makers are unavailable during the construction period due to an election period affecting timely responsiveness for approvals and authorizations.	The public partner is responsible for the planning and the availability of its staff. The risk is retained by the public agency.
Construction costs, design	Uncertainty in cost estimates due to preliminary stage of design.	This risk can be transferred to the private partner because it is experienced in dealing with this.

Source: Adapted from *Guide Book from Risk Assessment in PPPs* (FHWA, US Department for Transportation, 2013).

5.7 Contractual Categories of Risks: Compensation, Relief, and Force Majeure Events⁵²

From the standpoint of contractual risk allocation (that is, the reflection of the risk allocation into the contract), there are different categories of risks.

- Compensation events – this refers to risk events for which the private partner is entitled to receive financial compensation if the event materializes and to the extent the partner is impacted financially. This may occur in order to restore the financial equation of the project contract (the expected equity IRR and bankability) or to compensate the loss only partially (typically when an event has been nominated as a shared risk or a partial compensation event).

⁵² Standardisation of PFI 2 Contracts (UK HMT, 2012) provides definitions and standard considerations for risk categories and their incorporation into the contract.

Compensation events may be classified as full compensation events, partial compensation events, or shared risk event;

- Relief events – this refers to risk events for which, if the risk occurs, the private partner will be excused for under-performance or even breach of obligations (that resulted from the event, but no financial compensation is granted). For example, time delays in the case of unforeseen archeological findings; and
- Force majeure – broadly speaking, force majeure might be considered a compensation event and/or a relief event. However, due to its relevance and international consolidation as a category of risk, it is common and good practice to grant this risk its own status in the contract — and even in terms of law in many countries. Another reason for this special treatment is that this risk event may drive the contract to an early termination under specific provisions (see section 9.9).

Compensation and relief events should always be defined with clarity and precision in an exhaustive manner to respond to their exceptional nature. As in the case of force majeure, the contract should clearly describe the procedures to assess the risk occurrence, the conditions to determine the right of access to the relief or compensation (which should only be available to the extent that the impact could not have been prevented by due care and diligence by the private partner), and other obligations related to information and communication.

The contract incorporation of force majeure is more complex to explain, as there is a need to differentiate between the many civil code countries where it is a legally defined concept (thus leaving little if any scope to make adjustments in the contract), and those common law jurisdictions where there is a clear freedom between the parties to agree on the terms of the contract.

Consequently, in the latter case, it is common to include in the contract an exhaustive list of events that will be construed as force majeure, while in the former it may be not possible to do so. In this latter case, a recommended practice is to define a non-exhaustive list in addition to a “catch-all definition” that ensures that the term includes all events that fall within the legally defined concept.

The common ground is that force majeure events are risk events that are, by their nature, impossible to assess in terms of impact estimates, and very difficult to estimate in terms of likelihood. They also always relate to exogenous factors, are unrelated to the performance of the private partner, and are caused by external agents (wars, riots, natural disasters, and so on).

When the legal definition of force majeure in civil code countries is too narrow, this should not prevent the procuring authority (to the extent allowed by the procurement framework) from defining a wider term or including specific risks similar to force majeure when appropriate for a particular project^{53 54}.

⁵³ As described in chapter 1, legal frameworks should avoid exhaustively restricting or regulating contract features, and they should leave reasonable scope for procuring authorities to find and define the right contract structure for each project.

⁵⁴ It is not uncommon in some civil code countries that another risk category is legally defined as a potential exception to the general principle of risk transfer: the concept of “unforeseen circumstances”.

Table 5.4 illustrates the standard definition of force majeure in some countries⁵⁵.

TABLE 5.4: Examples of Force Majeure Definitions in Several Country Standards	
Australia	“Force majeure” means (a) acts of God, specifically storms, lightning, cyclones, earthquakes, natural disasters, actions of the elements, tidal waves, floods, droughts, landslides, mudslides and nuclear, chemical and biological contamination; and (b) civil riots, rebellions, revolutions, terrorism, civil commotion, insurrections and military and usurped power, malicious damage, acts of a public enemy and war (declared and undeclared) as a result of which a party is prevented from or delayed in performing any of its non-financial obligations.
UK	“Force majeure” means the occurrence after the date of contract of: (a) war, civil war, armed conflict or terrorism; or (b) nuclear, chemical, or biological contamination unless the source or the cause of the contamination is the result of the actions of or breach by the contractor or its subcontractors; or (c) pressure waves caused by devices travelling at supersonic speeds, which directly causes either party (the “Affected Party”) to be unable to comply with all or a material part of its obligations under this contract. The UK Standardization of PFI contracts treat Acts of God as a relief event.
South Africa	“Force majeure” means any of the following events to the extent that they are uninsurable: (a) war, civil war, armed conflicts, or terrorism; or (b) nuclear contamination unless the private party and/or any subcontractor is the source or cause of the contamination; or (c) chemical or biological contamination of the works and/or the facilities and/or the project site from any of the events referred to in clause (i) above, which directly causes either party to be unable to comply with all or a material part of its obligations under this PPP agreement. Clause (i) is a standard clause that develops the consequences and

In such cases, unlike the case of force majeure, it is important to define in precise terms what will be regarded as “unforeseen” in the contract so as to provide the right to receive compensation or relief.

⁵⁵ PPP in Infrastructure Resource Center (PPPIRC) provides samples and suggested wording for force majeure clauses at <http://ppp.worldbank.org/public-private-partnership/ppp-overview/practical-tools/checklists-and-risk-matrices/force-majeure-checklist/sample-clauses>, and additional intelligence about force majeure in *Force Majeure Clauses - Checklist and Sample Wording* (<http://ppp.worldbank.org>). *Termination and Force Majeure. Provisions in PPP Contracts: Review of current European practice and guidance* (European PPP Expertise Center – EPEC, 2013) provides an analysis of force majeure provisions in Europe in section 3.

5.8 Introducing the Main Project Risks and their Potential Allocation⁵⁶

This subsection introduces a list of the most relevant risks as they are commonly identified in different guides and protocols (while acknowledging that there may be material differences in the classification of risks from some country practices to others).

Appendix A provides a deeper explanation of the risks, some subsets of risks, and further reflections on common practices and pitfalls regarding the allocation decision and its incorporation into the contract.

5.7.1 Risks Related to the Design and Construction Phase, including Site Conditions

- Land availability and acquisition.** The unavailability of the land or site to construct the infrastructure at the time of contract signature will obviously cause delays and indirectly increase costs (through renegotiation of construction agreements, higher interest during construction, and so on). Furthermore, the uncertainty of site availability will be a reason for failure in the tender, making it likely that no bidders will participate.
 The site should be available at tender launch in any social infrastructure project. In linear infrastructure, it is more common that the right of way is not entirely available and that the acquisition of the land has to still be managed. Many countries consider the responsibility of land acquisition as a public matter, while in some others the practice of delegating such work to the private partner is more common.
 This PPP Guide considers it good practice that in such circumstances when the risk of costs is higher than expected (and the benefit in the converse situation) that it be retained by the public party. In some countries and practices, this is done partially with the public partner sharing the risk. As such, a cap should be established so as to limit the risk exposure of the private partner or, at a minimum, granting the status of an extraordinary and compensation event to the case of extraordinary deviations occurring in the actual cost, due to unforeseen circumstances⁵⁷;
- Environmental (or environmental assessment) risk.** Most projects must pass an Environmental Impact Assessment (EIA)⁵⁸. Environmental issues may be related to a number of environmental aspects (general contamination or pollution, noise pollution, water contamination, impact on the natural

⁵⁶ For additional reading on risk allocation matters, please refer to *Risk Allocation and Contractual Issues* (Partnerships Victoria 2001).

⁵⁷ For example, in some countries the price for acquisition/expropriation is ultimately defined by a court, and it may happen that the final price is settled at levels that may be regarded as unreasonable. In such cases, the private partner would have to appeal to higher courts with great uncertainty not only in terms of results but also in terms of time.

⁵⁸ Some jurisdictions refer to ESIA (Environmental and Social Impact Assessment including social matters).

environment, and so on). An adverse (different than anticipated) assessment may require changes in the design, causing a direct impact in terms of capital expenditure (Capex) costs, in addition to delays.

This risk is essentially a design risk and should generally be borne by the private partner. An exception is pre-existing contamination: when there has been an existing operation, the government usually accepts responsibility for pre-existing environmental problems (for example, site contamination for a power plant or waste dump).

Environmental impacts have to be anticipated to the largest possible extent by the authority in order to limit or mitigate this risk for the benefit of both parties. The authority should remain responsible for adverse assessments related to the specifications settled in the contract.

It should be noted that these risks are usually categorized in the Construction Phase. However, the risk analyst and/or the structurer of the contract should note that the risk may also affect O&M costs (for example, noncompliance with environmental legislation that is detected during operations or changes in environmental law);

- **Other permits.** Generally, the private partner should anticipate the permits needed and assess the implications and related risks;
- **Design risk.** As the private party commonly develops the design in PPPs, the private party should generally bear the design risk;
- **Construction risk.** Construction risk represents the possibility that during the Construction Phase, the actual project costs or construction time exceed the projected time and costs. This risk is generally borne by the private partner who will pass it through to the construction contractors. However, the contract should provide relief and/or compensation for certain risk events that might occur, the main categories of which are explained below and in appendix A (for example, force majeure); and
- **Completion and commissioning.** The completion risk or the commissioning risk refers to the risk of failing to meet the construction outcome or finalization as prescribed. It also refers to the project, as constructed, failing to provide services as expected. As a general rule, it is a construction or design risk that has to be borne by the private partner.

Specific risks related to the site that may be regarded as interruptive and therefore treated as relief or as compensation events. Risks related to unanticipated ground conditions (especially related to geo-technical conditions), archeological findings, utility reallocation risks, or latent defects in an existing infrastructure (in secondary stage PPPs) and risk of squatters may be significant in certain projects, which will have to be detected in the Appraisal Phase. In some circumstances, these risks may be treated in the contract as relief events, and some of them potentially as compensation events. Those circumstances essentially depend on the likelihood and potential impact of the risks and the reliability of available information. It is not good practice to provide full relief for these types of events (that is, taking back the whole of the risks in terms of financial impact), as even if the risk may not be entirely under the control of the private partner, it should be properly incentivized to manage the risk (mitigating its likelihood, managing the event if it occurs), assuming that this will be for a price (risk premium).

5.7.2 Risks during the Operating Phase

- **Revenue risk in user-pays.** This refers to the risk of the revenue flows not being correctly assessed. The main or most likely reason is volume risk, that is, the potential impact of demand or usage not being at the anticipated level. This risk is at the heart of user-pays structures and should generally be borne by the private party. However, to share this risk and/or limit it to some extent may provide Value for Money (by providing a guarantee for minimum traffic or minimum revenue), especially when the likelihood of the risk occurring is very significant. This danger should be assessed during appraisal and even tested with the market, including stress tests and break even analysis (see chapter 4.6.9). A subset of the revenue risk is the network risks and competing facilities (see appendix A).
The same reflections may be applied to volume risk in government-pays PPPs based on usage;
- **Revenue risk – inflation and indexation.** Any contract must provide clear rules as to how payments will be indexed to reflect any rise in cost-inflation. Generally, the risk of cost inflation not being compensated for by revisions to pricing should be assumed by the private partner. However, specific issues may arise in the context of user-pays PPPs where the authority reserves for itself the ability to settle the tariff level during the course of the contract. In this case, when the tariff is not approved at the level anticipated by the private partner, specific measures to neutralize the impact on the private partner should be a part of the contract;
- **Revenue risk availability and quality.** Revenue risk linked to availability and quality issues — when the performance requirements and performance target levels are not met — must be the responsibility of the private partner. Failure to meet these requirements may affect the revenue directly (abatement of payments) or indirectly (imposition of penalties or liquidated damages (LDs)). This risk is borne by the private partner as it is the essence of the PPP objectives. Sometimes the risk is referred to as performance risk;
- **Other revenue risk events.** Other risks related to revenue may arise on some projects or in some countries. Sub-categories (not present in every project) are:
 - credit risk or counterparty risk
 - third party and ancillary revenues
 - Foreign exchange risk (forex) for cross-border investors. However, it should be noted that risk with respect to cross-border loans in hard currency is better treated under “financial risks”
 - fraud/non-payment by users. This is a crucial risks in most EMDE countries.

All these are generally borne on the private side, with potential qualifications described in the appendix, especially for non-payment;

- **Maintenance and operating costs.** This is also a natural risk to be allocated to the private party, as the maintenance obligation is a core element of any PPP contract scope. The risk may correlate with the design risk as improper design may drive higher maintenance costs, especially major maintenance and renewals (life-cycle costs). It is not uncommon to consider some exceptions to the general transfer of risk rule for some particular risks and cost elements in specific projects: utility costs (especially energy), soft

services, insurance premium costs, and “inverse risk of usage⁵⁹” (see appendix).

Technology obsolescence is another subset of risk that generally has to be assumed by the private party, unless related to mandatory technological enhancements which are a subset of changes in law described below; and

- **Residual value and hand-back conditions.** A risk to be borne by the private partner to meet with the requirements specified in the contract (see section 8.9).

5.7.3 Financial Risks

- **Availability of finance.** This represents the risk of financing (especially third party financing, that is, debt arrangements) not being available at commercial close or before construction starts, or only being available on prohibitive conditions. This risk relates to an essential obligation of a PPP and should generally be assumed by the private partner. However, the government has to proactively mitigate the risk by proper preparation and appraisal, and potentially (in some projects in EMDE countries) share the risk by putting in place public institutional finance (see section 4);
- **Financial costs/interest rates.** This is another essential private risk in PPPs, with the exception of the interest base rate risk between bid submission and financial close, which is taken back or shared by the authority in a number of countries (see appendix);
- **Refinancing.** Some jurisdictions include the obligation for the private partner to share any refinancing gains with government. In some specific projects, governments also share the downside refinancing risk; and
- **Forex risk.** In the context of hard currency cross-border financing this is a major issue.

5.7.4 Other Risks that Affect or May Occur in Both Phases of the Contract Life

- **Changes in law – specific and discriminatory changes in law.** This risk may impact the project by imposing the need for increased investment or by affecting the O&M costs. Any change in law (including changes in policies and regulations) that generally affects any business should be borne by the private partner. However, it is good practice to establish risk sharing and limiting mechanisms in the contract. This is to take back part of the potential impact for what may be regarded as discriminatory changes in law (intended to affecting the specific project), as well as specific changes in law (affecting only the sector in which the project company carries out its activity);
- **Changes in services (including changes in the scope of works).** An authority should have the ability to ask for or order changes in the scope of services or works (under the legal limits established by the respective legislation). But it should include provision for fair compensation for these changes, under rules clearly established in the contract (see section 9.6);

⁵⁹ The inverse risk of usage refers to the risk of higher than expected volume or demand when the revenue mechanism is not linked to usage, creating a misalignment between the two parties.

- **Force majeure (i) (acts of God).** Natural disasters or other natural events with potential extraordinary impact, such as hurricanes, earthquakes, storms, and so on, are events not controllable by either party and should be shared (and specifically defined as such, if possible, in the contract);
- **Force majeure (ii) (political risks).** Certain events of a political nature with low likelihood but unmeasurable effects such as wars, terrorism, nuclear contamination, and so on, are also uncontrollable by either party and should be shared. Some countries or some specific contracts may also include malicious damage (and more exceptionally riots) under the force majeure concept;
- **Uninsurable risks.** This is a risk potentially embedded in the force majeure definition. However, there are other risks which, according to the insurance requirements (see section 9.5), should be covered by insurance but may become uninsurable during the course of the contract. In such circumstances, the contract should provide relief from the obligation of being insured; and
- **Early termination.** The risk of early termination, from the perspective of the private partner, is the risk of the compensation sum due to early termination being insufficient to meet its financial obligations or being less than expected. This risk (as perceived by the private partner) is relevant for the authority in terms of commercial feasibility since a compensation method perceived as unfair or unbalanced, or one that is ambiguous or difficult to assess, may involve losing competitive bids or even facing a no-bids situation. Section 9.8 provides information additional to the appendix.

5.9 Incorporating Risk Allocation into the Contract: General Comments

Risk allocation is implicit in the revenue regime of the contract and in the scope of the obligations. The private party shall construct in the form and time defined (by the contract or as committed to in its proposal), and it shall provide the service as prescribed in the contract (the performance requirements). These will entitle the private partner to receive the foreseen revenue. Meeting these obligations and performing under these requirements (usually set out in specific target levels of service) is generally at the private partner's risk and reward.

However, there will be a number of exceptions, described in the contract as relief and compensation events (including force majeure), whose scope is defined by law or by the specific contract, for which relief may be granted for a lack of compliance. This may include time relief (relief events) or compensatory relief (time and money), which may be full or partial (shared events).

In terms of contract incorporation and drafting impact, many of the relief and compensation events will commonly be documented as qualifications on the respective obligation or area of work regulated in the contract. The risk allocation, therefore, will impact the provisions describing design and construction obligations, operations and maintaining obligations, performance requirements, and/or payment mechanism regulations.

Some specific risks will be described in stand-alone provisions, and some of them will also affect the termination clauses (for example, force majeure).

The contract must, with respect to risk allocation, consider and/or include the following:

- A clear definition of the risk events that are regarded as entitling the private partner to relief and compensation (or only relief), including the precise definition of materiality or significance thresholds;
- A clear definition (or reference to a legal definition) of force majeure;
- A clear description of the procedures to assess the risk occurrence and the conditions to determine the right of access to the relief or compensation benefits. Such relief or compensation should only be available to the extent that the impact could not have been prevented by due care and diligence by the private partner;
- An “all risk” clause, that is, a clause signifying that any risk that is not specifically described otherwise is a risk allocated to the private party; and
- Force majeure specific regulations, including how to deal with the impact on service as a result of a force majeure event. For example, whether to pay or not, and how much to pay during a force majeure event that impedes performance by the private partner. There should also be a definition of when either party is entitled to trigger early termination by force majeure.

6. Testing, Marketing and Communicating the Project before Project Launch

The project should have been sounded out during the Appraisal Phase (see chapter 4.9.1).

It is good practice to conduct further market testing during the Structuring Phase to collect reactions, suggestions, and concerns from the industry (investors, contractors, and lenders following the options and approaches described in the previous chapter). This process should test the key features of the contract before the structure is finalized. In addition, especially when there will not be an interactive process of negotiations (or Dialogue Phase), a formal interaction could take place before publishing the final tender documents and request proposals.

Market testing has to be managed with care, and time has to be dedicated to take real advantage of the feedback. The information provided needs to be critically evaluated as potential bidders will likely overstate their interest and concerns. As explained in chapter 4, transparency also matters. Therefore, when running a poll or using a questionnaire, it may be preferable to place it on an open web page giving any interested bidder or qualified person (advisor/expert, lender, and so on) the opportunity to provide input. This ensures a level playing field so as to avoid future objections.

By testing the project, the government is also marketing the project.

When the government decides not to do any further testing of the project because it has been meaningfully tested during the Appraisal Phase, the project should still be marketed to promote it. This prompts the interest of the industry and lets the potential bidders prepare themselves (that is, screen the project and look for partners so as to create a consortium when this is necessary or desirable – see appendix 6A section 2).

Marketing the project should include at least an industry meeting (an open meeting targeted at industry players, such as contractors, investors, lenders, advisors, and so on). It should also include the delivery (usually through a specific web page) of a detailed project information memorandum⁶⁰ (PIM). This should include a summary of the contract structure, procurement strategy/basic tender process, and targeted time line. Attachments should include the main documents produced during appraisal (relevant parts of the feasibility report or a full package with all the feasibility studies). See box 5.20 and footnotes for a blind example to illustrate potential good practice in managing the marketing and testing.

Communication with the public: Marketing the project means communicating with the industry, which is a paramount factor for project success because it helps to generate strong competition when launching the project. Such marketing should not be confused with communication with the public and other stakeholders (see chapter 4.11) since the communication strategy typically requires a different set of tactics to ensure public acceptance of the project.

⁶⁰ For a suggested outline of contents for a PIM, see *How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets* (PPIAF, World Bank - Farquharson, Torres de Mästle, and Yescombe, with Encinas, 2011), page 116.

Many projects have failed to see the light of day or have been cancelled because of public resistance or opposition. This includes political opposition from other political parties or other governments (for example, a municipal government when a state government project is to be constructed in its municipal area). Examples of public and political opposition may include toll road projects in areas where users are not accustomed to pay tolls, a “waste-to-energy” management project with opposition from environment activists, and water supply concessions that cause concerns about potential increases in water tariffs. If this latter is the case because of a need for fiscal sustainability, then the benefits to be delivered by the project, such as improvements in quality and service coverage. These should also be carefully and proactively communicated⁶¹.

In addition to the examples cited in chapter 4, in the Ravenhall Prison Project in Victoria, Australia⁶², a Community Advisory Group was established during the Structuring Phase in order to coordinate local input into the planning of the prison. The group included members of the local community, representatives from local government, the police force, and the procuring authority. Fact sheets and brochures were made available to the public, and community information sessions were held.

BOX 5.20: Example of Good Practice in Testing and Marketing a Project

Managing the interface with the market of prospective bidders through to the launch of the tender

The government of country “x” has satisfactorily finalized the appraisal of the project as a PPP and the investment decision has been approved. The project has moved into the Structuring Phase. No serious obstacles or risks have been detected. However, it has been decided that both during the finalization of the structure and the implementation of the contract and tender package, some additional studies should be conducted on a few issues so that the project is well prepared before launching.

The project was originally included in the respective sector’s infrastructure plan, and after screening it was included in a PPP pipeline accessible on a web site that promotes the country’s PPP program. The inclusion of the project in the pipeline was covered by the specialized and general press media.

Now, it has been announced that the tender will be launched on a set date, and that the procuring authority is in the process of structuring the project contract. Again, this announcement is covered in specific national and international press media (either because such media frequently ask for such information from the government/procuring authority or because the government’s relationship with these media organizations is pro-actively managed).

Some results of the appraisal are published. Normally, as good practice would

⁶¹ *Disclosure in public-private partnerships: good practice cases* (WBG and PPIAF) 2013 includes a number of examples on how proactive disclosure is relevant for successfully manage the industry interest and public acceptance and support.

⁶² <http://www.corrections.vic.gov.au/home/prison/ravenhall+prison+project.shtml>

dictate, this includes the financial feasibility analysis and the VfM, ESIA report and some technical background. A project information memorandum is also prepared and published.

Due to the importance of the project's objectives, the size of the project, as well as the project's complexity in terms of public acceptance and its multiple stakeholders (including a municipal government affected by the project), the government creates a specific web page for the project in order to publish the relevant information. This facilitates further market testing and helps to more effectively promote the project.

The government schedules two industry meetings (duly promoted on the web page and through external media), and also works with its advisors to pro-actively make industrial leaders and the investment and lending community aware of the meetings.

In the first meeting, the focus is on a presentation of the general features of the project and its preliminary financial and risk structure. After the presentation, questions and answers are encouraged. At the conclusion of the meeting, attendees and other qualified persons and companies are encouraged to send comments and suggestions. The government provides a questionnaire setting out specific issues on which it is most interested in receiving feedback, or for which it still has some doubts about in its final structuring decision. Reactions from the industry will be reviewed and considered during the structuring process as long as they are sensible, do not contravene the main objectives of the project, do not impose undesirable changes to scope or design, and do not compromise the affordability restrictions.

Once the structuring is well advanced, a more developed project information memorandum, with a detailed description of the financial and risk structure (including a risk allocation matrix), is published on the project web site and a second meeting is convened.

The government shows that it is sensitive to the industry concerns and explains the changes it has made in response to these concerns. It also provides explanations on the key issues and questions raised by the bidder community. This helps to raise and maintain the level of market tension and interest in the project. This should be tendered out in the due date (as scheduled and announced) and be consistent with the structure and features presented in the market interactions.

In some jurisdictions, in a later stage — and for projects tendered in a one-stage process — some governments will also publish the contract in draft and accept questions and concerns on the contract and RFP wording (in writing) before the tender package is closed, approved, and the project is launched.

It should be noted that the procuring authority considers that public acceptance may also be an issue and therefore the web page and information disclosure will also promote transparency for the public. Industry meetings are, however, directed to industry players. A specific communication plan and, if necessary, public hearings should be used as part of the strategy to address public concerns and the needs of other public and political stakeholders.

7. Defining Qualification Criteria: Structuring and Drafting the RFQ

The objective of a qualification process is to set a minimum bar of capability for the bidder company or group of companies (bidding consortium⁶³) entering into the PPP contract. Setting qualification criteria will reduce the risk of project failure caused by a lack of capabilities and capacity. However, if the criteria are too restrictive this may limit competition too much.

It is true that the higher the bar, the less the competition. However, simply having more competition (in the sense of more pre-qualified bidders) does not necessarily mean better competition. Also, bar levels set too low in terms of qualifications may discourage highly qualified bidders as they perceive they have a very low chance of winning. All projects should customize the levels of qualifications in order to achieve an appropriate balance, bearing in mind the project's specific needs.

In the common one-stage open tender process, qualifications are submitted alongside the proposal, so any company or consortium of companies may submit a proposal. However, proposals will only be evaluated after checking that the respective bidder has met the qualification criteria (that is, this is a pass/fail exercise).

In some other processes, the procuring authority conducts the qualification stage as an initial stage (the pre-qualification stage) and only issues the RFP (including the invitation to propose) in a subsequent stage to those companies that have been pre-qualified. Any prospective bidder that passes the minimum bar is qualified and able to submit an offer. This is referred to as pre-qualification, and it may offer some benefits to the procuring authority (see table 5.5), while usually resulting in a longer period for the procurement process.

However, in some tender processes there is an intention to limit the number of candidates, selecting a certain number of the most qualified bidders as defined in the RFQ (this is referred to as short listing). This is always the case in competitive dialogue, interaction, and many of the negotiated procedures as well as some processes with a straight forward RFP issued after prequalification (Colombia, India, and Mexico apply this approach in some of their projects).

TABLE 5.5: Qualification Approaches: Some Pros and Cons		
Qualification strategy	Pros	Cons
Open tender (simultaneous submission of qualifications and offer,	• Allows for a shorter tender process. • Easier to handle (only	• Dangerously allows for a shorter tender process. • Uncertainty as to the level

⁶³ See chapter 5A for additional information on why and how companies can form consortiums to bid for and jointly manage PPP contracts.

no short listing). Governments should only use this approach when it is very clear what they want, and when the project is not too complex in terms of financing and technical aspects.	pass/fail). • Lower costs for bidders and for the procuring authority. • Theoretically allows for greater competition, but no more than pre-qualification. • Higher risk of protest by losing bidders as the total number of bidders will likely be greater.	of competition (number of competing bidders) may discourage strong and highly qualified parties from bidding. • Uncertainty of competition may create too much pressure on pricing (creating the possibility of reckless bidders) and discouraging quality.
Pre-qualification approach (an RFQ stage before RFP with no short listing). The complexity of the project presents the risk of few bid responses, hence the procuring authority wishes to definitively test the market appetite and capacity to meet the requirements. The more complex and large the project, the more appropriate it is to prequalify bidders.	• Allows more time to prepare the RFP. • The pre-qualification process is no more difficult than the qualification process in a single-stage, open tender (only pass/fail). • Low cost for bidders (the same as in a conventional open tender with one stage). • Allows for a real test of market appetite in advance of issuing an RFP. This means that the procuring authority can react if there are too few responses to the RFQ in advance of calling for proposals. • Allows time for the correction of any formal errors and other non-material errors in the qualification submission. • Maximizes competition in circumstances where a significant investment is required to respond to the RFP (bidders will be more willing to make that investment if they know they are pre-qualified). • Allows the procuring authority to clarify who the actual prospective bidders are, if it is desirable to do so. This may, for example, be helpful if the project is part of an ambitious program that is intended to be developed (and tendered) in a short period of time, making some tender processes overlap in time. • Lower risk of protest by losing bidders.	• Theoretically a longer process. • If a large number of bidders are pre-qualified, some strong bidders may perceive there is too much competition and be discouraged from submitting a sound and competitive proposal. • Alternatively, if a large number of bidders are pre-qualified, this may create too much pressure on pricing (creating space for reckless bidders) and discourage quality.
Short listing	• More time to prepare the RFP.	• May result in reduced competition, especially if

Usually short listing is required by the legal framework for some types of process, such as competitive dialogue. Short listing is appropriate for highly complex projects — projects that really need a structured and proactive, formal interaction with a small number of bidders to be effective — or where there is a need to retain the interest of highly qualified bidders.	• Maximizes further competition in circumstances where a significant investment is required to respond to the RFP. Bidders will be even more willing to make that investment if they know they are competing with a short list of rivals. • Allows the procuring authority to clarify who the actual prospective bidders are. Allows for better handling of large and complex programs. • Lowest risk of protest by losing bidders.	some of the short-listed bidders abandon or do not submit an offer. • Longer tender process, and longer time to sign contract. • Higher costs for both parties (in dialogue or interactive processes). • More complex to handle, as short listing requires evaluation and selection.
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Whether the RFQ is a separate document or a different and previous phase to the RFP, or indeed whether qualification is inherent in the RFP and submitted within one tender package, pre-selection or qualification should always be done in advance of opening the bid.

The RFQ (which in some countries is called an Invitation for Expressions of Interest – EOI) will cover the qualification criteria (or selection criteria for short listing) and the requirements for submission of the qualifications (SoQ). It includes time to submit, formats and documents, and the form of evidence of the qualifications (especially experience) required. It will also contain rules in relation to issues such as conflict of interest, incompatibilities or changes in the composition of a qualified consortium in the bid submission stage, and a summary description of the project and the future contract structure.

It is highly desirable (good practice) that the structure and general form of the RFQ (as with other tender documents) is standardized by the respective government (be it national, regional/state, or local), by means of general PPP guidelines, including the evidence that will be needed to qualify the indicators and factors that show financial capacity, and so on⁶⁴.

The intention of this section is to bring attention to, and provide knowledge about, common practices regarding the following issues.

- The problem of setting the bar for the qualification criteria as a pass or a fail. This is a common issue for both situations: open tender (with no restriction on the number of bidders) and a short-list approach. This will be explained in sections 6.1 to 6.3;
- For short listing, the problem of selection criteria so as to define the short list if the number of candidates exceeds the defined maximum number (either as

⁶⁴ The *National Treasury PPP Manual* in South Africa (South Africa National Treasury, 2004) presents in Module 5 (PPP procurement) a template for RFQ contents. Infrastructure Resource Center (PPPIRC) at <http://ppp.worldbank.org> provides examples of PPP documents, including a RFQ and a RFP for some sectors in *PPP by Sector*.

established in the process, or by the law when applicable). This will be explained in section 6.4; and

- In all cases, matters specifically related to the qualification of companies acting as a qualifying or bidding consortium.

The customary classification of qualification criteria is represented by three main categories.

- Administrative/legal;
- Financial-economic capacity; and
- Technical capability or experience.

Only the latter two are considered for evaluating and selecting a short list, as the administrative and legal criterion is always a pass/fail requirement.

7.1 Legal Qualification

Legal qualification relates fundamentally to the legal conditions that must be satisfied for a bidder to submit a bid according to the local/market or country's common regulations.

Therefore, legal qualification refers to the formal regularity of the bidder, particularly with respect to its legal personality. The required documentation will usually include the following:⁶⁵

- Evidence of the bidder's (including those in a bidding consortium) existence and good standing under the relevant law;
- Evidence of the consortium agreement and the commitment of the respective members. Some countries and processes require the prospective bidders to constitute a SPV in this phase of the tender process. This is generally regarded as bad practice, as it imposes an unnecessarily expensive and time-consuming condition on bidders;
- Evidence of the power of the representatives of each member of the bidding consortium to act on its behalf; and
- In the case of a foreign company operating in the country, evidence of its registration or license to operate issued by the competent entity, when the activity requires it.

Regarding tax and labor issues, both will usually be measured for each bidder, checking that the bidder is up to date with relevant tax commitments as well as with relevant labor laws. Evidence should be provided by the proposal's submission date.

It is general practice for the RFQ conditions to prohibit a prospective bidder from participating in more than one consortium (or for any of its subsidiaries or parent companies to participate in another consortium). It is also general practice to establish circumstances that prevent a company from bidding that already has a vested interest (for example, a company that is acting as advisor or consultant of the procuring authority in the same process).

⁶⁵ Adapted from Río de Janeiro PPP guidelines.

Legal qualification is essentially a local legal framework matter, and there is not much to say from the point of view of structure. However, the government must carefully consider the requirements to avoid creating a barrier for international bidders.

7.2 Financial-Economic Capacity Criteria

Financial or economic capacity criteria are intended to guarantee that the company or group of companies (consortium) that are candidates for the project have a healthy financial situation. The criteria provide evidence that they will be capable of meeting the financial needs of the project, which may be summarized as having funds available to meet equity needs as well as capacity to raise third party funds in the form of long-term debt.

Typical indicators include financial ratios such as debt to equity/leverage, liquidity ratios, specific ratios for the project such as equity to project Capex, and others, as well as magnitudes, such as the average revenues of “last three years”, level of profits of “last three years” (or evidence of being in profit), and so on.

These indicators/benchmarks are calculated on the basis of balance sheet and profit and loss accounts of the previous year (or a number of recent years, normally no more than three)⁶⁶.

It is good practice to include specific forms on which to present the financial information requested, including the information specifically used to calculate financial ratios which should be clearly explained and defined.

Some additional guidelines and principles include:

- Financial capacity may be easily confused with the experience in similar projects that demonstrate the capability to negotiate and raise significant amounts of funds in project finance schemes. This particular capability is better handled under the experience/technical capability criteria which is separate from the financial or economic criteria that establish the capacity to raise funds; and
- Any criteria should be as objective as possible. While some level of judgment may be unavoidable in evaluating qualifications (as well as proposals), in the case of financial capacity criteria, clear thresholds and a description of how to calculate and present the resulting values of each indicator is essential.

In a number of countries, it is customary to ask for bank “support letters” or “letters of comfort” reporting on the capacity of the companies or consortia to raise funds. This

⁶⁶ A relevant point that exceeds the scope of this PPP Guide is the challenging situation for international bidders when submitting financial qualifications in countries where the accounting regulations and principles (generally accepted accounting principles – GAAP) do not follow the International Financial Reporting Standards (IFRS). An international bidder’s financial statements may comply with IFRS, but be inconsistent with the local GAAP. It may be difficult to fairly evaluate the financial capacity of one bidder that has IFRS-based financial statements against another bidder that has GAAP-based financial statements. Countries can receive a range of benefits, not just in the field of PPP transactions but in general business, from using or adapting accounting regulations to international standards. Otherwise, the translation of financial statements of an international bidder to local GAAP needs to be carefully assessed.

is generally regarded as good practice. However, the value of these as proof of financial solvency is quite limited and should not substitute for an active analysis of the capacity of the prospective bidder.

7.3 Technical Capacity or Experience

The technical capacity or experience criteria are essential for project success. Many projects fail because the successful bidder lacks the skills and experience required to manage the challenges and complexities of the particular infrastructure project. Failure can also occur if the successful bidder does not have experience and capacity in all of the required areas of the contract cycle. For example, there is a high risk of failure if the successful bidder is an experienced contractor but has neither the experience nor the appetite to run the business of managing the asset through its life and/or act as a long-term investor. Technical criteria for qualification sets out the profile of private partners that the authority is willing to have as a long-term partner, and it must cover all of the functions that will be undertaken by the private partner.

The “Channel Tunnel Rail Link” is an example of a project that went wrong because — to a significant extent — of a failure to require the right skills and capacity for the bidders (according to the EU commission report on PPPs⁶⁷).

Experience is probably the most challenging criteria or set of criteria in terms of the strategic and procurement decisions. Technical capacity or experience should be demonstrated/evidenced on several fronts.

- Construction experience: The candidate (individual or consortium) will be required to provide evidence of previous or ongoing⁶⁸ successful experience in constructing a similar project (that is, in the same sector and, commonly, having similar features of the project in terms of size and complexity);
- Operation and maintenance: The candidate (individual or a consortium) will be requested to provide evidence of previous or ongoing experience in operating and/or maintaining similar infrastructure in the same sector and with similar features as the project in terms of size and complexity and/or volume or number of users; and
- PPP management, PPP investment and financial close: Experience of the consortium in successfully developing similar projects, including successfully reaching financial close and/or successful development through the Operational Phase.

Generally speaking, there is no need for the investor and future owner of the SPV to be a contractor or to have qualifications related to construction, operations, or maintenance. Therefore, it is sometimes considered sufficient to rely on the technical

⁶⁷ See *Resource Book on Case Studies* (European Commission, 2004) for further explanation on the project and other lessons extracted from that case study.

⁶⁸ Current uncompleted projects are often valid as experience, as long as the experience/project claimed is materially advanced. For example, in the case of construction, many tenders request that the construction be at least 50 percent completed or, regarding operations that the Operational Phase has already passed the first two years of its life.

experience or capability of third parties within the consortium⁶⁹. In other words, the named contractor who will contribute to the construction, operations, or maintenance experience required for qualification is not required to be a future shareholder of the project company. But it is necessary to request evidence of the commitment of the named contractor to deliver the project with the future equity holder. This is common in many countries with mature PPP programs.

However, when evaluating qualifications in some jurisdictions, it is common practice to only consider the experience of contractors that commit a minimum equity stake in the SPV (the minimum level required being set out in the RFQ requirements). See table 5.6.

In these cases (that is, when there is an intention to require equity participation from contractors) it is essential to balance this requirement for the following reasons.

- Contractors may be companies that do not necessarily have the appetite or resources available to invest. However, they are willing to assume risks under turnkey conditions and back-to-back schemes in their respective downstream contracts⁷⁰. Requiring contractors to invest significant equity may discourage them from joining a consortium and bidding for the project; and
- In the case of EMDE countries, and particularly in markets in which local contractors lack PPP experience, limiting contractors' investment in equity will facilitate joint ventures between local contractors and specialist investors so as to boost the development of a national PPP industry.

TABLE 5.6: Pros and Cons of Requiring Contractors to also be Equity Investors		
	Government requires contractors to also be equity investors	Government does not require contractors to also be equity investors
Pros	• Gives the contractor (through its equity investment) an interest in the overall success of the project ("skin in the game"). • Can facilitate the development of the PPP industry by encouraging local contractors to develop PPP investment capability.	• Enables contractors that do not have an appetite or capability for equity investment to join bidding consortia. • Prevents one party taking on the sometimes conflicting roles of contractor and equity investor. • Enables PPP developers to form bidding consortia with contractors when they do not have an appetite for co-investing with contractors.
Cons	• May discourage contractors from joining/forming bidding consortia if they do not have an appetite or capability for equity investment. • May create conflicting roles for	• The contractor will only be interested in its role as contractor and will not have an interest in the overall success of the project (no "skin in the

⁶⁹ Not all members of a consortium will necessarily become equity investors in the private partner (SPV).

⁷⁰ See chapter 1.6 about the typical PPP contract structure and downstream contract considerations.

	contractors with consequent undesirable behaviors. For example, a construction contractor that is required to contribute equity may regard the equity as the price of “buying” the construction contract, and the contractor may not perform the SPV oversight role expected of an equity investor. • May discourage PPP developers from bidding when they do not have their own contracting capability or an appetite for co-investing with contractors.	game”). • May hold back the development of the PPP industry by discouraging local contractors from acquiring PPP investment capability.
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If it is decided to include such a requirement, the level of equity involvement requested from the contractor should be prudently assessed (for example, equity participation between 15 to 30 percent is commonly seen in many projects).

Technical capacity/experience indicators

Indicators for the technical capacity and experience field are quite diverse depending on the sector and project type or technology demanded for the specific project. A common sub-classification or sub-criteria list will usually include the following:

- The overall amount of revenue related to the specific business (construction, O&M, or PPP ownership/management);
- Overall Capex for construction and/or number of projects developed;
- The overall amount of debt raised in the PPP portfolio of the consortium;
- Number of relevant or similar projects within the PPP portfolio (qualifying projects). It is usual practice to only consider projects of a minimum size or meeting some other minimum threshold. This depends on the sector (for example, it could include cubic meters in water, demand/volume or population served, number of kilometers, or number of beds in a hospital, and so on); and
- In addition to the number of qualifying projects, the aggregated number (counting all projects together) of users or population served in the PPP contracts within the experience portfolio (transportation, water, education, health, or number of beds (hospitals), and so on).

Some considerations regarding good practice when implementing the provisions to regulate qualifications are as follows.

- Match the criteria to the profile of partner that the procuring authority is looking for;
- Provide sufficient time to submit qualifications (in any two-stage process). Although preparing a SoQ is not as demanding as a proposal, finding partners and agreeing to terms for a consortium takes significant time;

- Avoid tailor-made requirements that only very few companies (and consortia) can match. This is specifically relevant when dealing with technology issues. When the procuring authority has a clear objective of using one particular technology and the number of consortia is likely to be limited because only a small number of companies can provide that technology (for example, experience in constructing and supply rolling stock with certain specific features not widely tested or used), the procuring authority should consider options such as the following to make effective use of competition:
 - run a short-listing process;
 - allow and even encourage the technology company to participate (as a nominee contractor) in several bidding consortia; and
 - conduct the process to select the specialized supplier separately.
- It is necessary to assess carefully how realistic and achievable the threshold values or levels of experience are. Using similar and successful precedents is helpful but also requires expert advice, and it may be necessary to investigate the appropriate thresholds through market sounding prior to the qualification process;
- Describe the features to be met for a project to qualify as evidence of experience (that is, in order to be counted in the evaluation);
- Avoid duplication in the criteria so as to avoid double counting certain types of experience (which may result in an overweighting). However, care needs to be taken in deciding what is or is not duplication. For example, aggregated volumes (total number of passengers handled in transportation PPPs) as against the number of qualifying projects (including a condition of more than x passengers for each specific project experience submitted) is not necessarily redundancy duplication because the two criteria demonstrate different forms of experience: experience managing a specific number of similar projects and aggregated experience in transportation;
- It is customary to provide templates for the bidders to describe their experience, including specific fields to be filled in with the characteristics that confirm the experience as valid for the purpose of the qualification. Templates are also used for the characteristics that will be used in the evaluation for short listing. For example, the templates may have specific fields for the Capex size of each project (above the minimum threshold of size for a project to be regarded as a valid experience), the number of passengers per year served with the referenced infrastructure experience, and so on;
- The RFQ must be clear as to how recent an experience/project must be in order to be counted for the process of qualification (this is settled in the legal framework in some jurisdictions), and to what extent projects undergoing construction will be counted (for example, only when construction is more than 50 percent complete);
- The evidence that will be requested to confirm the existence of the experience claimed will have to be validated or be capable of validation. This can be done in a variety of ways, such as requiring certificates from the government/client for past projects, or simply requiring contact details for a key person with the relevant government/client so that the accuracy of the information can be checked;
- Significance level thresholds. It is often appropriate to only count experience if the relevant member of the consortium commits a certain minimum percentage of the equity in the project. For instance, project experience will

only count if a member of the consortium invested more than a specific percentage of the equity in that project. This means that the involvement of the consortium member in that project provided it with substantial experience that is relevant to the project currently in the tender process;

- When it has been decided to request equity participation by the construction contractors as a prerequisite to assessing the capacity of the respective company, care must be taken with the minimum percentage of equity that is requested in order to leave enough room for the contractors to team up with experienced PPP developers;
- Criteria should be as objective as possible to minimize the need for judgment and qualitative evaluation. However, this may be necessary in very complex projects so as to evaluate how valid or valuable a particular experience is vis-a-vis the required experience for the project being tendered. The same applies to projects in which bidders will be short-listed and qualitative judgment is required to rank the bidders for the purposes of short listing. This room for qualitative judgment should be limited to a minimum and avoided if possible; and
- Some processes include a purely qualitative criteria in the form of a requirement that bidders describe how they see the process and the project (for example, what they consider to be the key risks), and how they would approach certain challenges. In such cases, it is also good practice to describe clearly when the response to this criterion will be regarded as unresponsive (which should be only when there is a very clear sign of a lack of interest and complete absence of valuable information).

It should be noted that more competition is not necessarily better competition. If there are a large number of bidders in a two-stage process, each bidder's individual chance of success is lower, and hence bidders will be less willing to spend funds on bidding for the project. It also means that when eventually successful in winning a project, bidders will have to recover their costs lost on a larger number of unsuccessful bids. For these reasons, having a large number of pre-qualified bidders may compromise outcomes. Therefore, in two-stage processes, to the extent permitted by the applicable legal framework, the qualification criteria should be structured so as to provide an optimal number of pre-qualified bidders rather than a large number.

7.4 Short Listing – Beyond the Pass/Fail

In some projects, the pre-qualification process is accompanied by the selection of a short list from the pre-qualified bidders. The pre-qualifying bidders are ranked on the strength of their pre-qualification responses, and a limited number of the highest ranking bidders are short listed to proceed to the RFP stage. Limiting the number of pre-qualifying bidders is generally necessary in two-stage processes that include a Dialogue or Interaction Phase. The most common number of candidates may be in a range of three to five⁷¹.

⁷¹ . There are, however, some cases where the target is to short list only two bidders. The state of Victoria, Australia takes this extreme position of requiring procuring authorities to only short list two bidders where this is appropriate in the context of the project.

Obviously, no evaluation will be needed when the number of candidates that meet the pass/fail test equals the minimum number of candidates pursued. Nonetheless, evaluation criteria will have to be clearly settled and explained in the RFQ, including the weighting of each criteria in the overall score, and how each criteria will be scored. Including qualitative assessment in the criteria is uncommon, but some sub-criteria may have some level of judgment (for example, how significant a particular experience is in terms of similarity with the project under the tender process).

Short listing requires selection. Moving beyond the pass/fail implies that a weighting among criteria and sub-criteria is necessary and scoring systems will have to be put in place. Though it should be noted that if on a high/low scoring system it is only a minimum score that adds value, then a pass/fail test can be re-introduced. Care should be taken to profile the most suitable private partner for the project before deciding the weighting, as this will define which of the selected firms or consortia will conform to the short list.

The RFQ should also describe whether changes in a consortium will be permitted after selection. Replacement or removal of existing consortium members should generally not be allowed except in exceptional circumstances (for example, one member abandoning participation through bankruptcy). However, some countries/jurisdictions allow new members to join a consortium if the new member has no previous involvement in any short-listed consortium and the existing consortium members retain their roles.

Allowing flexibility on changes to consortia, provided that the lead members do not change, can be beneficial in projects in which the complete mix of skills and capabilities required may not be obvious until bidders see the detailed RFP. In these circumstances, a consortium may want to bring in specific companies when they see the RFP, or other consortium members may not want to continue when they see the RFP.

All points described as good practice in qualification under the previous heading are equally applicable to short listing. See box 5.21.

BOX 5.21: Key Points regarding Qualification and Short Listing

- The RFQ sets out the rules for bidders (or candidates to bid in two-stage processes) to be qualified. Qualification is the way to ensure a sufficient level of capability from prospective bidders so as to diminish risks of project failure. The purpose is to avoid failure due to capacity weaknesses in the form of insufficient financial strength or inexperience in any contracted function (investment, finance raising, construction, O&M, integrated life-cycle planning and management, and so on).
- By setting the qualification requirements, an authority is shaping the profile of the future private partner.
- Qualification regulations should allow for the experience of any member in a potential consortium to be counted, providing it commits to certain equity participation and/or certain participation in the specific work, for example, construction.
- Qualification regulations should allow for the formation of a consortium, especially to encourage less experienced companies to joint with experienced partners in EMDE countries.
- Qualification may be based only on pass/fail or may imply pre-selection (conventional qualification) of a short list of bidders (short listing).
- The RFQ may be embedded in the RFP (one-stage open tenders) or be a separate and earlier stage (pre-qualification), potentially including short listing. Short listing is always used in tender processes where dialogue or structured interaction will be used, as well as in most negotiated processes.
- Each type of qualification process (including short listing) has pros and cons, and its appropriateness depends on the maturity of the market. It is also important to remember that more competition is not necessarily better competition, and that a straight-forward open tender (with no pre-qualification phase) may discourage relevant bidders.
- Qualification criteria include legal status (always pass/fail), and financial and technical capability or experience.
- Clarity, objectivity, and transparency are essential conditions for sound and valuable qualification and short-listing exercises. Some degree of standardization of contents and forms (by means of PPP guidelines) is highly desirable — always recognizing that thresholds for pass/fail and evaluation criteria for selecting a short list must be tailor-made for the specific project.

8. Structuring and Drafting the Request for Proposals. Defining Proposal Requirements and Evaluation Criteria

The RFP governs the bid requirements (what documents must be presented and how, which is developed further in section 8.1 below), the evaluation (rules and methods to evaluate and select – section 8.2), and other relevant matters such as protection for the government (for example, the right to cancel or to negotiate). It sets out the tender process in detail, the process of issuing questions, the conducting of one-on-one meetings during interactions (in dialogue and interactive processes), the time limit to submit a proposal, the validity period of the proposal, prerequisite conditions for contract signature (and for financial close in projects where financial close is soon after commercial close), and so on. Much of the content of the RFP is delivered in the form of annexes to the body of the RFP. The principal annex is the contract. See boxes 5.22 and 5.23 below for examples of the structure of contents in some RFPs.

As explained in the introduction and developed extensively in appendix 4A, when a pre-qualification or a short listing has taken place, the RFP is a separate document issued to the pre-qualified or short-listed bidders. In a two-stage process with dialogue, the RFP may be referred to differently (for example, as a descriptive document) and the definitive selection criteria to nominate the successful bidder or preferred bidder may be subject to refinement when the dialogue concludes and an invitation to propose is issued. Section 8.3 explains some particularities of competitive dialogue and other interactive processes.

Transparency and objectivity are essential when setting the evaluation rules. The legal framework usually sets some general rules that define the boundaries of the criteria and method of evaluation.

Evaluation criteria have a significant impact on the market's appetite or willingness to submit an offer. There is debate about the relevance and role of technical criteria. Some practitioners and interested parties advocate for full objectivity (that is, only criteria not subject to qualitative evaluation should be considered, fundamentally price), while others advocate the inclusion of some scoring and weighting based on quality. This is discussed in section 8.1.

Transparency should be an essential driver when structuring and defining an evaluation methodology that includes qualitative consideration of technical and quality factors.

Some jurisdictions implement the bid and evaluation/awarding process by considering more than one offer (progressive offers) with the aim of having a final offer only based on price. The final offer is based on the same project design and specifications. In this context, it can be argued that this converts the procurement into a transaction that is too long and costly.

BOX 5.22: An Example of RFP Structure of Contents (Australia)

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Volume 1	General Information and Instructions to Bidders
Volume 2	Commercial Framework Summary
Volume 3	Evaluation Criteria and Proposal Schedules
Volume 4	Design Brief • Part A: Functional Brief • Part B: Architectural Principles and Specifications • Part C: Technical Specification • Part D: Equipment List
Volume 5	Draft Contractual Documents • Draft Project Agreement • Service Specifications • Schedules, including the Payment Mechanism and Direct Deeds • Annexures
Volume 6	Other Information

BOX 5.23: An Example of Contents of a RFP (South Africa)⁷³**1. General information to bidders**

- i) Explanation of project.
- ii) External framework.
- iii) Project framework.
- iv) Project assets.
- v) Procurement framework and timelines.
- vi) Instructions to bidders.
- vii) Requirements related to third parties.
- viii) Data room.
- ix) Environmental impact assessment (EIA) data.
- x) Bidders' due diligence.
- xi) Quality management system.
- xii) Important definitions.

⁷² Infrastructure Australia (2011), *National PPP Guidelines Volume 2: Practitioners Guide*. http://www.infrastructureaustralia.gov.au/public_private/files/Vol_2_Practitioners_Guide_Mar_2011.pdf

⁷³ From *National Treasury PPP Manual*, South Africa (2004). <http://www.ppp.gov.za/Legal%20Aspects/PPP%20Manual/Module%2001.pdf>

2. Essential minimum requirements

3. Service specifications

- i) Expressed as outputs.
- ii) Specific outputs not directly related to the overall service.
- iii) Input specifications.
- iv) Conditions-of-asset-specifications.

4. Standard specifications

5. Payment mechanism and penalty regime

6. Legal requirements and draft PPP agreement

8.1 Proposal Requirements

Deadline – Time to Submit

Due to the complexities of the PPP, it is essential to grant to the bidders sufficient time for proper due diligence and analysis/assessment of the project and the contract from different points of view. Time is also needed for the preparation of a sound and high quality offer. Good practice frameworks provide for a general floor or minimum time to be granted, typically being at least 30 or 60 days.

In practical terms, at least 90 days is usually granted for open tender processes, but even that period may be clearly insufficient to properly prepare sound bids in the context of complex projects (where the period may be up to 120 days). An even longer period is generally required for dialogue or interactive processes.

This item is discussed more extensively in chapter 6.1.

Validity

It is good practice to require the proposal to be valid (that is, binding on the bidder) for a specific time (that is, limiting the validity of the proposal), so that the bidders are protected from undue delays in evaluation and awarding. After that period (for example, 180 days), the proposal is no longer binding on the bidder. If the procuring authority has not yet awarded the contract but is continuing the tender process, the bidders will be asked to confirm their offers or they may choose to retire from the process at their discretion, without losing the bid bond (see below).

Proposal documents

Documents are typically presented in different envelopes: one for legal/administrative matters, one for the technical proposal, and one for the financial proposal. See box 5.24.

Legal/administrative documents are similar to those requested in a qualification stage (or a reconfirmation of those), but some additional documents or evidence will be requested, including the following.

- Bid bond (see below);
- Insurance policies – it is good practice to request evidence of the policies/insurance being available, but it is not necessary to take out insurance until contract signature; and
- Articles of association of the future SPV (it is not standard or good practice to request the establishment of the SPV until the contract is awarded).

In addition to legal/administrative matters, some processes (for example, those based on a staged evaluation approach – see chapter 6.9) differentiate between proposal documents related to purely objective criteria (only subject to numerical scoring) and documents linked to criteria subject to judgment (typically the technical proposal⁷⁴).

The proposal documents required must be consistent with the evaluation criteria settled in the RFP. The rules for elaboration and presentation of the documents have to be clear to allow for a proper evaluation.

A material lack of information or serious inconsistencies may result in the disqualification of the offer.

It is good practice to supply specific forms with the RFP for a number of documents and evidence such as certain statements (for example, committing equity investment) or guarantees to be constituted.

BOX 5.24: Example of Proposal Documents in a PPP (Australia)

In Australia, the proposal documents for a PPP commonly consist of the following separate items.

- An Executive Summary, providing an overview of the proposal.
- The Facilities Solution, detailing the proposed design and how the infrastructure will be constructed and maintained.
- The Services Solution, detailing how the infrastructure will be operated.
- The Commercial and Financial Solution, detailing the bidder's commercial and financial structure, including subcontracts and financing arrangements, and departures requested from the proposed contract.
- The Price Proposition. Pricing information must not appear in any of the other proposal documents.

⁷⁴ In such contexts, the introduction of any assignment of value to the financial proposal in the “subject to judgment” proposal documents may be the cause of unresponsiveness and bid disqualification.

Bid bond or proposal guarantee

In the RFP, it is customary to request the submission of a guarantee with the bid package, so as to protect the public authority against the risk of the successful bidder failing to sign the contract. This guarantee is commonly known as bid bond, even when the instrument of the guarantee is not necessarily a bond. The bid bond is to provide a degree of commitment to the bid submission, that is, in the event that the bidder is awarded the contract and then decides not to proceed with the contract signature, the bond will be executed/called. Bid bonds may take different forms in different jurisdictions. The most typical are bank guarantees (sometimes in the form of a letter of credit) or insurance policy bonds, both of which have to be unconditional, irrevocable, and executable on demand or “first call”. The RFP should be clear as to what instruments or forms of guarantee will be acceptable. It is good practice to provide a sample/template for a guarantee to be regarded as valid.

The most typical amount of the bid bond is 1 percent of the “value of the project”, which typically is determined from the official estimate of Capex provided by the authority.

Financial model issues, financial package, and bid submission

One controversial issue (in EMDEs in particular) regarding bid requirements is whether or not a financial model and plan must be submitted by the bidder. This PPP Guide advocates clearly that the financial model and plan should be a bid requirement. Financial sustainability of the PPP Company is something the government should be concerned about, and the financial model is a necessary tool for contract governance to regulate or govern multiple calculations that are needed during the life of the contract (contract changes and compensation negotiations and disputes concerning risk events).

The European PPP Expertise Centre (EPEC) guide on contract management provides further information about the financial model as a contract management tool. Chapter 8 also discusses the use of the financial model during the life of the contract.

It is good practice to include a template and/or “instructions to prepare the financial model” as an appendix/annex to the RFP so as to standardize the financial models to be submitted by each bidder. This should include the definition (for the purpose of submitting the financial offer) of certain assumptions (especially those of a macroeconomic nature, such as inflation) and other ratios and calculations.

In addition, all projects should request information on the financial package being assembled by the bidder. In some processes, the financing does not yet need to be fully arranged and any financing offers are not fully binding, while in other processes the RFP requires bidders to submit a definitive and fully arranged financial package. In either case, the information that is required includes the financial structure and amounts of debt (including the potentially different instruments and tranches), the financial terms agreed or under negotiations, letters from the lenders expressing their commitment to the project and the terms offered or agreed, and so on.

8.2 Evaluation Criteria and Evaluation Process Regulations

Evaluation criteria

Broadly speaking, there are two main types of processes in terms of evaluation criteria.

- Processes based only on price (also referred to as least cost selection) in which the technical factors are evaluated on a pass/fail basis. This is sometimes called an auction; however it is more appropriate to use the term “auction” for asset monetization PPPs only, that is, PPPs that are concessions out of existing revenue-making infrastructure, or greenfield or yellowfield user-pays projects that are likely to generate an excess of revenue over costs. In this circumstance, the price criteria are based on who offers the highest value share to the procuring authority; and
- Processes based on price in combination with qualitative factors, basically related to the quality of the technical offer (approach to construction and project design, and approach to O&M). This may be referred to as Quality and Cost Based Selection (QCBS) or more frequently as Most Economically Advantageous Tender (MEAT).

A price only evaluation is sometimes undertaken by evaluating the quantity/product offered for a certain price of the total budget allocated by the contract, for example, the number of homes supplied for a water distribution project or the number of kilometers of road offered for a certain price. This quantitative approach is not advisable for most PPPs, as the project solution defined by the government should reflect the total need assessed in project selection and/or the scope should be clearly defined as the required solution (with the scope adapted if necessary for affordability constraints).

In all cases, objectivity and transparency should be an essential driver when structuring and defining the evaluation methodology, even for pass/fail considerations, as the criteria are the basis on which the awardee will be selected and called for contract signature.

The criteria will usually reflect requirements within the procurement framework (for example, inclusion [or not] of qualitative criteria, maximum or minimum weightings for price versus qualitative criteria, and so on). However, many sub-criteria (especially those of a qualitative nature) will need to be adapted or defined ad hoc for the specific project.

Price only (or only objective or numerical) evaluation

When a selection is based only on price (for example, the lowest size of availability payment required by the bidder, the lowest size of a grant financing in a user-pays PPP that is not commercially feasible on a stand-alone basis, or the highest concession fee offered by the bidder), the technical criteria will be pass/fail. This means that only bids that meet the minimum bar of the technical criteria will be assessed in terms of price, but among the technical qualifying bids, price will be the only factor considered.

A price-only evaluation is dangerous for the authority as it may create an auction situation with overly aggressive bids that may compromise either quality or reliability. When using a price-only approach in greenfield projects, the procuring authority should be sure about what is wanted. A price-only evaluation is typically suited to simpler projects or infrastructure with no particular complexities or technical challenges.

A way to limit the potential dangers of “price only” criteria is not only to set out an overall technical pass/fail, but to also include specific and relative high qualitative scoring for key quality/technical sub-criteria. For example, a weighted average score of 6 out of 10 may be required for a technical pass, but a score of 7 or 8 or more may be required for key elements of the technical offer.

However, it should be noted that sometimes price may be in the form of more than one factor in addition to the basic price of the contract, that is, the payment requested by the bidder (or the price to be paid by the bidder in a high return user-pays PPPs). The RFP may request that bidders also present and bid for other quantitative aspects (for example, the percentage of certain revenues to be shared with the government above a revenue baseline, and so on).

In some cases, the additional quantitative factors may relate to something other than strictly price. They may also be referred to as “numerical criteria” or “criteria scored under numerical formulas”, but usually referring to cost or measurable efficiency rather than quality. For example, bidders could be asked to propose the construction term required. However, an evaluation based on a bidders’ ability to shorten the construction period required for the project is undesirable, as discussed earlier. This is especially the case if the revenue regime or the payment mechanism already creates an incentive to accelerate construction — and this of itself may result in a more competitive price.

In each of these cases, with a technical pass/fail evaluation and multiple quantitative factors, each numerical criteria should have its specific weighting clearly set out in the RFP as well as the scoring formula. Potential redundancies in some of these evaluation factors should be carefully considered (for example, scoring on the basis of the lower availability payment, and scoring also on the basis of shorter construction terms is redundant in some projects, as the former evaluation factor also naturally incentivizes the bidder to consider a shorter construction term).

In government-pays PPPs, there are various forms in which the procuring authority can ask bidders to submit the price. The most common alternatives are to quote a single price (for example, the shadow toll to be applied in the first year, the size of the availability payment to be made during the first year, or the maximum toll in a road project) or to require bidders to present (or have the authority calculate) an NPV of the revenues or payments.

Generally, for government-pays projects where all bidders must base their payments on the same payment profile and indexation over the term of the contract, it may be more appropriate to submit one single price for the payment requested by the bidder, rather than relying on NPV calculations. If bidders can propose different payment profiles or different indexation factors, NPV calculations are necessary for comparison purposes. The particular case of government-pays PPPs where the government is co-financing has already been discussed in section 4.2.

An exception in some more sophisticated approaches (for example, the Chilean approach to evaluate real toll PPP roads) is to offer and evaluate on the basis of the NPV of revenues. This is not only a price-evaluation mechanism, but also a risk-sharing mechanism, as the concession term will be variable to meet the NPV offered⁷⁵.

Price and quality

The other most often used approach to evaluation (probably more common than price-only) is to evaluate based on both price and quality. Sometimes this approach is referred to as “criteria subject to qualitative assessment”, while the price-only approach is referred to as “criteria not subject to qualitative assessment” or scored under numerical formulas. Price and quality evaluation is the most typical approach in the EU where the procurement regime allows for some flexibility regarding the criteria under the “most economically advantageous tender” concept⁷⁶.

When technical and economic criteria coexist, the appropriate weighting of each category of criteria (technical/quality versus economic) should be expected to depend upon the type of project. For example, for projects regarded as very innovative, the proposed approach, means, and methods involved will be much more important than in a more conventional project.

Evaluation approaches with a significant weight on price or other objective/numerical factors are most common. In a number of countries/jurisdictions, it is common that the economic/objective or numerically assessable criteria have a weighting of at least 50 percent (for example, typically in Spain and some Latin American countries) to provide a significant weighting to pure objective criteria.

In some countries, when price or other quantitative criteria represent less than 50 percent, it is customary to constitute an expert committee or an expert evaluation panel with robust checks and balances in the evaluation process (for example, in Australia and New Zealand). Qualitative criteria should be objective to the maximum extent possible and clearly defined or explained. Transparency and clarity are essential and are a general legal requirement in jurisdictions such as the EU.

In general terms, in addition to informing the weighting split between “price” versus “technical/quality”, each criteria (within these two groups) should have a specific weighting reflecting the relative importance of the different objectives and informing the bidders of the government’s priorities. However, some projects may present a second layer of criteria (sub-criteria), and in some cases there are no weightings for this second layer. When a weighting is not provided, it is customary to at least provide a “list of factors” that will be considered when assessing and scoring the respective criteria or sub-criteria. Figure 5.11 represents an approach to defining a

⁷⁵ See E. Engel and others (2002). *A New Approach to Private Roads*. This article describes the “Least-Present-Value-of-Revenue” criterion used to award toll road PPP concessions in Chile.

⁷⁶ While the evaluation criteria should be settled in advance, in competitive dialogue this is not until after the dialogue finalizes and the authority calls for the offer (or final offer sometimes). In such cases, EU regulation allows for the criteria in the “descriptive document” (the basis for initiating the dialogue) to avoid defining the weightings of the criteria and the need to explain them in detail, but they should be listed in decreasing order of importance.

long list of criteria with the specific weightings. These are presented as grouped into “main criteria” (while some could describe it as a list of criteria and sub-criteria). There is no universal approach for the organization of the criteria and the information on weightings and factors to be considered. For example, some projects directly present a long list of criteria (see example BOX 5.26), while others create categories (see example in BOX 5.27)

There are some cases/countries where the process relies significantly on qualitative criteria, Australia being one principal case. There, the RFP typically provides the evaluation criteria but does not provide significant information on the scoring methodology or evaluation procedures. Relying significantly on qualitative assessment may be possible when there is significant confidence in the equality and fairness of the evaluation process, which will only be possible in countries/markets with a high recognition in the investor community.

FIGURE 5.11: Categories, Criteria, and Sub-Criteria

Weightings

PRICE (50%)		• e.g. payment amount	50
TECHNICAL (50%)	20.0%	CONSTRUCTION	• Quality and reliability of the project design 9.0 • Reliability of the construction term/calendar 5.5 • Quality of assurance methods proposed (QC/QA) 5.5 • Etc.
	11.5%	OPERATIONS	• Quality and reliability of operating procedures and manuals ... • Commitment of means ... • Service or O&M Quality Management Systems (QMS) or plans ... • Etc.
	11.5%	MAINTAINANCE	• ... • ... • ...
	7.0%	ENVIRONMENTAL, HEALTH AND SAFETY, DISADVANTAGE AND MINORITY, OTHER	• ... • ... • ...
			Σ 100

MAIN CATEGORIES **POTENTIAL CRITERIA GROUPS (OR MAIN CRITERIA)** **CRITERIA** ► **SUBCRITERIA (POTENTIALLY)** ► **EVALUATION FACTORS**

Note: QA= Quality Assurance; QC= Quality Control; QMS= Quality Management System.

Responsiveness and minimum scoring/minimum quality

The RFP should state clearly how proposals may be rejected or disqualified when not respecting the prescribed requirements that are clearly set out in the RFP documents, that is, proposals not regarded as responsive to quality/technical matters. Beyond that, it is also customary to provide a minimum score to achieve a minimum quality bar, that is, a score above what would represent a mere pass For example, requiring an average score in technical overall criteria of 7 out of 10 and/or specific minimum scores requested for some specific sub-criteria.

Other technical or qualitative criteria and sub-criteria issues

It is essential to develop a clear list of technical and/or quality criteria.

It is good practice to assign to each of the criteria a specific weighting in the overall scoring, or the maximum number of points that will be allocated, out of the total scoring considered for the technical criterion. For some projects, a weighting for the second layer of criteria or “sub-criteria” may be provided.

It is customary and good practice that for every criteria, the RFP describes a definition or explanation for transparency purposes — and even a description of the main factors that will be considered when assessing the respective sub-criteria.

However, to split the scoring/weighting into too many factors may be dangerous since that may introduce excessive rigidity and place too much emphasis on individual sub-components.

Typical qualitative and/or technical criteria include⁷⁷:

- Construction matters, which may include criteria such as quality and reliability of the project design offered (usually under a pre-design format), the reliability of the construction period estimated, the quality assurance methods proposed for construction oversight, and so on;
- Operational matters, which may include criteria such as quality and reliability of operating procedures and manuals, commitment of means, service or O&M quality management systems or plans, and so on;
- Maintenance matters, including criteria such as quality and reliability of the maintenance plans and programs, renewal/major maintenance programs, specific plan for hand-back, and so on;
- Evaluation criteria for environmental compliance and environmental sustainability (for example, landscape factors);
- Evaluation criteria on health and safety plans; and
- Other qualitative criteria such as criteria related to benefits for minority or disadvantaged populations (usually set as a minimum bar or condition, for example, the number of members of the minority community provided with employment by the project or the consortium), financing reliability, and so on.

The list of criteria and sub-criteria should not be so large as to create undue complexity in the evaluation and make it difficult for bidders to focus on the fundamental objectives of the government (see examples in boxes 5.25 and 5.26).

The financial package is sometimes subject to evaluation in terms of reliability, such as the commitment level shown by the equity investor, the level of confidence in the financing availability, and the degree of robustness of the project finance structure. In processes with staged evaluation, it can be difficult to manage the evaluation of the financial package without information on the reliability and robustness of the financial structure that would allow the appraiser of the offers to know in advance or infer the price offered. Strict instructions should be provided to bidders, emphasizing that the financial package documentation should not disclose the overall price offered.

Another controversial issue is the potential role of experience as an evaluation factor. In a number of jurisdictions, including experience as an evaluation factor is prohibited by law because using experience as a selection criteria creates a risk of perpetuating the status quo where the most experienced bidders frequently win the projects. If experience has already been used to qualify bidders (or even to short list), it should not be necessary to also use experience as a criteria in evaluating the bids.

As PPPs focus on performance and PPP specifications are mostly based on outputs rather than inputs, the technical requirements in the RFP should not be prescriptive. It should provide only a reference design in a pre-design form or a “functional

⁷⁷ The EPEC's Guide to Guidance (page 23) provides further discussion of evaluation criteria. The World Bank toolkit for PPPs in the water and sanitation sector provides examples of evaluation criteria in water sector user-pays PPPs (<http://ppp.worldbank.org/public-private-partnership/sector/water-sanitation/toolkits>).

design”, but the service requirements should be focused on the results/quality of the service through key performance indicators (KPIs), rather than the amount of inputs or activities.

Consequently, the technical proposal evaluation should not be based on inputs committed (for example, the number of workers or professionals to develop certain functions), but should check that the means proposed by the bidder respond to the minimum requirements established in the RFP. It should also evaluate (using reasonable judgment) the extent to which the means and methods proposed by the bidder will result in quality and reliability of the output.

BOX 5.25: Example of Criteria in a Highway Project

This is an example based on a road project with small adaptations.

A. Quality, robustness, acceptability, and clarity of the designs

Description of the designs required including at least the following:

- a. road works
- b. tunnels
- c. geological, geo-technical issues
- d. electro/mechanical installations
- e. technical works
- f. temporary constructions
- g. health and safety issues.

B. Quality, robustness, and clarity of the construction methods description

Description of the construction methods for each geographical unit and in particular:

- a. road works
- b. tunnels, bridges and walls over 5 meters.
- c. description of the required traffic arrangements
- d. other activities.

C. Coherence and quality of the design – construction period time schedule

Detailed design – construction period time schedule and the respective cash flow time schedule including programmed:

- a. labor force
- b. materials
- c. mechanical equipment.

D. Clarity and robustness of the quality assurance system and quality control system

Quality assurance system and quality control system that will be applied by the Concessionaire.

E. Coherence of the independent engineer proposal – design check - project supervision

Documents on quality, with a draft quality plan describing the way in which the independent engineer will respond to the contractual requirements.

F. Quality, robustness, acceptability and clarity of the proposed maintenance and operation of the project

Documents describing the operation and maintenance processes the concessionaire intends to apply aiming to ensure the compliance to the projects' requirements.

G. Coherence and quality of the procedure for the observance of health and safety regulations

H. Acceptability and clarity of the environment analysis

The section on the environment may include:

- a. the application of the environmental requirements
- b. the description of any negative environmental impacts
- c. the definition of the additional designs needed for the implementation of the project.

Source: Authors, based in a real example.

BOX 5.26: Example of Criteria in a Hospital Project

- A. Standard and overall quality of technical response, including coherence of different elements of the offer; offer clarity and presentation; and the manner in which the bidder has worked throughout the bid period.
- B. Strategic approach and understanding.
- C. Quality, robustness, and clarity of consortia management arrangements.
- D. Robustness and clarity of construction program, and program management issues.
- E. Robustness and clarity of operation and maintenance program, and program management issues.
- F. Quality, robustness, and clarity of management system proposals.
- G. Quality, robustness, acceptability, and clarity of design approach.
- H. Quality, clarity, and acceptability of design.
- I. Quality, robustness, acceptability, and clarity of design practice issues.
- J. Quality, clarity, acceptability, and robustness of health care planning and architectural matters (including component selection and design).
- K. Quality, clarity, acceptability, and robustness of civil and structural engineering proposals.
- L. Quality, clarity, acceptability, and robustness of mechanical, electrical, and building services proposals.
- M. Quality, clarity, acceptability, and robustness of information and communication technology (ICT)/communication proposals.
- N. Quality, clarity, acceptability, and robustness of equipment proposals and approach.
- O. Robustness, acceptability, and clarity of approach to construction.
- P. Clarity, robustness, and acceptability of construction and commissioning program matters.
- Q. Quality, robustness, clarity, acceptability, and appropriateness of service proposals.
- R. Compliance with requirements of output specifications.
- S. Service delivery proposals.
- T. Resource proposals.
- U. Interface arrangements.
- V. Proposals for ensuring appropriate quality of service delivery.
- W. Site management issues.
- X. Service mobilization proposals.
- Y. Human resource issues.
- Z. Measures for ensuring continuous improvement.

Source: Authors, based in a real example.

Evaluation procedures and process

Typically, the evaluation process and procedures (details of factors that will be considered in the assessment, evaluation team composition, mechanics for evaluation as an individual assessment versus a collective assessment or in groups, and so on) are not described in the RFP beyond the methodology inherent to the criteria, and the weighting and scoring formula. However, the time to be spent by the authority in evaluating and publishing the award decision should be stated in the RFP.

Also, when the opening of the bid envelopes will be done in public (which is compulsory in some frameworks), this will be indicated in the RFP.

Finally, there is a feature in the evaluation process that is sometimes (in some countries) described and committed to in the RFP: some jurisdictions will consecutively evaluate the technical and financial criteria. This means that the financial (price) criteria will be only evaluated (and the financial envelope will only be opened) once technical evaluation is finished and scorings are assigned to each proposer. This is the case in the EU where procurement regulations universally adopt this approach.

Chapter 6 further describes the evaluation process since it is more of a management issue than a matter regulated in the RFP.

8.3 The Case of Competitive Dialogue, Interaction, and Best-and-Final Offers (BAFO) Type Procurement Processes

Where and when used. Dialogue and interactive processes

Dialogue types of procurement and other negotiated and/or interactive processes are an option in some jurisdictions (for example, in the EU in general) and are the standard in some others (for example, in Australia, New Zealand, and the UK). Using dialogue or other interactive processes as a procurement route option within the PPP framework is positive because there will always be projects that clearly demand significant interaction before finalizing contract stipulations. It also guarantees commercial feasibility or even optimizes the VfM.

Dialogue/interaction is a strong driver for better outcomes as it ensures that the government is asking for something that can be delivered by the market (the EU model) or that bidders fully understand the government's requirements (the Australia/New Zealand model). However, this approach demands significantly more time and resources from all parties and creates risks that transparency and fairness may be compromised. Hence, it works best in mature PPP markets, and may be difficult to implement in some EMDE countries.

In these type of processes, bidders are pre-qualified in advance of the bid preparation stage, and bidders will commonly not only be pre-qualified but selected, that is, a short list will be defined with the best ranked qualifying candidates.

Dialogue processes affect the RFP and contract production process. Where dialogue/interaction occurs before the finalization of the RFP, the initial RFP (named "Descriptive Document" in EU regulations⁷⁸) should include the basics of the RFP (evaluation), basic terms of contract, and rules for the dialogue process itself (structure and timing of meetings, matters regarding handling documents, and so on). When full contract provisions are provided within the package, the contract is regarded as a draft subject to changes and even the RFP regulations may be considered provisional, subject to further development up until the end of the dialogue with the short-listed candidates (to which an "invitation to participate in the dialogue" (ITPD) was addressed). At that point (the end of the dialogue), definitive proposal requirements and evaluation criteria will be approved and the authority will issue the invitations to propose (ITP). This is also commonly named "Invitation to Submit a final tender" (ITSFT) in the EU-regulated competitive dialogue. This is usual in the EU model.

In other cases, dialogue/interaction occurs after the finalization and issue of the RFP, and the RFP will include all of the usual RFP content, together with the rules for the

⁷⁸ Competitive dialogue may only be used according to EU regulations in "complex projects". For this and other general matters about the use of competitive dialogue in EU members, see *Explanatory Note- Competitive Dialogue Classic Directive* (European Commission, 2005). Another useful paper about competitive dialogue matters is *Competitive Dialogue in 2008. OGC/HMT Joint Guidance on Using the Procedure* (UK Office of Gov. Commerce, 2008).

interaction. This is the Australia/New Zealand model. In this model, the procuring authority holds a series of individual interactive workshops with short-listed bidders during the RFP bid stage. Bidders are provided an opportunity to discuss the development of their concepts and designs, and they can seek clarification and feedback in the context of the government's output requirements, before they lodge proposals. The workshops also minimize the risk of any misunderstanding of the government's requirements. The objective is to improve the quality of bid submissions and ultimately deliver better outcomes for the public through clear communication of the government's requirements to ultimately influence the overall quality of proposals received from short-listed bidders.⁷⁹

BOX 5.27: EU versus Australian Approaches to Dialogue or Interaction

In the EU, after selection of the short list, the RFP is published, including a contract draft for dialogue or negotiation purposes. After such dialogue, a definitive contractual framework is issued and bidders are invited to offer on this basis. Dialogue is a standard approach for pure PPPs in the EU. In some jurisdictions, pure PPPs may only be tendered under a dialogue form.

In Australia (and New Zealand), the RFP and contract are issued, and then the government conducts interactive workshops with bidders as they develop their bids. Whereas the EU's process focuses on dialogue in relation to the terms of the RFP and the contract (and results in changes to those documents to accommodate the bidders' feedback), in Australia the dialogue focuses on the development of the bidders' proposals and their interpretation of the RFP, ensuring that their bids address the RFP requirements. Hence, the process in Australia influences the bids rather than the RFP, and it does not generally result in major changes to the terms of the RFP or the contract.

Negotiated procedure and BAFO

In the negotiated procedure with BAFO, similar to processes with two stages and a Dialogue/Interaction Phase, the short-listed bidders (candidates) will present and discuss technical solutions during the course of the interaction. However, in a negotiated procedure, this will be in the form of a binding technical proposal with a binding price. Two candidates are selected from the bid evaluation process (usually pass/fail for the technical proposal and lowest bid for the price). After negotiations, the two selected candidates will submit new offers (Best and Final Offer – BAFO) on the basis of the risk allocation and technical terms that have been developed with the two candidates in parallel (Public-Private Infrastructure Advisory Facility [PPIAF], *Toolkit for Public-Private Partnerships in Roads and Highways*). The selection criteria to define the preferred bidder will normally only be the price.

⁷⁹ For further details of this form of interaction, see *Australia's National Public Private Partnerships Guidelines – Volume 2: Practitioners' Guide*, chapter 14 and appendix E.

The final negotiation phase with the preferred bidder (the other candidate would remain in reserve) should finalize actions, complete certain due diligence aspects by the preferred bidder in order to settle the final risk sharing, and give them time to arrange financial close. Chapter 6.10 describes issues related to final negotiations with preferred bidders.

Dialogued and interactive processes: specific drafting matters⁸⁰

As described above, the documentary package for the dialogue process (which is the RFP in many countries, but not in others) will cover, in addition to contractual regulations and typical RFP matters, specific regulations about the dialogue or interactive process itself. Typical matters to be described and regulated in the documents are as follows.

- Regulations of one-on-one meetings and potential open meetings: how many, how frequent, how to define who comes first, who may attend, how to govern the agenda, and so on;
- Confidentiality matters;
- Submission of “business solutions” (business solutions is the concept used in the EU to refer to the proposal of certain changes or suggestions of technical and commercial approaches to the authority so as to change or adapt the RFP and final contract);
- Process of submitting questions and producing answers;
- Dealing with changes in consortia composition. Generally speaking, changes in the composition of a short-listed consortia are not allowed (that is, the resignation of a member of an association or group) except in some force majeure circumstances; and
- Stipends and dialogue bonds – see below.

Australia’s National PPP Guidance has 20 pages of principles and practical guidance on interactive processes⁸¹. This is focused on the Australian model, but many of the principles can be applied to other interactive processes.

Stipends and risk of abandonment

Bidding in a dialogue context is much more expensive for bidders than a conventional process, so the cost may limit the market appetite. However, this is balanced by the advantage for bidders of being closer to success, as competition will have been specifically narrowed to the number of short-listed groups.

In these processes, the initial documentary package for the dialogue must be substantially developed so the prospective bidders can assess from it the feasibility

⁸⁰ For further reading about competitive dialogue, see Explanatory Note -Competitive Dialogue- Classic Directive (European Commission, 2005) and Competitive Dialogue in 2008. OGC/HMT Joint Guidance on Using the Procedure (UK Office of Gov. Commerce, 2008). For interactive process (the Australian approach), see Australia’s *National PPP Guidelines, Volume 2: Practitioners’ Guide*.

⁸¹ See Australia’s *National Public Private Partnerships Guidelines – Volume 2: Practitioners’ Guide*, chapter 14 and appendix E.

of the project and consider whether it will meet the bidders' investment requirements. Otherwise, the risk of lack of interest in the process will be significant.

In these circumstances, the risk of only receiving one or two bids and having little competitive tension is significant. To avoid this, many processes give any responsive bidder the right to receive stipends (compensation for part of the costs incurred in bid preparation) which never represent more than a certain percentage of the justifiable costs and are always under a defined cap.

In addition, or alternatively, the authority may request a specific bond to guarantee that the short-listed candidate will participate through the whole process. The bond must be submitted at the inception of the dialogue or the interactive process. This should only be considered where the number of bidders is small (for example no more than three bidders) and the time and effort required to participate in a dialogue or interactive process is large, such that there is a significant risk of bidders abandoning the process. The use of such bonds should be considered on a case by case basis where the risk of abandonment is high and the consequence for the government would be significant. Otherwise, they should generally be considered unnecessary and inappropriate

Chapter 6, which is focused on the tender process and management needs and approaches for the tender period (that is, from tender launch to contract signature), provides further information on dialogue and negotiated processes.

9. Defining and Drafting Other Commercial Terms and Contract Provisions⁸²

Sections 4 and 5 of this chapter have extensively described financial and risk structuring matters. The defined structure (that is, all features related to risk allocation and risk treatment) and features related to the financial structure (means of compensation when there is more than just the payment mechanism or user charges, timing considerations, other direct financial and indirect support approaches) will have to be incorporated into the contract.

In general terms, but especially regarding risks, *clarity* is the essential driver for a proper implementation of the commercial structure. This is a challenging task, especially with respect to definitions of risk events and the existence of rights to claim for compensation. Ambiguities and misinterpretations have to be avoided as far as possible. But contracts must also build in flexibility (see box 5.28).

For this purpose, a good framework approach is to standardize some contract features and clauses.

This section, in addition to the main structuring matters explained in sections 4 and 5, introduces the basic contents of the contract and describes common practices with respect to other commercial terms of the contract.

⁸² PPP Infrastructure Resource Center (PPPIRC) at <http://ppp.worldbank.org> provides examples of PPP documents including RFQ and RFP for some sectors in "PPP by sector".

BOX 5.28: Well-Designed Contracts according to the World Bank PPP Reference Guide: Certainty with Flexibility

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 specify what is to be done in all future states of the world. This means that 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 re-negotiation or termination of the contract.

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 typically done by creating a clear process and boundaries for change.

9.1 Main Contents of the Contract: Rights, Obligations and Framework to Govern Changes and Risks

The structure of the contents of the contract document may vary significantly from country to country, and even depending on the authority or level of government within the same country. It is preferable that the structure of the contents, the nomenclature, and the treatment of many commercial matters are the same or similar (always respecting the specific characteristics of each project and sector) within one particular market, with the incorporation of contract guidelines or standards (see box 5.29) to the PPP framework.

BOX 5.29: Use of “Standard Contracts” and “Contract Models”

Chapter 2 (box 2.8) explains issues associated with the development of standard contracts and contract models as part of a PPP framework.

When drafting the contract for a specific PPP, standard contract provisions and contract models should be used with caution, unless their use is mandatory and cannot be departed from in the context of the specific project. This is because, generally, they are intended to be global, so they are not tailor-made to specific markets or projects.

Certain and very specific clauses should, however, be standardized as long as it is clear that they appropriately reflect the government’s strategic approach to a specific issue regardless of the project specifics (for example, the language for contract termination). However, a formal standard contract (that is, mandatory) should only be developed when a high degree of experience has been developed through precedents.

When standard contracts or standard clauses are provided in the form of examples from other regions or countries, these can be a valuable resource. However, they may need to be adapted to a different PPP jurisdiction and, most likely, to the specific project.

Therefore, there is no universally valid recommendation regarding the structure of the contents of a PPP contract. For some countries (civil law countries), it is even usual that certain provisions (for example, the termination of contract) are regulated extensively in the law. This PPP Guide considers it good practice to also develop such provisions in the contract so as to adapt them to the extent permitted by the law to match the project specifics, and for greater clarity and transparency (especially for international investors).

This PPP Guide also considers that legal frameworks (issuance of framework documents reflecting the law) are good, but they should provide general principles and leave space for the contract to fine tune risks and other contract structure matters.

Figure 5.12 lists the main kinds of provisions within a contract, grouping them in three categories in order to facilitate a clearer understanding, but recognizing that the complexity of a contract requires a richer and more multifaceted structure in terms of chapters or titles.

Above all, a contract governs the obligations and rights of the parties. Everything starts from a clear definition of the scope of the contract and the responsibilities of the private partner for the full contract cycle. This includes prescriptions and descriptions of output targets (design, construction and financing, commissioning, operate and maintain, hand-back) followed by the private partner's economic rights (the right to receive payment for the work done). This latter provision implies that the main obligation of the public partner (that is, to pay required amounts when due) reaches its maximum complexity when dealing with government-pays payment mechanisms.

PPP contracts are also about the delegation of the delivery and management of a public good (public works) and/or service. Therefore, the public party's rights of oversight and control, and tools or means to monitor and remedy lack of performance are essential contents of the contract. These include the definition of breaches and the related penalties or LDs, the process for any deductions from service payments, the rights of the public party to step in, the right to inspect, and the obligations on the private party to report, and so on.

Finally, the contract must govern changes and risks affecting the successful outcome of the project. For this purpose, the contract will foresee and prescribe the framework for allowed changes in the scope of services and obligations, and changes due to certain risk events occurring (see risk structure section). This latter feature of the contract, together with the right to monitor and handle performance problems, is the main framework for contract management⁸³ (which is extensively covered in chapters 7 and 8).

⁸³ See *Management PPPs during their Contract Life* (EPEC, 2008) page23 – The PPP Contract: The Main Operational Management Tool.
http://www.eib.org/epec/resources/epec_managing_ppp_during_their_contract_life_en.pdf

FIGURE 5.12: Main Provisions in a PPP Contract

OBLIGATIONS OF THE PRIVATE PARTNER (AND RIGHTS OF THE PUBLIC PARTNER)	RISKS, CHANGES AND DISPUTES	RIGHTS OF THE PRIVATE PARTNER (AND OBLIGATIONS OF THE PUBLIC PARTNER)
• Technical requirements (including construction requirements) and performance requirements (typically in an annex). • Other obligations: Environmental & Social requirements, labor and safety, etc. • Performance guarantee. • Insurance requirements. • Time requirements. • Reporting obligations. • Monitoring provisions. • Remedies –contract breaches and penalty system. • Remedies –events of default, right to step in by the PA, termination for default. • Financial structure provisions and financial regulations: changes in control limits, limits to debt/ minimum equity, use of fund reserves, refinancing gains sharing, etc. • (Sharing revenues or paying fees in in some user –pays PPPs). • Hand back requirements and hand back regulation.	• Force majeure definition and other exempted risks (compensation events and relief events) definition and conditions. • Other contractual changes. • Dispute resolution procedures. • Confidentiality and information disclosure • Termination provisions.	• Revenue mechanism/payment mechanism (for government-pays). When payment starts and how payments are calculated and sent. • Other payments and compensation (in co-financing). • Compensation for termination. • Compensation for retained or shared risks in compensation events ("rebalancing" in some countries) and some force majeure events and conditions. • Relief from obligations in relief / excuse events including force majeure. • Right to terminate (for force majeure, for public party default). • Right to refinance and transfer shares (on conditions and subject to authorizations). • Right to pledge revenues and shares and lenders's rights.

Technical requirements (section 3.3), financial structure matters (section 4) including the payment mechanism, and risk-related provisions (section 5) have already been explained in some detail.

This section provides some details and recommendations on a number of additional aspects and provisions with significant commercial relevance.

- Performance requirements and performance management issues and provisions;
- Contract breaches, penalty system, and default events;
- Compensation events and rebalancing regulations;
- Other financially-related provisions: financial structure (minimum equity/maximum leverage), changes in financing (refinancing) and ownership, insurance requirements and performance guarantees, and lender's rights;
- Intellectual property and confidentiality;
- Contract changes;
- Dispute resolution matters;
- Early termination provisions; and
- Hand-back provisions.

9.2 Performance Requirements and Performance Management

Performance requirements may be considered a part of the broader concept of "technical requirements" or "technical specifications", which in general terms refers to the specifications in the contract for what is requested of the private partner in terms of quality and/or quantity. Performance requirements may also be named "output specifications", and they may be referred to under the broader concept of "operation and maintenance requirements". The technical requirements related to construction may also be named "construction requirements" or "technical prescriptions for construction".

Previous chapters have explained how PPPs are service oriented, that is, the government is contracting for a result in terms of services provided (measured by availability mechanisms, or measured in terms of volume but with quality adjustments or direct penalties based on under-performance).

The government is not paying (or granting a right to charge a fee in user-pays PPPs) for the public asset, but for the ability of the government or the final users to use that asset under certain conditions or criteria described in the performance requirements.

The performance requirements may be understood as quality standards that the private partner has to meet. Performance requirements represent the bar to measure the performance, that is, they represent the benchmark for service measurement, usually defined through a description of the "target level of services", based on a performance indicators regime (KPIs).

When the requirements are based more on inputs (prescribing how to operate or the means to be used rather than on the results of the operation), it is inappropriate to talk about "performance requirements". Generally speaking, prescriptions of inputs or means should be avoided, as service requirements should be based on results or outputs as much as possible (so as to allow flexibility for innovation and efficiency from the private partner, and to transfer risk in terms of the inputs and means).

The performance requirements, and especially the target levels, should be "challenging but achievable" for a good or high standard operator. The government needs to be conscious of the risk of setting overly ambitious targets that may become unrealistic and unachievable, putting at risk the financial sustainability of the project contract and even its commercial acceptability. But the government should also be ambitious.

The requirements must also be measurable, so as to avoid conflicts when assessing the accomplishment of targets through the monitoring process.

Some authors describe the features to be met by the requirements and specifically the output specifications as SMART: **s**pecific, **m**easurable, **a**chievable, **r**elevant, and **t**ime constrained⁸⁴.

Monitoring and measuring performance

The contract has to clearly set out how performance will be monitored. Many guides advocate monitoring systems using information provided by the private partner, based on the principle of cost-effectiveness. This is because the operator is closer to the information on performance and it should, in any event, develop and manage a quality management system (QMS) which by itself has to be a contractual requirement/obligation.

⁸⁴ Attracting Investors to African PPPs (PPIAF, World Bank and ICA) includes an interesting example of what constitutes SMART or non-SMART output specifications in an accommodation PPP. <https://openknowledge.worldbank.org/bitstream/handle/10986/2588/461310revised017808213773070Revised.pdf?sequence=1>

Under this approach, the procuring authority assesses and reviews the information recorded by the quality management system, rather than directly assessing quality. The procuring authority will also conduct spot checks and audits to ensure the information recorded by the quality management system is correct (the contract should give the public party these rights).

Performance information can also be obtained from other sources independent of the private partner (for example, through users in general, teachers or doctors in a social infrastructure PPP, and so on).

The impact of performance levels on revenue. Remedial tools to protect performance

Performance requirements and the level of service prescribed are intrinsically linked to the payment mechanism in availability or quality-based mechanisms. The lack of performance will have consequences in terms of payment deductions. The payment is adjusted to reflect the level of service, depending on whether the asset is considered available or unavailable, as described in "payment mechanisms".

Another way to see it is that payment is earned on the basis of availability (a private partner meeting 99 percent of availability will earn 99 percent of the payment, which is the value of the service rendered), rather than thinking of deductions (that is, a payment is deemed to be 100 percent, but a penalty of 1 percent is imposed).

Performance requirements may also be a relevant factor in payment mechanisms linked to volume or use (for example, shadow tolls). However, in these projects, performance is more frequently incentivized through the application of explicit penalties or LDs imposed for the lack of performance.

In user-pays contracts, as in government-pays contracts where the revenue is linked to volume, there may also be output requirements (quality standards or criteria) that will result in direct penalties or LDs if not met. However, linking the output specifications to payment is less relevant and usually less specific in these contracts, as a lack of quality will often result in lower demand/volume with a consequent loss in revenue for the operator. This consideration should be carefully challenged depending on the circumstances of the project. For example, if a toll road PPP provides the only viable road connection between two points, traffic may have to use that route regardless of quality. In this case, the government may need to include more specific quality requirements in the contract, linked to direct penalties or LDs, than would be the case if there was an alternative route.

The immediate consequence of failure to reach the performance targets required by the contract is deductions (or penalties). Therefore, payment adjustments and penalties represent the first remedial tool for the procuring authority to manage and protect performance. See box 5.30.

However, there are other remedial actions and threats that the contract should recognize and regulate. These include direct audits, termination by default, and step-in (taking on some or all of the obligations of the private partner, which may include taking direct control of the project and potentially hiring a different operator. This is called “kidnapping” the contract in some countries such as in Spain and some Latin American countries).

The next section explains in more detail the concept of contract breach and the role of the penalty system. It also explains those other remedial tools in the hands of the procuring authority to protect performance and ensure compliance by the private partner

BOX 5.30: Remedial Mechanisms to Deal with Non-Performance

Penalties (together with the deductions in the payment mechanisms) constitute the first element or tool for the procuring authority to manage under- or non-performance and non-compliance with the contract provisions.

There are other remedial actions for pressing the private partner to be responsive. These are:

- Increased penalties (or deductions) under a ratchet mechanism.
- Imposing external audits at the expense of the private partner.
- Step in.
- Termination by default.

9.3 Contract Breaches, Penalty System, and Events of Default

Section 9.2 has shown how payments are linked to service performance through availability payment mechanisms, so that deductions or abatements are made from the payments commensurate with any failure to meet set service standards or target levels of service. The price paid is therefore adjusted to match the effective level of service rendered by the private partner so that the private partner suffers the financial consequences of under-performance.

Some or all of the events that result in a deduction may be regarded as contract breaches (see box 5.31), but they are not the only potential contract breaches which the private partner may incur. Also, there is a need to incentivize performance in projects other than through availability payments, and particularly in user-pays projects where there is not a direct payment from the government to the private partner that may be retained or deducted.

The contract establishes a number of obligations and conditions. These may be in the form of technical requirements (such as construction and time requirements during construction — for example, long stop dates for construction or interim milestone deadlines — and service requirements during operations), information or reporting requirements, legal requirements (that is, complying with legal provisions, such as labor laws), financial requirements (for example, minimum equity investment), and other formal requirements.

When the private partner is not meeting a requirement or is failing to observe a provision of the contract, it is in breach of contract (contract breaches have to be distinguished from events of default, as not every breach will or should constitute an event of default). See box 5.31.

Breaches usually result in a penalty (unless it is already being addressed by the payment mechanism), with the penalty amount being commensurate with the importance of the obligation breached and the duration of the breach (for example, a delay in meeting a deadline). The scheme described in the contract that defines categories of breach and levels of penalty is called a penalty system⁸⁵. This allows for the imposition of a financial consequence for breaching a provision of the contract, including, in the case of user-pays PPPs, failures to perform under the service requirements.

Some contracts adopt a two-stage system to apply penalties, using the performance points system explained below (see box 5.31). Each breach results in some points being accrued (the level of points depending on the relevance of the breach), and once the accrued points reach a certain threshold, the penalty is applied (and/or other remedial measures are taken that have financial consequences for the private partner, such as increased monitoring).

BOX 5.31: Contract Breaches versus Default Event

A breach of contract is a failure to observe a provision of the contract, and this may lead to penalties and events of default.

An event of default (with respect to or in the context of the PPP contract) is a breach of contract that relates to an obligation defined as essential in the contract, and which will entitle the procuring authority to terminate the contract.

Therefore, some contract breaches (when they are material breaches of the relevant obligation) will be defined as events of default, and all breaches when they accumulate to the point of being regarded as a persistent breach will also constitute an event of default.

It is typical for a penalty system (and/or a performance points system) to establish at least two categories (serious or major versus minor breaches). It is common for the contract to deem that any minor breach that is repeatedly committed constitutes a major breach for the purpose of applying a higher penalty (for example, a minor breach committed more than three times in a 12-month period is deemed to be a major breach). The contract should also define the “persistent breach concept” which may lead to more serious consequences. The penalty or Liquidated Damages (LDs) will be claimed against the private

⁸⁵ In many common law countries, the term “penalty” has a specific legal meaning, referring to an amount of compensation specified in a contract that is out of proportion to the likely loss suffered by the other party. In these countries, different terminology such as “liquidated damages” is used.

partner, deducted from government payments, or deducted from the performance guarantee/bond.

The contract should clearly stipulate the penalty system (and the performance points system), that is, which type of breaches will result in a penalty and/or in a point. It is good practice to list, define (that is, when a provision is considered to be breached), and classify the potential breaches of contract. See box 5.32.

Other good practice for contract breaches and penalty systems are as follows.

- Except for very significant breaches, the government should be required to notify the private party that the breach event has occurred, and the private party should be provided with a grace period to rectify the breach;
- Materiality should be recognized in the definition of the major breaches; and
- Many systems recognize the concepts of persistent breaches and persistent under-performance, which result in increasingly severe consequences.

Persistent breach means the accumulation of a significant number of breaches during a revolving period of time defined in the contract (for example, 10 minor breaches or 5 major breaches within a 24-month period⁸⁶, which may be counted directly or through the performance point system as described below. These situations may lead to a step up in penalties or to other decisions with financial or operational impacts on the private partner. For example, there may be an increase in quality audits at the expense of the Project Company, or the government may step-in and temporarily assume direct control of the Project Company (passing through to the private partner the costs of this intervention). Persistent breaches may also lead to contract default (see section 8.8).

BOX 5.32: Performance Point Systems and Persistent Breaches

The objective of a performance points system should be to provide an incentive for the private party to avoid contract breaches. It is used instead of direct penalties (that is, an immediate imposition of a financial penalty) to avoid persistent breaches by tracking them and how they are accumulated. It is useful to have trigger performance points where the direction of travel is identified. In this way, contract breach risks can be identified and action taken.

Going straight to a formal contract penalty process may be necessary in some cases but it should be recognized that both the breach and the way in which it is handled can affect relationships and future performance. The 'partnership' in a PPP is important and if every minor breach is treated formally and leads directly to penalties, the scope for innovation and risk taking is reduced. Therefore, introducing performance points as an intermediate step for penalties is good practice. The procuring authority needs to be clear about the nature of the relationship that it wants and how this is to be reflected in the breach and penalty context.

⁸⁶ This example, as any other inside this PPP Guide, do not constitute a concrete recommendation, but have the value of a mere numerical example.

In addition to allowing for a two-stage approach to the imposition of penalties, performance points also provides for a clear handling of the risk of persistent breaches. Persistent breaches may indicate that the private partner is not competent, but may also indicate that the requirements of the contract are wrong or that the system of breach identification is too rigorous. Persistent breaches need to be investigated to identify the causes and whether they can be addressed.

The ultimate remedy against under-performance is to terminate the contract on the basis of default by the private partner. An event of default is a breach of contract that relates to an obligation considered essential in the contract (including persistent breaches), and which will entitle the procuring authority to terminate the contract.

It is good practice to require the breach to be material, and to provide the private partner with a period in which to rectify the default before the government becomes entitled to terminate the contract.

Typically under a termination by default, the private partner will lose the performance guarantee and will likely suffer additional financial harm depending on the method and approach that the contract stipulates for this event of early termination (see the discussion of early termination provisions in section 9.9 below).

BOX 5.33: Summary of Key Points about Contract Breaches, Penalties and Default

- A breach of contract is a failure to observe a provision of the contract.
- Contract breaches and/or lack of performance may result in the imposition of financial penalties or financial consequences; this is a way to incentivize and protect proper performance.
- Failures to perform according to service performance requirements are handled primarily by deductions or abatements in the payment to the private partner in government-pays projects, but other contract breaches require explicit penalties (directly earned or by the accrual of performance points).
- The same type of failures or service non-performance will usually be handled through penalties in user-pays.
- The scheme by which breaches are defined and penalties identified is named the “penalty system”, noting that a breach should not be punished twice and therefore breaches that result in deductions in government-pays projects should not also earn an explicit penalty.
- Performance points is a mechanism that allows the private partner to avoid immediate penalties. But, with increasing penalty amounts for repeated breaches, it is designed to control, in advance, any risk of a persistent breach situation.
- Different degrees of persistency (different thresholds of performance

points) may be designed to trigger escalating remedies: increased penalties, increased monitoring, “step in”, and ultimately an early termination event.

- A private partner default may result in early termination. Such a default is a material breach of contract that relates to an obligation defined as essential in the contract. A material breach may result from persistent breaches of that obligation.

9.4 Compensation Events and Rebalancing

When a compensation event occurs, the private partner has the right to claim compensation to offset the loss suffered or that will be suffered, or part of the loss suffered in shared risk events. The loss may include forgone revenues (for example, revenue lost due to a delay in construction, where the delay is a result of a risk covered by the contract as a compensation event).

This process is commonly known as “rebalancing the contract” in most civil code countries, that is, the process of restoring the financial equation of the project cash flows as if the event had not occurred.

The contract should set out the process of claiming, determining, and implementing the compensation, including in the last case the potential means to grant the compensation.

Once the loss is determined (or estimated in events that impact future cash flows), the government will have to proceed to compensate the private partner. As a common rule, events that impact on Capex will be compensated by a direct payment, and events that affect future revenues or costs will be compensated by supplementary payments or by agreeing to a change (increase) in the service price or in the tariff (in user-pays contracts).

However, it is not uncommon for Capex-related losses to be financed by the private partner. In some contracts, the government may, at its discretion, request that the private partner finance the loss. In this context, it is good practice to make that obligation conditional upon the availability of funds from the private party’s shareholders and lenders, and to require the private party (if requested by the government) to use its best endeavors to raise the necessary funds.

When the private partner is requested to finance the loss, the cost of repaying that finance and paying a return on it will reduce the private party’s equity IRR and potentially its creditworthiness too (due to a lower DSCR). Therefore, it is good practice for the contract to require the government to restore the equity IRR and respect the private partner’s minimum DSCR by allowing an increase in revenues to repay and remunerate the additional investment. This increase in revenue may take the form of a tariff increase, service price increase, direct payments or contract extension, or a combination of some of these.

Some contracts use the net present value of the project revenues and costs as the indicators to be restored, rather than the equity IRR and the project company DSCR. That is not considered good practice, as it may not fully compensate the private party or its equity investors.

Extension of the concession term may be used to restore the financial balance of a contract, but only when it does not affect the ability of the private partner to meet its debt covenants and when it provides sufficient additional cash flows to restore the equity IRR.

Box 5.34 explains how the financial model is used to assess and define the compensation so as to restore the financial equation⁸⁷.

The approach used to calculate compensation and restore the balance should be described in the contract.

BOX 5.34: Process of Rebalancing and Use of the Financial Model

The most common way to deal with compensation calculations financed by the private partner is to use the financial model. When the model is properly used, the risk of over-compensating can be avoided.

The process revolves around the equity IRR and DSCR.

- The first step should be to estimate the loss produced by the compensation event, noting that in the absence of agreement, the parties may ask for the opinion of independent third parties through the conflicts or dispute resolution procedures.
- Once the loss (the amount of additional investment and/or missed revenues plus potentially higher O&M costs) is estimated, such loss is introduced into the financial model together with the additional funding (which usually — if the impact is significant — will be financed by a mix of equity and debt). The rest of the inputs are unaltered (as in the original version of the financial model, that is, before the adjustment of payments or other rebalancing mechanism), and the new (lower) economic internal rate of return (eIRR) and DSCR are observed.
- Revenue inputs (for example, service payment amounts) are changed, introducing incremental amounts of payments so as to: (i) restore the original eIRR and (ii) respect the minimum DSCR.

9.5 Other Financial-Related Provisions

Chapter 1 introduced a number of topics that are typical considerations for the public partner. These are related to the financial structure of the project contract and should be documented in the contract. See section 0.7.3, especially the following.

- The problem of leverage and requirements for minimum equity;

⁸⁷ While this PPP Guide prefers the methodology and process described, there may be other ways to deal with this matter. See, for example, the methodology used in Brazil as an alternative to restore financial balance, namely “marginal cash flows”.

- Potential establishment of limits on changes in control and the regulation of share transfers;
- The rationale for imposing the sharing of refinancing gains⁸⁸; and
- The relevance of lender's rights provisions.

This section explains other (but not all) matters related to financial requirements, specifically: the regulation of performance guarantees, reserve funds for renewals and reinvestments, and insurance requirements.

Performance guarantees

While the whole financial package is considered to be at risk, it may be said that the main guarantee for the procuring authority is represented by the equity invested by the private partner; this capital is directly provided, and it is the first level of capital at risk of performance and compliance (with debt generally only being at risk if the equity has been exhausted).

However, it is common practice to require the private partner to provide and maintain a performance guarantee which is usually irrevocable and executable on demand (typically in the form of a bond or a letter of credit).

The use of such a guarantee is to fund any penalty accrued by the private partner as well as any other loss or cost necessary to re-establish operations or to rectify a breach. When the guarantee is executed (in full or partially), the private partner will have to renew the amount of the guarantee.

The guaranteed amount may vary depending on the country practice. In the majority of projects and countries, it usually ranges from 2 to 4 percent of the total Capex⁸⁹ estimated at the inception of the contract.

Typically the amount of the guarantee is higher during construction than during the operations period (for example, 4 percent during construction and 2 percent during operations). It is common for the amount of the guarantee to be increased yearly by the CPI or another general index.

Limits and regulations regarding reserve funds

As described in chapter 1, one of the essential features of a PPP is to transfer the responsibility and inherent risks of the life-cycle cost of the project. The private partner will have to plan the renewals and major maintenance works that will have to be made during the life of the contract. This requires financial planning, progressively allocating the funds to a specific reserve fund (the

⁸⁸ *Guidance Note: Calculation of the Authority's Share of a Refinancing Gain* prepared by UK HMT provides guidelines to calculate and implement the share of a refinancing gain in private finance initiative (PFI) contracts in the UK and may be found at: <https://www.gov.uk/government/publications/pfipp-p-finance-guidance>.

⁸⁹ The amount of the performance guarantee during operations is also settled as a multiple of O&M costs (for example, the annual average O&M costs). This PPP Guide considers that in any case, the amount should be commensurate to the total investment amount (initial investment).

"renewal investment fund reserve") in advance of when they are needed to accomplish the renewal investments. The means to fund reserves is part of the financial plan provided at bid submission, and it is likely to be further adjusted at financial close.

It is good practice to establish limits and regulations as to when these reserve funds can be used. Typically, any use of these funds other than for renewal or major maintenance investment requires specific authorization from the procuring authority.

Insurance requirements

Both construction cost and life-cycle cost risks are transferred (potentially with exceptions) to the private partner. It will therefore be the first party responsible to absorb a loss due to accidents or any event that may affect the physical asset/project, including the costs necessary to re-establish its physical state to the specified state or to meet the specified service requirements.

However, it is common practice and essential that certain risks events are retained or are shared, especially those regarded as force majeure where the infrastructure is damaged resulting from wars, riots, and natural catastrophes.

Typically, the private partner is required to obtain and maintain insurance policies with respect to loss and damage due to accidents and force majeure events. These policies should cover the losses up to a minimum amount prescribed in the contract. The government is indirectly protected by the insurance package, as the amount received under the insurance policy will be deducted from the compensation payable by the government in respect of such an event.

In general terms, the government should not rely entirely on the ability of the private partner to self-insure certain risks, so the prescription for a minimum insurance package is common practice in all PPP contracts.

Insurance should cover not only losses due to physical damages ("all risks insurance"), but also losses due to third party claims (third party liability insurance) that may result from these events and losses due to delay in start-up or business interruption insurance.

The EPEC Guide to Guidance provides some additional information on this matter⁹⁰.

9.6 Confidentiality and Information Disclosure

A sound framework should encourage proactive information disclosure of both the project contract and the project's performance. This is done in order to

⁹⁰ See *The Guide to Guidance: How to Prepare, Procure and Deliver PPP Projects* (EPEC), page 33.

promote transparency and gain an acceptance of the PPP model by the general public as well as allowing for performance auditing of the PPP program. However, disclosure of the contract will need to be limited to protect the legitimate interests of the private partner in keeping commercial information confidential, as well as the need for the public partner to protect its position for future negotiations.

Contracts should clearly establish the information disclosure requirements as well as any exceptions from disclosure.

Some countries include the suggested extent of information disclosure by the private partner in their PPP guidelines and standards. This includes templates for gathering and collecting the relevant information from the contract, suggested contents of a project summary that should be made available to the public, and standard provisions for the contract in this respect⁹¹. In this sense, publishing the full contract is not universal and it is usually done with redactions. However, publishing a project summary or contract summary is quite common and good practice. Another recommended approach is to require the private partner to establish a website about the project and its evolution, especially during the Construction Phase.

9.7 Contract Changes

As noted, the contract must have flexibility built in to enable changing circumstances to be dealt with as far as possible within the contract. In this sense, the contract should consider and permit certain potential changes (which may be subject to limits in quantity or the law may provide those limits) and establish processes to implement those changes.

There are a number of types of changes that may occur in a PPP.

- Changes requested by the procuring authority: changes in scope of service⁹² or performance requirements (for example, as a recognition of too onerous or unrealistic service target levels), or change orders to the project design or change due to mandatory technological enhancements;
- Changes in the project or service proposed by the private partner and accepted or negotiated with the procuring authority;
- Changes in ownership and in financing structure; and

⁹¹ Guide (2015) provides for proposed contractual provisions on confidentiality and transparency in section 7. *A Guide to Disclosure in PPP Projects* (World Bank 2015) (what is the full name of this source? A Framework For Disclosure in Public-Private Partnership Projects (WBG, 2015)? <https://g20.org/wp-content/uploads/2015/09/PPP-Guidelines-Framework-for-Disclosure-for-PPP-Projects.pdf> If so, needs to be changes throughout the Guide provides examples of jurisdictions that include templates in their policy guidelines. It suggests its own template for proactive disclosure in section 11 “Templates” (pages 37-41). *Disclosure in PPPs: Jurisdictional Studies* (World Bank, 2015) provides an analysis of approaches to information disclosure (both to the pre-procurement and post-procurement phases), including how some countries tackle disclosure of the contract.

⁹² Generally, changes during the life of a PPP should be made through the contractual processes. However, on occasions, it may be in the interests of both parties to negotiate significant changes to the contract itself. These changes are often referred to as renegotiations. As discussed in chapter 1, 6 and 7, renegotiations must be managed carefully to avoid undesirable outcomes for the government.

- Other changes in the contract due to the occurrence of compensation events (including changes in law) or force majeure (which usually are only related to a change in the amounts of payments so as to restore the financial balance).

Changes in the project and changes in service requirements should be specifically provided for in the contract whenever possible. They should be permitted cautiously and should be delimited with clear boundaries because otherwise competitive bidding may be distorted and competitive pressure may be lost (EPEC). See chapters 7 and 8 of the PPP Guide for further information on good practice in managing such changes.

An example of potential changes specifically provided for in contracts may be seen in some urban transportation PPPs (for example, in Spain): the service plan (frequency and even routes for transportation by bus) will necessarily be changed from time to time, and supplementary services may be needed to accommodate non-planned events. The contract will grant the procuring authority the ability to request an increment of the service (in terms of kilometers/vehicles) up to a certain level (for example, 5 percent) in one particular year. The price by km/vehicle is offered by the successful bidder, and it avoids the need for negotiations as long as the increment in service is below the defined threshold.

As noted, compensation events and force majeure can also lead to contract changes. Typically, compensation events only affect the financial equation of the project contract. However, in other cases they may also require a change in the technical or service requirements (for example, an unforeseen event, contemplated in the contract, that increases the cost of operations may be compensated for by the parties agreeing to new and more relaxed performance standards, rather than increasing the price of the service).

9.8 Dispute Resolution

As in any complex contract, especially those of a long-term nature, it is not possible to foresee every event that may happen and affect a PPP contract. Therefore, changes will happen and this can often lead to disputes.

Also, it is logical that some provisions in the contract may require interpretation in some of their aspects, and it is also logical that differences and discrepancies will emerge on issues that require an assessment of costs or a valuation (see box 5.35 for some samples of typical dispute matters).

Governments usually reserve for themselves the right of interpretation of the contract, and the private partner has in such cases only the right to appeal to a court (administrative courts in civil code countries). This implies costly processes and endangers the continuation of the service provision.

In this context, it has become common practice to regulate "dispute resolution procedures" in the contract or create a "dispute resolution board", which is discussed below.

The main mechanisms used worldwide to solve disputes (not all of them available in any particular country) are⁹³ as follows.

- Sector regulator;
- Judicial system;
- Mediation (which may be considered an option for direct negotiations under a Dispute Resolution contract system);
- Dispute Resolution Board (comprising an independent expert or, better and more frequently, a panel of experts); and
- Arbitration: domestic arbitration or international arbitration (for example, through the International Chamber of Commerce [ICC], or the International Center for Settlement of Investment Disputes [ICID] ⁹⁴). An example of the role of arbitration in a relevant project may be seen in Ontario Highway 407 Toll Road⁹⁵.

In some cases (especially in civil code countries), the result of a dispute resolution process outside the judicial system will not be binding on either party. Therefore, if the parties wish to avoid escalating the conflict to the courts, they must negotiate an agreement based on the result of the dispute resolution process.

Some civil code countries have, however, opened the door to arbitration panels or dispute resolution boards consisting of independent experts whose opinion will be binding on both parties (for example, in Uruguay).

In some countries and for some sectors, disputes are resolved by an independent regulatory body. The private partner may have concerns over the regulator's independence.

This PPP Guide considers it good practice to include specific provisions in the contract regarding dispute settlement. This should include a dispute resolution process (DRP) and a dispute resolution board (DRB) — even if the decision of such a board is non-binding and will only be implemented when and if both parties accept the result. This is because their inclusion may save significant time and is inherent to the spirit of a PPP.

A proper DRP will first encourage and facilitate the search for a directly negotiated agreement (through high level negotiations between the parties). If initial negotiations do not resolve the dispute, mediation may be available as an option. "Mediation involves negotiation with the help of a neutral third party. The

⁹³ See reflections on *Dispute Resolution Systems Available* in PPPIRC, at http://ppp.worldbank.org/public-private-partnership/legislation-regulation/framework-assessment/legal-environment/dispute-resolution#ifc_dispute_resolution

⁹⁴ ICSID is an autonomous institution that forms part of the World Bank Group, established under the "Convention on the settlement of investment disputes between States and nationals of other States". <http://icsid.worldbank.org/ICSID>.

⁹⁵ See case study 4 in *Paving the Way* (WEF, 2010), page 98.

mediator's role is to facilitate negotiations without expressing a view on either party's position" (PPPIRC).

Typically, a DRB will include at least two independent experts, one designated by each party, and another designated by mutual agreement or by the agreement of the two original experts. In some processes, the third expert is only called in case of disagreement between the two nominated experts.

BOX 5.35: Examples of Areas of Dispute

- A dispute regarding the calculation of compensation for retained or shared risks (or a disagreement in calculating the loss or impact to be compensated).
- Disputes in the calculation of payment adjustments.
- Legal disputes as to whether an event is a qualifying event for compensation or for time relief.
- Dispute for a penalty when considering that the breach has not occurred or the nature of that breach (for example, the private partner considers it does not meet the materiality criteria).
- Dispute regarding the indexation of the service payment (for example, based on a claim by the private partner that the index used by government is not the index defined in the contract).
- Dispute about the calculation of the costs of an additional investment due to a change in service requirements.

When drafting the dispute resolution processes in the PPP contract, it is important to ensure that the provisions are appropriate and enforceable in the relevant jurisdiction by checking with legal experts. The website of the PPP Infrastructure Resource Center provides a useful checklist for that analysis⁹⁶. The dispute resolution process in the contract may also have to be consistent with requirements of treaties entered into by the relevant government (for example, investor-state dispute resolution processes). These requirements should have been identified during the legal due diligence for the project.

Some sophisticated markets include an ability in the DPR for the general public (users) to trigger a dispute resolution with the government, or the private partner through the government or an ombudsman.

In addition to containing an appropriate dispute resolution process, the following issues must also be considered to ensure that potential bidders can be confident in the effectiveness of the dispute resolution process.

⁹⁶ See *Dispute Resolution Checklist and Sample Wording* in <http://ppp.worldbank.org/public-private-partnership/ppp-overview/practical-tools/checklists-and-risk-matrices/dispute-resolution-checklist>.

- Unless such a waiver already exists under the relevant PPP law, the contract should include a waiver by the government of any immunity from claims/prosecution under the contract. In the absence of such a waiver, potential bidders will not bid since they cannot be confident that the government will meet its obligations under the contract; and
- The location of the dispute resolution may be an issue for international investors, who may be concerned that they will not get a fair hearing in the host country (especially in EMDEs), regardless of the form of dispute resolution used. However for governments, having the dispute resolution occur in another country may be an unacceptable dilution of their national sovereignty. A realistic approach to this issue is required, as potential bidders will not bid if they are not confident of the integrity and fairness of the dispute resolution process.

9.9 Early Termination Provisions⁹⁷

Any contract may be terminated early for a number of reasons instead of continuing for its expected life. A typical classification of reasons for early termination is listed below.

Termination for convenience (or "unilateral termination").

The government will always reserve the right to terminate the contract early, on the basis of public interest.

Termination for default by the public partner.

Some contracts specifically regulate the right of the private partner to terminate the contract for default by the public partner and claim for all costs incurred including opportunity costs. This right may be triggered if the procuring authority materially breaches its obligations (for example, there is an unusual and material delay in payments),

Termination for force majeure.

This may cover either the strict legal definition of force majeure (if there is one in the respective legislation), or other events or situations close to the general concept of force majeure, that is, events of extraordinary impact and/or of a clearly unforeseeable nature.

When the impact of a force majeure event is significant and has lasted for a defined period of time (typically 6 or 12 months), either party may terminate the contract unless specific agreement is reached.

⁹⁷ Specific useful intelligence on termination provisions may be found in *Termination and Force Majeure Provisions in PPP Contracts* (EPEC, 2013).

Termination for default of the private partner.⁹⁸

As noted, the procuring authority will have the right to terminate the contract when the private partner is in default. For instance, seriously breaching its essential obligations including persistent breaches — usually only after granting the private partner an opportunity to remedy and rectify the situation (this is regarded as good practice).

When the default is due to a lack of responsiveness of a sub-contractor or sub-contractor insolvency, it is good practice to allow the private partner to replace the sub-contractor.

The default may also be due to insolvency of the private partner. When the project company is not able to service its debt, the lenders may decide to accelerate the loan and the company will enter into insolvency. In such cases, rather than terminating the contract, it may be possible for the government to let the lenders and the company renegotiate the debt or let the lenders step in (that is, take control of the project, allowing them to try to rectify the default, potentially by bringing in a different contractor to restore normal performance).

Defining how to calculate the compensation for early termination in the contract

It should be noted that in termination scenarios, it is not uncommon in civil law countries for the law to provide the right to the termination compensation and for the contract to refer to the respective law. In this context, the termination compensation should be described in clear terms in the contract.

It is not just good practice, but essential that the contract provides the private partner with significant protection (if not full protection) in the case of termination for convenience (unilateral termination), public partner default, and force majeure terminations. In addition, in the case of termination for private partner default, while the equity holders should bear a substantial burden of the default, the contract should still provide the right to receive compensation. This is to avoid the public partner getting a benefit beyond the implicit or explicit cost (damages and losses) suffered as a result of the default, which would also (perversely) incentivize the public partner to terminate the contract. Also, it must be remembered that a high degree of clarity and certain protection is paramount for the bankability of the project (Gide 2015).

The following describes the most relevant issues and considerations in defining the approach to calculating compensation sums in each scenario.

⁹⁸ Some jurisdictions include termination for fraud as a specific category. In other cases, this is included in a private partner default subcategory.

1) Termination for convenience: The contract should grant to the private partner the right to be compensated in full. It should recover all funds invested (outstanding equity which is the invested equity minus all distributions received to the date of termination), and be covered against the costs of breaking its contracts with third parties (that is, the amount should compensate for outstanding debt, financial debt breakage costs, other contract and sub-contract breakage costs, and demobilization costs). It should also include a sum to compensate for the opportunity costs of the equity investment.

The incorporation of the opportunity costs or the cost of capital for the private investors may be handled through different methods⁹⁹.

- Including a payment in addition to the payments for all the factors described before. This allows the private partner to recover all equity invested plus a return that provides the equity IRR originally expected (to be calculated on the basis of the original financial base case agreed originally by the parties). This gives the private partner protection against being penalized through the termination for convenience payment for past poor performance¹⁰⁰. However, it also involves a downside risk for the private partner because potential good or over-performance of the project is not rewarded; and
- The same as above, but providing a return (that is, obtaining equity IRR) equal to the expected IRR considering the current and projected performance of the project (calculated on the basis of an updated base case). Alternatively, it can involve basing the calculations on an estimation of the market value of the equity (the latter being a more complicated calculation) by means of discounting the projected cash flows or through other methods, for example, applying multiples from similar transactions). This would minimize the risk of the private partner being under-rewarded in over-performance situations, but it creates the unfair downside risk identified above in respect of past under-performance.

The payment on termination for public partner default is often calculated on the same basis.

2) Termination due to force majeure or similar situations: It is generally considered that the risk of force majeure should be shared to some extent between the two parties. It is regarded as good practice that the contract grants the private partner the right to recover all investments in full (that is, outstanding debt, all contract breakage costs, and outstanding equity so as to result in an IRR equal to zero). Some countries/contracts also recognize the right to a

⁹⁹ *EPEC Guide to Guidance* also explains the methods to determine the compensation sum in this scenario (page 41).

¹⁰⁰ As the contract is being terminated for convenience, it would be unfair for the private partner to be penalized through the early termination payments on the basis of the past performance of the project, as the termination prevents the private partner from rectifying its performance during the remaining original contract period.

positive equity IRR at a pre-agreed rate, usually to obtain a close to 0 percent equity IRR in real terms (for example, a 2 percent equity IRR).

There are other methods to calculate the compensation.¹⁰¹ The most important consideration is that the contract should clearly establish from the outset which method will be used to calculate the termination compensation and how this amount will be paid.

3) Termination by default of the private partner: The contract should grant to the private partner (or at least to the lenders) the right to receive a compensation sum for termination for default (the rationale being that the government will receive the asset in exchange for termination, and this should not be an undue benefit for the government).

The calculation of compensation for termination by default of the private partner is more controversial. Quite different approaches may be found in different countries;

- **Book value:** In civil code countries, the most usual approximation is to calculate the compensation sum based on the net book value of the assets (see box 5.36);
- **Debt-based compensation:** Consists of a payment equal to the outstanding senior debt, which may be necessary for EMDE countries to ensure bankability of the project. This method may reduce the incentive for lenders to oversee and ensure good performance of the project¹⁰². This may be corrected by including a “hair-cut” on the debt (establishing a percentage of the debt to be recovered, rather than granting the full recovery of all the debt) (Gide 2015). In any case, this approach may be unfair to the private partner, as the loss of the entire equity may exceed the potential value of damages and losses suffered by the public partner. Again, this creates a potential windfall for the government and a perverse incentive to terminate early.
An alternative approach, especially for EMDE countries wishing to ensure bankability, is a combination of these two methods (book value and debt-based compensation with a “hair cut”); and
- **Market value/market sale:** In other countries (typically common law countries), the government may decide to re-tender the contract, that is, to tender out the position of the equity owner and substitute the private partner. In this case, the compensation sum is the value of the project asset that the best value proposer will pay, which (after deductions of amounts owing to the government) is available to pay out the lenders with any surplus being available to the equity investors (“open-market

¹⁰¹ See *Termination and Force Majeure Provisions in PPP Contracts* (EPEC, 2013) page 21.

¹⁰² The hair-cut may limit the positive effect on bankability or otherwise (if lenders request corporate guarantees to fill the gap of the compensation) be too onerous for the equity investor.

sale”)¹⁰³. This PPP Guide considers this a good practice: it introduces the possibility of avoiding contract cancellation by only tendering the remaining contract, and provides a framework for a fair compensation rather than a fixed methodology abstract from the reality of the project performance. It also allows the public partner to avoid the cash flow problem that arises if it is required to pay compensation from its own resources. However, in some default circumstances, there may not be any bidders for the re-tendered project, hence the contract must also include an alternative process under which the government will make a termination payment and the contract will come to an end. In addition, in the case of immature PPP markets in EMDE countries, it may be better to rely on simpler and more straight forward methods such as those described.

Alternatively, the procuring authority may agree with the lenders as to who will replace the defaulting partner (this is prohibited in some jurisdictions).

¹⁰³ When there is not enough liquidity or interest in the market to buy into the remaining life of the contract, the procuring authority will sometimes (typically in Australia and the UK) pay the lenders an estimated market value of the contract after deducting rectification costs. This is known as “fair value compensation” (EPEC). A deeper description of these processes may be found in “Termination for Default by the PPP Company” in the *EPEC PPP Guide*.

BOX 5.36: The Usual Compensation Method in Civil Code Countries in Cases of Termination for Default

Upon termination for default of the private partner (as in any other scenario), the government will receive back the asset and will pay a price (the compensation sum).

The common approach in civil code countries to calculate the compensation is to use the economic value of the asset (construction costs plus investments in renewal and major maintenance) minus depreciation of the asset (usually considering linear/constant depreciation during the term of the PPP contract). This is sometimes referred to as the as “net book value of the assets”. However, it is not necessarily coincident with the value as reflected in the private partner’s accounts, as this may vary significantly depending on the specific characteristics of the respective project contract.

In other cases, the figure may be calculated on the basis of the whole investment that is, including those investments not strictly associated with the construction value but other applications of funds such as interest and development costs during construction (IDC).

Under the net book value approach, the private partner will bear the cost of “damages and losses” suffered by the government, which will be deducted from the compensation sum.

In this sense, it is good practice to set out in the contract the concepts on the basis of which damages and losses will be calculated, typically including direct costs incurred by the procuring authority to repair the asset (rectification costs), re-tendering costs, and contingencies regarding third party claims (for example, users), and so on.

The government may also call on the performance guarantee which may either be considered as an advance to damages and losses or as an additional penalty to them.

The provisions related to termination by default should be as clear and as objective as possible.

The contract should clearly state the following:

- What constitutes an event of default that may entitle the procuring authority to terminate the contract. Materiality of the contract breaches that may constitute a default is paramount;
- How the compensation sum will be calculated and when (how much time is allowed for the calculation). It is paramount to define in precise terms

all the terms and concepts used in the calculation such as “distribution”, “IRR”, “Losses”, and “Senior Debt”, among others¹⁰⁴;

- When the payment will be due and interest on the compensation payment if it is delayed or paid in installments;
- The right to offset or deduct any amount from the compensation sum and how this amount will be calculated (damages and losses);
- How to deal with the seniority of lenders and subordinated lenders; and
- Treatment of cash balances, insurance proceeds, and/or rights to claim against subcontractors.

9.10 Hand-Back Process

The assets will be “handed-back” to the procuring authority at contract expiration. It is good practice to establish minimum criteria to be met by the assets so as to ensure that these are transferred back to the procuring authority in an acceptable condition. It is also good practice to note that demanding requirements or conditions will be priced into the PPP contract, resulting in higher user charges or government payments. The contract should require that the asset has a reasonable remaining useful life at the expiration date, otherwise there may be a perverse incentive for the private partner to avoid making desirable investments to maintain the condition of the asset, as the private partner will not bear the consequences of poor maintenance or the need for renewals.

The hand-back requirements must be clearly defined in the contract from the outset (that is, at tender launch) so as to allow and incentivize the successful bidder to build into its financial model the funds to be invested to meet the requirements.

Some common and good provisions to regulate the process include the following.

- Third party inspections of the state of the asset sufficiently in advance of the expiration date (for example, 3 years) and yearly inspections to follow up on the need for and investment in the assets to meet the criteria;
- A retention equal to a percentage of the yearly revenues (or the payments) to fund a reserve with that purpose (for example, 2 percent of service payments). As soon as inspections detect that the reserve is oversized, the percentage of the retention should be downsized; and
- At the end of the contract (which will effectively end with the hand-back process), and subject to the hand-back requirements being met, any remaining amount in that fund should be released to the private partner.

¹⁰⁴ Gide 2015 (commissioned by the World Bank) provides suggested definitions in its proposal of provisions for termination (page 31). Other recommendable standards may be found in the PPP manuals and guidelines referred to through this PPP Guide, bearing in mind that any standard or recommended provision must be tailor made for the specific jurisdiction, and from there may require certain adaptation for specific projects.

10. Control Check and Approvals before Launching the Tender, and Planning Ahead

The last tasks of the process in the Structuring and Pre-launching Phase will include the following.

- Formally raising the necessary approvals, packaging all tender documents, and running a control check. This is explained below; and
- Planning the Tender Phase/tender process. The tender process should be carefully planned. This involves programming the works to be done and planning the resources that will be needed (including the role of advisors and the information technology (IT) needed to handle the tender process). It also involves determining the roles and responsibilities of the project team needed to manage the process from project launch to contract signature (which is the object of chapter 6).

Before launching the tender, the procuring authority should satisfy itself that all analyses and exercises have come to a satisfactory conclusion. It is good practice to develop a check list and confirm/check that all relevant conditions of preparation and structuring are met. Box 5.37 provides an example of a checklist. Each country's and procuring authority's processes will, to some extent, be distinct. The check list will obviously have to match the requirements of the PPP framework, the project, and the analysis carried out during the preparation and structuring cycle of the PPP.

Some or all of the reports, and the tender documentary package itself, may be subject to approvals by different areas or departments within the government (for example, the general attorney's office, finance secretary, comptroller, and so on), which will depend on the respective framework (the legal or regulatory prescriptions embedded in the procurement law and/or the institutional framework of the respective PPP market).

To ensure that authorizations will be received in a timely manner, the project team should consider providing progress reports (even informally) to the respective decision-makers throughout the structuring process so as to avoid last minute rejections of the project documents or affordability tests.

In some tender processes under the two-stage approach, the final tender package and final approvals may not occur in one single milestone. However, the RFQ may be issued first and the RFP published after selecting the bidders (with or without a short list). Also, certain aspects of the tender regulations may be subject to refinement during a dialogue phase (competitive dialogue processes), including the contract (see appendix A to chapter 4).

BOX 5.37: Example of a Checklist before Launching the Tender¹⁰⁵

¹⁰⁵ This check list is an example, and it is based on that provided by the PPP Guidelines of the R  o de Janeiro Municipal government, sponsored by the World Bank. Additionally, EPEC provides a check list

Verification of technical feasibility and legal due diligence

- The project has passed a public consultation (when this is requested by the framework), and suggestions or claims have been duly considered.
- The technical feasibility has been tested by a sound design process and has included a third party revision or quality audit. The procuring authority has endorsed the project design and technical requirements.
- Technical and legal risks have been analyzed and clarified, or duly treated in the risk allocation structure when needed. Some examples are as follows.
 - Utilities reallocation: When the risk is significant, proper documentation should have been delivered to bidders; otherwise, the risk will be fully retained by the public or shared within the contract.
 - Archeological findings: When there is significant risk, a map of potential archeological sites is provided for the bidders, and potential risk mitigation provisions are implemented in the contract.
 - Geo-technical risks: When significant structures are within the project design and scope, a geo-technical conditions study has been carried out and/or a risk-sharing scheme is in place within the contract based on “baseline conditions”.
 - Specific tax considerations: To the extent it is possible, they are clarified for bidders.
 - Site is available and/or Right of Way (RoW) is cleared, or there is a clear schedule to clear out RoW: When expropriations are not to be handled by the government, risks have been balanced with the level of uncertainty in terms of costs and timing (retained or shared as appropriate).
 - Any other uncertainty that may have arisen during the Appraisal Phase or Structuring Phase has been solved or considered properly in the risk allocation structure.

Verification of positive / sound cost-benefit result

- If significant changes have been made in the project’s scope or new and significant uncertainties have arisen, an update of the economic report has been done and the original results confirmed.

Verification of commercial feasibility

- The financial model and financial analysis have been updated to include new data and final considerations regarding the project’s financial structure, and the project remains feasible (in terms of equity return requirements and bankability) within the same original estimates done in the project’s Appraisal

Phase. A definitive price limit is proposed for approval under affordability considerations to be made by the treasury.

- From this analysis and the consequent financial feasibility report, it is clearly verifiable that an investor will recover the equity investment and enjoy a reasonable payback and equity IRR calculated according to the prevailing market conditions. It is also considered reasonable that lenders will be interested in providing loans on conditions (amount, term, price, and ratios) that will likely fit with the project's fundamentals.

Verification of affordability limit

- The commitments derived from the project are considered to be assumable according to a moderated projection of the procuring authority's ordinary revenues or under a conservative scenario (for example, zero growth in real terms).
- Contingencies coming from risk retention by the grantor have been described and considered.
- All of this information and results have been revised by the treasury secretary and the general controller.

Verification of positive (if prescribed) or acceptable VfM

- When VfM was done at appraisal – there have not been any relevant changes in the structure and projections that would require a reassessment of VfM or this analysis has been concluded with satisfactory results.

Legal feasibility of the contract structure and tender documents

- The contracts and tender documents are in place and completed, including the minimum provisions according to the law. All provisions are consistent with the legal framework and ready for approval by the attorney general's office.
- The payment mechanism and output specifications are ready and settled in a clear, efficient, and objective way to be validated by the office of the chief of staff and treasury.

Packaging the documents and reports: After all of the previous requirements are accomplished and verified by the project team, a package/file with the final versions of the documents and reports should be distributed to the government entities in charge of assessing the project prior to the government's final approval.

11. Summary of Outcomes of this Phase

The outcomes of the work undertaken during this phase are:

- The full tender package is complete and ready to be published. (As described in this chapter, the RFP terms and especially the final contract terms may be subject to refinements or even changes during the tender process. This is particularly the case in some types of two-stage tender processes, such as competitive dialogue.); and
- The authorization and final approval have been given to launch the tender and for the procuring authority to enter into a contract if a bidder meets the criteria and proposal requirements. The tender package is based on a completed and full appraisal and preparation that began in the Appraisal Phase and has now been satisfactorily concluded.

References

Name of Document	Authors/Editors and Year	Description	http link (when available)
Key References for PPP Structuring			
Infrastructure Australia National PPP Guidelines Volume 2: Practitioners' Guide	Commonwealth of Australia (2011).	Includes guidelines to structure PPP contracts and tender processes, and manage tender process of the "interactive type".	http://infrastructureaustralia.gov.au/policy-publications/public-private-partnerships/files/Vol_2_Practitioners_Guide_Mar_2011.pdf
Standardization of PFI Contracts (version 4)	HM Treasury, UK (2007).	Detailed guidelines as to structure a PFI (user-pays PPP) contract.	
Standardization of PF12 Contracts	HM Treasury, UK (2012).	Develops the former standards as to adapt them to PF2	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221556/infrastructure_standardisation_of_contracts_051212.pdf
A New Approach to Public-Private Partnerships (PF2)	HM Treasury, UK (2012).	A review of the PFI approach, which incorporates a number of new features in the PFI UK model, including public equity, the use of public guarantees for the debt,	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/205112/pf2_infrastructure

		and so on.	_new_approach_to_public_private_partnerships_051212.pdf
Risk Allocation and Contractual Issues	Partnerships Victoria (June 2001).	An extensive analysis on risk allocation and risk-related contractual standards.	www.dtf.vic.gov.au/.../Risk-Allocation-and-Contractual-Issues1-Entire.pdf
Online Toolkit for Public Private Partnerships in Roads and Highways World Bank	Public-Private Infrastructure Advisory Facility (PPIAF) (2009).	Includes a description of tender processes and a reflection on different revenue structures, including an attached paper analyzing payment mechanisms in roads,	http://www.ppiaf.org/sites/ppiaf.org/files/documents/toolkits/highwaystoolkit/index.html
Public-Private Partnerships Reference Guide V 2.0	World Bank Group, PPIAF (2014).	Includes a good summary of the key issues related to PPP structuring.	http://ppp.worldbank.org/public-private-partnership/library/public-private-partnerships-reference-guide-version-20
The Guide to Guidance - How to Prepare, Procure and Deliver PPP Projects	European PPP Expertise Centre (EPEC) (2012).	Of particular interest for this chapter is the description of contract termination issues and methods to calculate the termination compensation sum.	http://www.eib.org/epec/g2g/iii-procurement/31/314/index.htm
National Treasury PPP Manual, South Africa (Module 5: Procurement).	National Treasury PPP Unit, South Africa (2004).	Module 5 describes procedures and standard approaches for the design of the contract and PPP tender documents.	http://www.ppp.gov.za/Legal%20Aspects/PPP%20Manual/Module%2005.pdf
Other References and Readings Cited in this Chapter			
A Guide to Disclosure in PPP Projects	World Bank (2015).	Explains the relevant and main contents of what should constitute a contract information disclosure framework. Provides examples of jurisdictions that provide templates in their policy	

		guidelines and suggests its own template for proactive disclosure in section 11 “Templates” (pages 37-41).	
Disclosure in PPPs: Jurisdictional Studies	World Bank (2015).	An extension of the previous mentioned Guide. Provides an analysis of approaches to information disclosure (both to pre-procurement and post-procurement phases), including how some countries tackle disclosure of the contract.	
The Orange Book. Management of Risk – Principles and Concepts.	HM Treasury UK (2004).	For information on risk management of the PPP process.	https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220647/orange_book.pdf
PPP Infrastructure Resource Center (PPPIRC)		The World Bank Group provides intelligence on real precedent contract and tender regulations in PPPIRC.	http://ppp.worldbank.org/public-private-partnership/about-pppirc
Risk Identification and Risk Allocation in Project Finance Transactions	Chris Furnell (May 2000).		
PPP: Principles of Policy and Finance	E. R. Yescombe (2007).	Chapter 14 deals with risk evaluation and transfer (including a focus on bankability and the perception of lenders), and it is pertinent to the risk structuring part of this chapter of the PPP Guide.	
A New Approach to Private Roads.	E. Engel and others (2002).	This article describes the “Least-Present-Value-of-Revenue” criterion used to award toll road PPP concessions in Chile.	http://object.cato.org/sites/cato.org/files/serials/files/regulation/2002/10/v25n3-6.pdf
Competitive Dialogue in 2008. OGC/HMT Joint Guidance on Using the Procedure	UK Office of Gov. Commerce (2008).	Describes the process and main features to consider when structuring and handling a competitive	http://webarchive.nationalarchives.gov.uk/20110601212617

		dialogue as regulated by the European Union.	/http://ogc.gov.uk/documents/OGC_HMT_2008_Guidance_on_Competitive_Dialogue.pdf
Attracting Investors to African PPP	PPIAF (2009).	Includes an interesting example of what constitutes smart or non-smart output specifications in an accommodation PPP.	https://openknowledge.worldbank.org/bitstream/handle/10986/2588/461310revised017808213773070Revised.pdf?sequence=1
PPP Guidelines of the Río de Janeiro Municipal Government	Sponsored by World Bank (2013).	Includes recommended standards for PPP contract provisions in the Brazilian context.	
Termination and Force Majeure Provisions in PPP Contracts	EPEC (2013).	Discuss different approaches and provide tips and reflections on recommended termination provisions.	http://www.eib.org/epec/resources/Termination_Report_public_version.pdf
How to Engage with the Private Sector in Public-Private Partnerships in Emerging Markets	PPIAF, World Bank – Farquharson, Torres de Mästle, and Yescombe, with Encinas (2011).	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. Also includes a number of representative case studies.	https://openknowledge.worldbank.org/bitstream/handle/10986/2262/594610PUB0ID1710Box358282B01PUBLIC1.pdf?sequence=1
La Experiencia Española en carreteras	Andrés Rebollo, commissioned by the Inter-American Development Bank (IDB) (2009).	Describes Spanish experience in road PPPs. Annex 2 provides for a case study of a PPP based in shadow toll bands.	http://publications.iadb.org/handle/11319/4890
Public-Private Partnerships: In the Pursuit of Risk-Sharing	OECD (2008)	Analyses how efficiency is driven by proper risk transfer.	

and Value for Money			
Guidebook for Risk Assessment in Public Private Partnerships.	FHWA, Department of Transportation, US (2013).	Provides guidelines for risk assessment in PPPs.	https://www.fhwa.dot.gov/ipd/pdfs/p3/p3_guidebook_risk_assessment_030314.pdf
Explanatory Note-Competitive Dialogue-Classic Directive	European Commission (2005).	Explains how to use Competitive Dialogue in Europe.	
Recommended PPP contractual provisions (draft)	Gide, commissioned by WB (2015)	Recommends standard provisions for key aspects of the PPP contract such as early termination, confidentiality and disclosure, lender's rights and others.	
Dispute Resolution Checklist and Sample Wording	PPPRIC web site	Provides advice in relation to the design of Dispute Resolution systems and processes.	http://ppp.worldbank.org/public-private-partnership/ppp-overview/practical-tools/checklists-and-risk-matrices/dispute-resolution-checklist
Cases Studies			
Paving the Way: Maximizing the Value of Private Finance in Infrastructure	World Economic Forum (2010).	Includes several case studies on relevant PPP transactions.	http://www3.weforum.org/docs/WEF_IV_PavingTheWay_Report_2010.pdf
Disclosure in Public-Private Partnerships: Good Practice Cases	World Bank Group and PPIAF (2015).	Includes a number of examples on how proactive disclosure is relevant for successfully managing industry interest, and public acceptance and support.	
Resource Book on PPP Case Studies	EU commission (2004).	Analyzes PPP developments in Europe in the sectors of water, waste management, and transportation, providing and explaining numerous	http://ec.europa.eu/regional_policy/sources/docgener/guides/pppresourc ebook.pdf

		PPP cases in emerging markets in the EU.	
Success Stories and Lessons Learned: Country, Sector and Project Examples of Overcoming Constraints to the Financing of Infrastructure	World Bank Group (2014).	Explains the current challenges of EMDEs in accessing private finance, explaining a number of relevant success cases and lessons learned.	https://g20.org/wp-content/uploads/2014/12/WBG%20IWG%20Success%20Stories%20Overcoming%20Constraints%20to%20the%20Financing%20of%20Infrastructure.pdf

Appendix A to Chapter 5 – Description of Main Risks in a PPP and Potential Approaches to Allocation

1.1 Describing the Main Risks during the Construction Phase, and Their Potential Allocation

1.1.1 Land Availability and Acquisition

The land or site for building the asset may already be available, or it may be in the hands of the authority, and available for use.

However, in most of the cases it is not. In such cases, land has to be acquired. This is especially complex in linear infrastructure, such as roads and rails where there may be multiple owners.

The land may be the site where a social facility or a process plant (for example, a waste water treatment plant) will be built, or it might be for facilities related to transport infrastructure (for example, stations in a rail project, depots in a light rail one). Alternatively, it may be a "right of way", that is, the corridor where a new road or highway, or rail line, will be located.

Normally, the title of ownership of the land will remain in the hands of the authority which will grant to the private partner, through the contract, the legal right to use the land to build and manage the infrastructure asset (for example, by a lease or concession). The authority is usually the only party with powers to expropriate the land from the existing landholders, although in some countries this power can be delegated to the private partner (giving it the title of "expropriation beneficiary"). See below.

If the land is not available at the time of the commercial close, which is common in linear infrastructure projects, there is a risk both in terms of costs and time, as obviously construction can only progress once the land is available. Estimating the cost of acquisition (especially when there are multiple owners) is very complex and uncertain, and it is common in many countries that the final price is defined by a court (mostly in civil code countries).

This PPP Guide considers it best practice for the procuring authority to retain the risks related to both the cost and availability of the land, including any costs of relocating current occupants (legal and illegal). This is because the private partner will normally build in significant contingencies to cover the risk of higher costs, including the uncertainty over the time it will take before the land is available to build.

In this sense, it is good practice for the authority to directly manage the land acquisition, but in some countries the private partner may do it under delegation. In such cases, it is paramount for the authority to retain the risk (and reward), that is, directly assuming the final cost of the acquisition and consequences of potential delays.

There may, however, be circumstances and established practice where the private partner not only manages the acquisition and finances it, but assumes some level of risk. In these contexts, if the past experience has been satisfactory, and the level of uncertainty is considered moderate, it is good practice to limit the risk exposure of the private partner and/or share the risk thorough a specific mechanism. For example, this could be done by defining a cost baseline that is based on estimates by the authority as well as granting compensation equal to a certain percentage of over costs, including a cap in the total cost to be borne by the private partner. When such provisions are in place, they should also cover the reverse situation so as to also share a portion of any savings in cost over the baseline cost defined in the contract.

When the authority retains the risks and direct management of the expropriation process (for example, road projects in Mexico or Nigeria), it is common and

good practice to only tender out the contract once a significant portion of the land is already acquired and available because regardless of the direct assumption of the costs (and therefore the risk of costs) by the authority, the likelihood of delays in the acquisition plan is significant. Therefore, there is a risk of delay in the overall construction period. Whether the delay risk due to the unavailability of land is clearly established in the contracts as a relief or even compensation event, conflicts and problems will emerge in such situations. These can be avoided if the acquisition program is significantly advanced when the contract is signed (or even tendered)¹⁰⁶.

Land acquisition risks will be exacerbated if there are indigenous or native titles over the land, which is a relevant matter in a number of countries. In these cases, it is even clearer that taking back the risk, and even directly managing it, provides better Value for Money for the authority. The government is better placed than private companies to resolve this risk since, at the end of the day, it can always pass new legislation.

1.1.2 Environmental

Most projects will be required to pass an Environmental Impact Assessment (EIA). Environmental issues may be related to a number of different aspects, which can be grouped in two categories.

- The potential impact of the project in terms of contamination or pollution (gas emission, noise pollution during construction, water contamination, and so on); and
- Impact on the natural environment such as impacts on biodiversity, visual impact on the landscape, and so on.

The EIA is produced by environmental authorities (or produced by the government and then reviewed by the environmental authority), and the result may cause severe impacts on the project both in terms of costs and delays. The EIA may require a change in the location of the project or other concrete changes in the project design, including the redefinition of the route in a linear infrastructure project. Another impact on the project cost may be the need to include specific measures to mitigate impacts or protect environmental values.

The procuring authority may not control the EIA as this is commonly issued by an independent or a separate agency within the government, or the agency may belong to another level of government (for example, a regional or state government).

Environmental impacts have to be anticipated as far as possible by the authority in order to limit or mitigate this risk for the benefit of both parties.

¹⁰⁶ In fact in some countries (for example, in Mexico), it is common practice in the project finance of roads that lenders request, as a condition to lend, that a very significant portion of the right of way be available at financial close.

The project specifications defined at the time the tender is issued have to comply with environmental regulations and impacts addressed in an environmental plan. The project's preliminary design or the outline should also have been tested with the appropriate environmental agency. In some countries, it is common to ask for the issue of a preliminary environmental assessment (for example, in Nigeria the authority does the preliminary ESIA, and the winning bidder does the more detailed one).

The risk of a negative EIA or an EIA that impacts on the project design is usually borne by the private party. This can be caused by any changes or developments of the project specifications, or when such developments are outside the boundaries or guidelines provided by the EIA. Also, the private partner will remain affected by environmental liability during the Operations Phase.

1.1.3 Permits

As with the environmental impacts and environmental clearance, the government should try to anticipate and obtain permits based on the outline plans for the works (or a reference design, if that has been prepared). This is done in order to mitigate risks and prepare the project. It should also be responsive to risks associated with permits in so far as they may relate to technical prescriptions.

However, it is common practice worldwide that the general risk associated with permits lies with the private partner (who will in turn pass them through to the contractor in the construction contract). This is because the private partner develops the design and also because the procuring authority cannot commit to issue permits that other departments are responsible for.

1.1.4 Design Risk

Broadly speaking, design risk may refer to the following two type of events.

- Defects in the design that result in the asset being built, but failing to meet the prescribed standards, legal requirements, and any conditions imposed by environmental or other stipulations. Such circumstances mean that the project has to be changed, causing delays and above all cost increases; and
- Defects or failures in the design that result in the project not meeting the service standards requested in the contract, or that result in an increase in operation and maintenance (O&M) costs in order to meet the service requirements.

While the design in PPPs is commonly developed by the private party, it is the private party that should generally bear the design risk. The private partner usually reallocates this risk to the construction or Engineering, Procurement, Construction (EPC) contractor under a private Design and Build (D&B) contract.

This risk, as a general risk related to the scope of the contract, may overlap with some other risks that affect the design and development phase of the project, some of which may provide relief and/or compensation to the private party if they occur.

1.1.5 Construction Risk

Construction risk is the possibility that during the Construction Phase the actual project costs or construction time exceed those projected.

The delay in the completion or commissioning will also represent a loss of income. This is assessed and categorized as a separate or ad hoc risk category in a number of manuals and guidelines, including this PPP Guide. (see below).

Broadly speaking, construction risks can be caused by defects or mistakes in design, a lack of appropriate planning, a lack of proper project and schedule management of the construction program, defects in the methods used, or other causes related to under-performance or even negligence by the private partner (or its contractors). This includes external factors that should have been anticipated, but were not.

This risk is generally borne by the private partner who will pass it through to the construction contractors. The construction risk at this point, from the perspective of the private partner, is the risk involved in the performance of the contractor, including not only the technical capacity and ability to meet the construction requirements on time and within budget, but also its financial standing. As in any sub-contract or contracts from the special purpose vehicle (SPV) to contractors, the SPV will remain the only entity responsible to the authority for those risks.

As in the case of design risks, this is a general risk related to the scope of the contract. As such, it may overlap with some other risk events that affect the design and development, with some of them providing relief or compensation.

1.1.6 Completion and Commissioning

The completion risk or the commissioning risk refers to the risk of failure to meet the construction outcome as prescribed, and/or the project as constructed failing to meet the completion acceptance criteria, thereby causing a delay in earning revenue. It is, in essence, a construction or a design and construction risk that has to be borne by the private partner as a general rule — subject to the exceptions that the contract may provide, based on some specific risks events covered in this section materializing.

The impact of this risk is a delay in service delivery (though rarely a direct impact on costs, as the works are supposed to be progressively monitored by both parties and the lenders). The risk will be transferred naturally to the private party by means of missed revenues and also explicit penalties (up to potential termination for default).

These risks, such as general design and construction risks are generally transferred to the contractors by the SPV.

It should be noted that “completion” refers to finalizing the construction works, whereas “commissioning” is the term frequently used to refer to an authorization to commence operations.

Commissioning (or any other name used to signify that the works are finalized in accordance with the construction requirements and are ready for being opened for service) will generally trigger the payments.

It is not uncommon to grant a kind of "provisional acceptance of the works" or provisional completion approval in order to open the facility for use. This can be done as long as the potential list of defects or outstanding issues are not material to the service (usually named the "punch list"). A limited period is granted to solve those issues and receive the definitive authorization to operate.

The transition from completing the works to commissioning is very important and can be demanding in some projects. A good example is transportation projects, especially in urban areas (such as a metro system or a light rail). There will be a trial period to test that the service works as expected before granting the final acceptance.

1.1.7 Other Potential Interruptive Events during Construction

Site and ground conditions/geo-technical risks

The risk of unexpected geological or geo-technical conditions in the ground will also be commonly allocated to the private partner in a conventional project, that is, in those projects where geo-technical conditions do not represent a significant challenge and/or information on ground conditions can be effectively tested (for example, for a building).

However, there are projects where the geo-technical risks are very significant. This can occur when a change in the anticipated geo-technical conditions, or the inability to anticipate those conditions, produces a serious cost increase. A not uncommon, though rather extreme, example is when a tunneling machine has to be replaced because it cannot bore the tunnel as it was not designed for use in conditions that were unanticipated.

The most common case of projects with substantial geo-technical risk profiles are linear infrastructure projects with significant numbers or sizes of tunnels, or bridges.

In such projects, the authority must conduct a meaningful assessment and produce detailed surveys to investigate and collect information on the likely geo-technical conditions (in the process of project preparation). It is also good practice to share the risk and/or limit the risk exposure to the private partner. Provided the information on geo-technical conditions allows the authority to create a reasonably sound estimate of the conditions, this is the kind of event where the likelihood of the unexpected might be low but the potential impact

may be extraordinary. Therefore, the private party will either not bid or build in extraordinary contingencies regarding price, which will not represent Value for Money. Best practice includes the definition of a baseline of geo-technical conditions which will be used to assess the materiality of adverse conditions that entitle the private party to financial relief or compensation.

Another risk that may be included in this category is the removal of contamination and/or hazardous materials. In some projects, the site may be affected by contamination and/or hazardous materials that lie on or under the project site as a result of previous use. Contamination or hazardous material risk (or risk of decontamination of land) is usually treated in the same way as similar risks (for example, archeological, environmental) by being subject to previous assessments and tests. The risk of having to decontaminate the ground or the site and handle hazardous material disposals is usually borne by the private partner, but it may be a sensible exception in projects where this risk may be significant.

Latent Defects

There are projects where the site is already available for constructing the asset. In other cases, the asset may be already built and the object of the PPP is to expand or upgrade it (for example, the extension of an existing road, the upgrading of a road to have more lanes, refurbishment of an existing hospital, and so on).

The risk of latent defects (that is, defects in the site or in the very infrastructure as previously built and maintained) should be assumed by the private partner only when meaningful information is available to enable prospective bidders to investigate and assess the asset condition before submitting the bid.

It should be noted that in some sectors/types of projects where this risk may be highly significant for its environmental implications (for example, for power plant rehabilitation or expansion of hazardous waste treatment), the government will commonly decide to retain the existing environmental risks.

The rationale of this risk allocation is that life-cycle risks are an essential element of the overall risk transfer and general scope of a PPP.

However, when there is inadequate or insufficient information, it is good practice to share this risk to some extent by limiting or capping the exposure of the private partner. This is based on the principle of unforeseen events and materiality or significance. If a defect arises and was not reasonably foreseeable according to good professional practice, and as long as it has an adverse significant impact, this will be shared or partially compensated by the authority. It will be treated as a compensation event in the contract.

When this risk is entirely allocated to the private party, the authority should transfer the rights for claiming against previous contractors (when available), or it should otherwise commit to take the necessary actions to claim against previous contractors and grant the potential compensation received to the private partner.

Archaeological Findings¹⁰⁷

Archaeological findings may cause significant impacts in terms of project cost and time.

- They may severely affect the project if, for example, a change in the route is necessary;
- They may require works to preserve, protect, or relocate the findings; and
- The works will be paralyzed until a detailed assessment is done, which may cause great delays (as long as the finding impacts the critical path of construction).

When archaeological findings are a significant risk at the particular project site, it is essential that the authority develops archaeological site studies (archaeological maps), including digging tests, in the course of its preparatory activities (see chapter 4) so as to anticipate as far as possible the occurrence of construction-adverse findings.

The allocation of the actual risk of the such an occurrence that is, findings that were not anticipated or unanticipated impacts of such findings (for example, it being necessary to deviate the route of a road), varies significantly depending on the country practice and legal framework.

- It is common and good practice that the private partner is exposed to some extent, even if it is limited, to those risks. The risk is, above all, a time related risk (that is, potential delays in construction), and may be significantly mitigated by means of proper management of the construction schedule; and
- It is also good practice that risks with severe impacts on the project — as long as they were not anticipated in surveys or other information available — are taken back by the public party, at least under a shared risk mechanism. For example, granting relief with respect to time delays beyond a certain delay period. This should be done on the basis of a baseline of conditions or linked, to some extent, with objective information so as to assess whether a risk was, or was not, a foreseeable event under good diligence and good practice.

This may also apply to findings related to some environmental concerns (for example, endangered species).

This risk is usually passed through the contractor, but it is not infrequent that the contractor does not accept back-to-back transfer of the risk for unforeseeable findings.

¹⁰⁷ Other names used for the same risk or included in the same concept are cultural heritage and fossils.

Utility reallocation

This refers to the risk of utilities being in a different place or requiring more work than anticipated.

This risk is generally borne by the private partner. However, as in the case of environmental and archaeological risks, it is essential that the public partner mitigate the risks by investigating and assessing utility locations in advance of the contract tender.

In some contexts, especially for transportation projects in urban areas, this risk may be significant if the information on utility locations and physical state is not obtained and accessible. In these cases, it is not uncommon to share or limit the risk exposure of the private partner.

There are also other potential risks that may emerge during the Construction Phase: force majeure, changes in law, changes in services, and termination are explained in a specific heading below, as they may affect or emerge in both phases of the contract.

1.2 Describing Main Risks during the Operations Phase and Potential Allocation

1.2.1 Revenue Risk – Demand or Volume Risk¹⁰⁸

Demand risk transfer should be always be considered with caution. Significant transfer of the risk, with no mitigation or sharing mechanisms, should only be considered when boosting demand is essential to the success of the project from the government's perspective (see section 4.9). Another general rule for deciding the allocation of use/demand is the scope of the project. If the essence of the PPP is to operate institute tariffs or collect tolls, some exposure to risk should naturally be included in the contract. However, if the contract does not provide the necessary tools for managing the demand risk (basically, the ability to influence the management of the service provision to the user), the risk should not be transferred.

In social infrastructure projects, higher use of the facility is generally not a natural policy objective and volume/use risk should be removed from the contract.

In transport projects, if the transport service to the user is not included in the scope of the contract, but the contract relates only to the infrastructure, transferring demand risk does not provide Value for Money.

When the project contract is designed on the basis of user payments, it is understood that there is an explicit intention of the government to charge users, so the higher the use (the demand for the service) the better is the outcome¹⁰⁹.

¹⁰⁸ This may also be referred to as usage risk.

¹⁰⁹ However, there may be situations where user payments are considered as a source of funds for the project, but where maximizing the use is not the highest priority of the authority (for example, some

An example is a road conceived to attract users from toll-free alternatives to lower congestion. In such situations and in general, when the higher utilization of the asset is a strategic objective for the government, demand risk should be transferred. But caution should be taken if the risk assessment evidences that uncertainty is highly significant. In such contexts, it is good practice to establish risk-sharing mechanisms, such as minimum traffic (or minimum revenue) guarantees in user-pays projects, or a system of bands in volume-linked payment mechanisms (see section 4).

In public transport projects, assuming a vertical integrated approach (i.e. service to the user is included in the scope of the infrastructure DBFOM), it is clear that higher utilization is a success in terms of public strategy. However, providing the public with a safe mobility option is essential. Most of the best PPP structures for large integrated transport infrastructure PPPs are based on a mixed revenue regime. Part of the payments are linked to volume/actual use, but with volume risk being tempered with a portion of payments based on quality or availability¹¹⁰.

Demand risk may occur in a contradictory form: the higher the demand, the higher the risk. This happens in projects where the revenue is based on availability. In such contexts, a volume of use higher than anticipated by the government, in terms of the design of the facility, may seriously impact the service quality or even the availability. A compensation mechanism should be established in these cases so as to restore the economic equation of the project contract. This can be done by including in the payment mechanism a portion linked to the use of the service or other measures.

When limiting the private partner's exposure to volume risk, the contract should provide access for the authority to the upside if demand is greater than expected.

Subsets of demand or volume risk: competing facilities and network risks

The common cause of lower demand is an economic down-turn which as a general business risk should be borne by the private partner. However, lower demand may also depend on competing facilities, network risks, or other subtle risk events.

If a competing facility promoted by the authority (or by the government in general), which was not announced or planned at the time of the tender, causes a down-turn in traffic compared to previous projections, this is commonly (or

dynamic tolling aimed to manage traffic congestion). Therefore, the authority may decide to remove the demand risk and assume it by structuring the revenue regime under an availability payment scheme.

¹¹⁰ In some light rail schemes based on volume payments, the risk is also shared by a system of bands as in some shadow toll roads. For example, this is the case for a number of light rail transport (LRT) PPPs in Spain.

should be) considered a retained risk event. Competing facilities are the clearest case of network risks¹¹¹ that should be taken back by the authority.

An example of a subtle network risk is the risk related to traffic light priority in light rail transport (LRT) projects. Usually, a government will grant priority at intersections and traffic lights for the LRT vehicles to maintain the commercial speed levels as prescribed. So when the mobility authority does not provide traffic light priority to the light rail and this affects the commercial speed, the private partner should be given relief from punctuality obligations and an excuse for certain payment deductions.

1.2.2 Revenue Risk – Tariff Levels (only in user-pays PPPs)

In the context of user-pays projects (for example, a toll road, a rail project including service operations, or a water PPP including water supply to the public), revenue risk includes the risk of the charges to users not being at the anticipated level in each particular year. This may cause either a lower or higher than expected income.

When assessing the risk, it should be noted that price volatility will also affect volume risk, so lower levels of tariff may not necessarily result in lower revenues or vice versa.

The tariff or price of the user charge in user-pays projects may be unilaterally fixed by the authority or set by the private partner, usually under certain caps and predetermined rules for indexation.

In the first case, the risk of price variations different from those expected should, in all cases, be assumed by the government. One common approach is to define a baseline for tariff levels in the contract, including a defined profile of the tariff with an indexation method “in the shadow” (for example, the consumer price index – CPI). This is done to calculate the loss or the extra profit by comparing the baseline curve and the actual tariff. This has the complexity (especially in transportation projects) of considering elasticity of demand, as a lower than expected actualization of tariff will produce a loss in revenues. However, this may be partially corrected by a potential increase in use/demand due to the lower price.

The principle is that regardless of the actual tariff settled on each year for the user-payment, the private partner receives the same amount per user. This is done through a settlement mechanism whereby the government pays the difference between the actual revenue and the deemed revenue (calculated by applying the shadow tariff). Conversely, it can receive a payment from the private partner when the actual tariff is above the baseline tariff curve.

¹¹¹ For a definition and deeper explanation of “network risks”, see Partnerships Victoria (*Risk Allocation and Contractual Issues*, 2001). Other examples of network risk, according to Partnerships Victoria are when a government agency controlling bulk water distribution may be unable or unwilling to supply raw water to the PPP water treatment facility in the necessary quantity or quality. A more abstract example of network risk is the risk that government will enter into other arrangements for accommodation services competing with those supplied under the contract.

This mechanism works well in projects where the demand is highly or totally captive, especially when the fare levels are subsidized or clearly below the maximizing revenue level (for example, for public transport or water supply).

When the private partner has the ability to set the tariff, even if this is capped (for example, usually in road projects and always in rail projects), the certainty of the tariff level is high, and the private party should bear the risk of different tariff levels impacting on the revenue as projected.

The fundamental point in these cases is to make clear in the contract the methodology for increasing/reviewing the tariff during the course of the contract, which refers to the indexation issues described below.

1.2.3 Revenue Risks – Fraud and Collection Risks (only in user-pays)

Fraud may be considered a subset of volume risk in user-pays PPPs when considering volume as the level of demand that effectively pays for the service. Fraud is commonly used to refer to willingly avoiding payment, whereas collection risks include non-payment when the payment may be or become unaffordable for the user.

Fraud risk is very relevant in public transportation projects. When a transport PPP includes transit operations, the private party should bear the risk to some extent, as it is the party that is best positioned to manage it. In this context, it can mitigate the risk by access and ticketing controls. The private partner will have a natural incentive in those projects to diminish fraud when it is receiving the user-revenue. However, many Metro and LRT projects are structured around availability and/or quality payments. In these cases, the government should include in the availability criteria, one related to fraud management, so as to explicitly incentivize the private partner to control fraud.

When the nature of the risk is more significant because the design of the vehicles (if the basic design or full design is prescribed – for example, open vehicles), it is not uncommon to limit the risk so as to share it against a fraud benchmark (for example, fraud above 5 percent will be shared at a 50 percent level, whereas fraud above 10 percent will be considered extraordinary and provide full compensation above that threshold).

In toll road projects, fraudulent use of the road (not paying for the use) is rarer. However, this has recently become more of an issue with electronic tolling technologies where the payment is made ex post. In this case, users may refuse to pay, claiming insolvency or simply deciding not to pay.

In these contexts, and also in general for any user-payment scheme, there should be clear instruments in place to apply fines to the defrauding user or other methods of enforcement (withdrawing the driving license, cancelling the water supply service, and so on). These are very sensitive matters, and there may be limited political willingness to enact certain measures. When those are not practical, the general statement of transferring fraud risk to the private partner should be carefully revisited.

1.2.4 Private Perspective Only – Revenue Risk – Government-Pays Counterparty Risk

In government-pays PPPs, the risk of default by the authority is obviously a private side risk inherent in the strategic decision of investing in a particular country market or in the projects promoted by a particular authority. We basically refer here to credit risk.

This is more an issue in sub-sovereign PPPs.

As a general statement, especially in emerging market and developing economy (EMDE) regions, for sub-sovereign PPPs, especially those of a government-pays type, it is good practice to provide some “wrap” mechanism (that is, a credit enhancement) from the central government to ensure access to the investors market (for example, Letters of Credit, guarantee by the treasury, and so on).

The private partner will also have the chance to contract political risk guarantees (such as with the Multilateral Investment Guarantee Agency [MIGA] or private insurers) and other mechanisms from Multilateral Development Banks (MDBs), such as partial risk guarantees to cover the debt to be raised.

In general terms, an authority should only tender out and enter into a PPP contract when an affordability test has been passed satisfactorily. In addition, the framework should provide clear rules for reporting and accounting for PPP commitments.

The contract should describe clearly how a private partner has the right to unilaterally terminate the contract early when the government is not paying as agreed. This should trigger the right to claim for the full outstanding amount invested, plus damages and losses, to compensate for any costs caused by the termination (for example, costs of breaking hedging agreements, demobilization costs, claims from contractors and subcontractors, and so on) plus the opportunity cost (see section 9).

1.2.5 Revenue Risk - Inflation and Indexation

Inflation, when considering not only revenues but also costs, is a two-sided risk: higher inflation affecting costs will result in lower operational margins. However, provided that it is neutralized by a revenue indexation mechanism, it may result in higher nominal cash flows to debt service and to shareholders, increasing the equity internal rate of return (IRR) in nominal terms.

Inflation risk refers to the risk of the value of payments received by the private partner being eroded by inflation. If inflation is not captured in the payments, the real value of the revenues will be significantly eroded when inflation is higher than anticipated, which may be exacerbated by cost inflation resulting in lower operational margin.

Inflation risk should be a shared risk, with the authority providing protection to the private partner by indexing (to some extent) the payments to CPI (or another price benchmark).

The private partner will assume the risk that the indexation mechanism, established in the contract does not effectively protect the private partner's cash flows. This may be because cost inflation is higher than expected, and therefore not neutralized by the indexation mechanism, or simply because the CPI movement (as captured by the indexation) differs from what was anticipated — also eroding the expected nominal value of the operating cash flows.

This risk is generally borne by the private partner, as the private partner can manage the cost inflation risk by transferring it to the contractors, fixing or limiting the price of the O&M tasks, or linking it to an inflation index correlated to the index applied by the authority in the PPP contract. The potential impact of (lower than expected) inflation in the cash flows available to debt service is also manageable by defining the percentage of debt that will be priced at fixed interest (for example, by Interest Rate Swaps). It is also possible to contract inflation swaps at a cost.

This general rule may have some exceptions described below ("O&M cost risks").

When the project is user-pays, the risk of inflation may be transferred to the user (considering affordability issues and willingness to pay) as long as the private partner has some ability to revise the toll (or tariff). When inflation moves above the limits set out in the contract for indexation of the tariff levels, the risk is borne by the private partner.

Strictly from the standpoint of the authority, inflation risk exists when the payment (in government-pays) is linked to inflation and to the extent it is linked — higher inflation means higher payments in nominal terms.

How to define the indexation mechanism

Any PPP requires a clear set of rules to index the payments to capture the natural movement of inflation in terms of cost and price of services.

Provided it is clear how indexation to the CPI (or a similar benchmark of price) provides Value for Money, the question is to what extent the payments should be linked to inflation to avoid overprotection of the inflation risk. Section 4.10 provides additional information on this issue.

1.2.6 Third Party Revenues and Ancillary Revenues

When the mix of future revenues includes revenues coming from third parties or produced by ancillary businesses, the risk of those revenues being lower than anticipated is generally allocated to the private partner.

1.2.7 Availability and Quality Risk (and revenue risk from the private perspective)

This risk refers to the risk (especially from the public perspective) of the infrastructure not being available to use and/or not meeting the quality or expected performance levels. This risk is borne by the private partner as it is the essence of the PPP objectives. The mechanism to transfer the risk is the payment mechanism (in government-pays) which allows for reductions in the payments to the extent that the private partner is failing to meet the requirements, including the ability to step in or ultimately terminate by default (see sections 8.2 and 8.3). In user-pays, the risk is transferred by means of explicit penalties (or Liquidated Damages (LDs)).

From the private partner's perspective, this is therefore a revenue risk which is reallocated to one or several contractors (passing risk and reward through the contractual structure – see appendix 6A).

From a public perspective, there is no revenue/payment risk as the payment mechanism is built to be paid as long as the service requirements are met. Payments will be accordingly reduced when the service requirements are not met in order to keep the Value for Money equation duly balanced.

However, the public partner should also be concerned by the risk of revenues being affected by unavailability or service breaches. This is not only because the objective is to prevent this occurring, but also as large deductions from payments may drive the private partner to insolvency and finally to bankruptcy.

The government should not explicitly mitigate the risk of lower payments due to lack of performance, but it should be cautious to set up realistic and achievable (while challenging) performance criteria (see section 8.2 and 4.10).

1.2.8 Maintenance and Renewal Risks

Maintenance risk may refer to the risk of improper maintenance resulting in a lack of performance, which is implicit and covered in availability and performance risk analysis.

But maintenance risk also refers to the risk of higher costs for maintenance operations and plans (including current maintenance and life-cycle costs). This is the focus of the risk in this section.

This is also a general and natural risk to be allocated to the private party, as the maintenance obligation is a core element of any PPP contract scope.

The risk may correlate with the design risk, as improper design may lead to higher maintenance costs, especially major maintenance and renewals (life-cycle costs), which is a risk generally transferred by default to the private partner.

The risk also refers to the life-cycle management which is a specific feature of PPPs. In this sense, not only can design influence the life cycle of the

infrastructure, but also renewals and major maintenance. These should be handled in advance through adequate planning (programming the cycle of renewals so as to avoid, as much as possible, interruption of the service or its availability), including the financial planning. Financial planning of major maintenance is a paramount factor of proper PPP management to avoid the unexpected unavailability of funds. For this purpose, it is good practice to incentivize in the contract the pre-funding of the maintenance works by creating specific reserves. This is also a concern for the lenders who will usually request a financial plan of maintenance works and the creation of contingency funds for unanticipated needs.

Lastly, the risk refers to ordinary maintenance costs (ad hoc small repairs, restoration of painting, recurrent cleaning, and so on). Some ordinary maintenance tasks are confused or overlap with certain services and other cost concepts that may not be considered as maintenance, but which may also be included in the maintenance concept.

Those works related to "soft services", especially in the context of social infrastructure, but also in some transportation projects (for example, catering), are explained below (see "other operating costs"), as well as some cost items that may require a specific risk allocation treatment, depending on the relevance and uncertainty surrounding the specific cost item. These are insurance costs and utilities costs.

Ordinary or current maintenance is handled by the private partner by passing through the risk of cost deviations to the maintenance contractor (which may be the same company or group of companies that handle the operations). Hard maintenance, in the sense of major maintenance and renewals, is a risk that may also be transferred to the maintenance contractor, or it may be retained or shared by/with the SPV, depending on the risk profile of the project.

1.2.9 Other Operating Costs

General project company costs

General company costs include the permanent staff of the company, which is usually more of an administrative center with limited personnel. For instance, it could include staff to manage the finance of the project and interact with the procuring authority and the lenders.

These costs include the current costs of the headquarters of the SPV and administration costs, such as accounting, financial, auditing, and so on. The most relevant current costs are allocated into the contract structure and passed through to contractors or second-level SPVs that handle operations and/or maintenance.

The cost of the performance guarantees may also be considered here.

The risk associated with these costs is always borne by the private partner.

Utility costs

Utility costs, especially electricity/energy, as costs of the project (that is, costs necessary for, and directly linked to the service) are very significant, especially in rail and water projects, but also in facility-building PPPs.

This risk can be difficult for the private partner to control and manage, but by default, the general allocation is to transfer the risk to the private partner as an incentive for the private partner to manage the risk by negotiating appropriate arrangements with utility suppliers.

A shared approach may be considered in specific projects and contexts, basically when the utility cost item has a significant weighting in the O&M cost composition, and where volatility of the energy market is very significant. This avoids the private party building exaggerated contingencies into the service price that will not provide Value for Money.

In these cases, it is not uncommon to moderate the risk through a risk-sharing approach that may cap the total cost to be borne by the private partner, share extra costs above a threshold (and share upsides due to cost decreases), or a combination of the two.

The public partner should also analyze whether it can secure better terms by negotiating directly with utility providers. For example, the government may be able to secure lower pricing than the private partner due to the government's ability to negotiate on a whole-of-sector or whole-of-government basis.

In some Design-Build-Finance-Manage (DBFM) PPPs in which the infrastructure is operated by the public sector (for example, a high-speed rail [HSR] system where the government remains as the administrator of the traffic system and/or the trains are operated by a state-owned enterprise [SOE]), the utility consumption is largely determined by the public sector's operating activities. Therefore, it may be appropriate for the public partner to bear the entire utility cost risk, or to bear the risk of utility consumption departing from pre-agreed levels.

Soft services

This cost concept is generally relevant in social infrastructure projects, and it refers to services such as catering, cleaning, waste disposal, and others. For these services the risk of cost deviations that are not corrected or compensated for naturally by the general indexation adopted for the service payment is higher than for conventional maintenance costs.

This is due to the more specialized profile of the service providers and the higher volatility of this market in terms of labor costs, as well as the volatility of certain inputs (for example, food in the catering service, which may be significant in a hospital PPP or a school PPP).

As with any basic cost item related to works and maintenance, this risk may be handled by the SPV passing it through to an operator together with the obligation to render the service. However, soft service providers are more reluctant than other more conventional operators to accept long-term commitments in terms of price.

When there is strong evidence in the specific market of the inability of the private partner to manage this risk by transferring the cost variation to a contractor in the long term, the authority may consider risk sharing by means of market tests or benchmarking (see section 4.10¹¹²)

Insurance costs

This risk refers to the risk of the price for the insurance developing in a different way than anticipated, such that it is not compensated for by the indexation of the service payment.

The most extensive approach worldwide is to transfer the risk to the private partner. However, when the cost item has a significant weighting (which will depend also on the insurance requirements defined in the project contract), this risk may be shared by the public partner. This may happen when and to the extent that the insurance costs become significantly different from what was reasonably expected. This is done under a benchmark type of approach.

The benchmark curve or baseline curve of premiums, against which the divergence of the actual cost is assessed, is built on the basis of the actual cost of premium contracted at the inception of the project, together with the assistance of advisors, so as to agree on the final benchmark. The benchmark will usually be indexed by the general CPI, and when the actual cost of the insurance premium diverges by more than a certain percentage (commonly in a range of 50 to 100 percent), the private partner is entitled to claim compensation equal to the extra cost above the threshold. Conversely, when the actual cost is symmetrically below the threshold, the public partner will have the credit for the unexpected benefit.

These type of provisions are complex to implement and require specialized insurance advice. Insurance premiums may suffer deviations related to the performance and/or the credit standing of the project company, its shareholders, or

¹¹² Also, *Standardization of PFI contracts, Version 4* (HMT 2007) provides a detailed explanation of market testing and benchmarking as alternative tools to deal with price/cost variations on services.

the contractors. Therefore, this effect should be excluded from the risk-sharing mechanism to the extent possible.

1.2.10 Technological Obsolescence and Technical Enhancements

Technological obsolescence risk refers to the risk of certain equipment becoming inadequate for the purpose of the service — or the service becoming poorer in comparison with more recent services being provided in the course of the project. When the private partner is exposed to market risk (competition for the service), this risk shall be generally borne by the private partner who will have a natural incentive to implement changes in technology.

An example of this may be found in a HSR system where the government remains as the administrator of the traffic system and/or the trains are operated by a SOE. It would have the obligation to implement new technologies even when the enhancement is not prescribed by law or sectorial regulation. This should be subject to those new technologies being common practice and tested in other projects. It should not change the nature of the service being provided, but effectively be a new and better option to provide the same service with more reliable results or higher effectiveness and service quality.

This general statement of transferring this risk to the private partner should be subject to cautious judgment when structuring and designing the contract. This allows for the consideration of exceptions or caps in the risk exposure when the financial impact is material, especially if the contract term is advanced and close to the expiration of the term.

When it is unclear how to define whether the technological advancement is or is not a common practice or new "de facto" standard, and when there are doubts about the value added by the enhancement as well as the perception that costs will be considerably higher, the most appropriate approach will be to treat these situations as a general change in service requirements or change in works. It is common practice to request the enhancement only when the respective asset or component of the asset is to be replaced or renewed as scheduled in the life-cycle plan.

When a replacement/substitution of equipment is a legal obligation that was not possible to anticipate at the time of the contract execution, and this adversely impacts in a material form the financial equation of the project, it is good practice to establish a financial relief mechanism in the contract so as to share and limit the cost impact (see "changes in law" below). Regulatory standards may vary over time and the risk as perceived by the private investor of such changes should not prevent a government changing and improving regulatory requirements in its search for higher efficiency and/or safety and public interest in general, and applying these to existing projects.

However, it may be appropriate to limit or share the risk of the replacement, renovation, or substitution of equipment and any other cost due to a regulatory technical enhancement requirement — unless the enhancement is a wider matter affecting the general economy and any type of business.

A last consideration is that the service requirements (including potential requirements to change equipment so as to adapt new technologies) should not be changed capriciously during the course of the contract. When not specifically regulated in the contract, any change in the requirements requested by the public partner should generally be deemed as a change in service or change in scope of works (see below).

1.2.11 Other Costs – Taxes

The risk of the taxation framework changing during the course of a contract is generally borne by the private partner when referring to taxes that are part of the common business environment, with exceptions.

In some contexts, a value-added tax (VAT) may be an exception to the general rule, and payments under the PPP contract will be adjusted to reflect the impact of a change in the tax. The private partner in the PPP may otherwise be unable to pass the impact of a change in the tax on to its customer (the government), unlike other businesses that can (and are expected to) pass on the impact of a change in the tax to their customers.¹¹³

One specific area of concern is when there is material uncertainty as to what is the tax treatment for a specific project in relation to some potential taxable events, and the requirement or demand by many investors and lenders for a binding tax ruling. As stated in some international guides (for example, Victoria Partnerships), it is uncommon that tax authorities provide for a binding tax ruling in advance of the project contract being executed. This risk may be mitigated by the procuring authority asking for a non-binding ruling or encouraging and supporting bidders in doing so.

In some projects around the world, it can be seen that authorities assume the risk of a change in the tax ruling. This is an area where, as in a number of others, there is not a consensus on what is the right allocation, as the authority is not in control of the tax-setting body, and even the latter may not belong to the same government (for example, municipal taxes in a central government project or supra-national tax rules that affect some countries, for example, certain European Union [EU] regulations on EU members).

1.2.12 Residual Value/State of the Asset at Contract Expiration – Hand-Back Requirements

When, as is commonly the case in most PPPs, the asset will be "handed back" to the authority at the end of the contract, this should be done in an appropriate physical state. The authority should not be exposed to the risk of the asset having a short remaining life, a low residual value, or being in an improper technical state. The contract should clearly define what technical state the asset has to meet at the contract expiration date within the hand-back requirements/specifications.

¹¹³ See *Risk allocation and Contractual Issues* (Victoria Partnerships, 2001), section 15.10 "Particular Areas of Law".

This risk is borne by the private partner, but taking into account that the hand-back will happen at the end of the contract (unless terminated early, in which case the provisions are specifically provided in the contract), the partner may have less incentive to properly manage the residual value risk so as to meet the specified standard. The mechanisms to handle this risk in the contract itself are explained in chapter 5.8.9.

1.3 Financial-Related Risks and Potential Allocation

1.3.1 Financial Costs

Financing the asset is an essential obligation in a PPP, and the risks of availability and cost of the financing should generally be borne by the private partner (with the exception and to the limit established in the contract in those projects under a co-financing scheme – see chapter 5.4).

Changes in interest rates may affect the costs (increasing investment costs by higher interest during construction (IDC) or increasing current costs during amortizations). The volatility of the interest rates may be handled by the private partner contracting hedging products such as Interest Rate Swaps (IIRs) and therefore should be borne by the private partner.

However, it may not be possible to control or manage the risk of interest rate variations between bid submission and financial close by any means (to contract insurance to cover this risk would be a significant stranded cost for an unsuccessful bidder). For this reason, it is good practice for the procuring authority to retain that risk, or share or cap it, especially in government-pays projects where the service payment is recalculated at financial close to neutralize the positive or negative movement of the interest risk (the base interest risk, that is, the cost of funds to the lender, rather than the margin to be applied).

Another issue is related to refinancing. When refinancing is an option (for example, a mini-perm strategy – see chapter 1.7.2), the risk of refinancing is commonly assumed by the private partner, but it is also not uncommon (or even an standard in some countries, for example, in the United Kingdom [UK]) that the government takes part of the potential upside. However, in some EMDE countries where a refinancing strategy may be a necessity (as the maximum debt term available from the outset may be too short), governments should consider the option to share downside risk of refinancing in order to help commercial feasibility and bankability.

1.3.2 Availability of Finance

There is a risk of funding not being available at financial close or only being available at a significantly worse price (margin and fees) and conditions (including debt service cover ratio [DSCR] or maximum term) than anticipated. This risk is generally to be assumed by the private partner.

However, governments should proactively work to mitigate this risk in advance by doing a proper appraisal (including market tests as described in chapter 4).

In some countries and circumstances, this may be handled by requesting that finance be fully arranged in advance of the bid submission. This is not realistic in EMDE countries, and it should be noted that generally this also has the danger of decreasing the competition if existing availability is limited. This is because lenders will then likely work on an exclusive basis with a bidder, or the government may consider this necessary to preserve the integrity of the bidding process¹¹⁴.

Another way that governments, especially in EMDE countries, can mitigate that risk is to provide access to financing provided by public financial agencies and/or by negotiating in advance with MDBs to grant or prepare the availability of multilateral financing for the successful bidder.

In some countries and in specific projects, governments are assuming the entire risk of financing through a directly managed funding competition.

1.3.3 Unexpected Needs for Funding

Generally speaking, the project company has to adequately plan its financial needs, building up in the financial plan the necessary contingent funds. Reserves for renewals and major maintenance have already been mentioned. Another common reserve, as requested by the lenders, is the debt service reserve to meet unexpected shortfalls in cash flows.

One area where the risk of availability of additional funding should be carefully considered so as to mitigate the risk for the benefit of the private partner relates to potential funding needs for unexpected events that are compensation events. Events such as force majeure, or a change in scope of the works, will likely require an additional investment. It is common practice that the contract establishes the obligation of the private partner to finance a loss even in a compensation event, receiving the compensation by means of a rebalancing (for example, increasing the service payment amount). See section 8.4.

Lenders are not in a position to grant access to additional funding in advance. However, there are exceptions in limited circumstances and for a limited period of time (for example, during construction, granting a contingency line of finance), but it is always at a cost that may not provide Value for Money. Financial investors are also affected by severe restrictions that can prevent them from having available funds for potential needs that may or may not materialize.

In such instances, it is good practice that the contract provides for the flexibility of the private partner to potentially demonstrate that the funds are not available, or that the obligation to raise the additional funds is only on the basis of best efforts.

¹¹⁴ Chapter 1 contains a discussion about this matter in “Requiring financial package up front or Requiring financial package up front or allowing for post-award negotiations”.

1.3.4 Refinancing

Generally, refinancing is not considered a downside risk but an upside benefit. When the project performs well, the private partner will have the ability to renegotiate the debt on better terms or refinance the debt, including an increase in the debt level so as to amortize share capital early (“recap”). Even if the project is performing simply as anticipated, there is likely to be an option to refinance since the risk profile will improve by entering into the Operations Phase.

Although not common worldwide, a number of countries, especially developed countries, introduce provisions in their contracts so that the authority has access to a portion of the refinancing gains. When a government wants to reserve for itself access to the refinancing gains (usually by a decrease in the service payments, although sometimes by means of an upfront payment), it is not common practice to request more than 50 percent of the upside. Chapters 7 and 8 provide additional information on this matter.

Refinancing may also be an adverse risk when the financing strategy of the private partner relies entirely on refinancing: instead of financing from the outset on a long-term basis, the project company enters into a short-term debt (typically under a “mini-perm structure”) with the intention of substituting that financing with a long-term financial agreement (maybe in the form of project bonds when the development of the country-market allows for this). In such situations, there is a risk of refinancing being under worse (or much worse) conditions than anticipated in the financial plan.

This risk should be generally borne by the private partner, to the extent that it is free to decide its financial strategy.

Only in exceptional cases should governments also assume the risk (adverse consequences) of a refinancing. This should only be considered when there is a clear prospect of it being Value for Money, and it has been established in advance that there is no direct access to long-term financing for the specific project (which should have been duly appraised during the preparation of the project). This may be the case of some EMDEs, as noted.

At this point, the government may be interested in sharing the risk of a failure in refinancing (for example, by providing guarantees to the lenders in case the refinancing does not succeed).

This practice implies a high risk in the hands of the public sector, and it creates incentives for speculation by the private party. Therefore, it should be carefully considered in developed countries or in countries where the financial market provides for access to long-term finance.

1.3.5 Transfer of Shares/Changes in Ownership

This risk refers to the risk for the public partner of a worsening in the performance of the project if the new shareholder (when there is a change in control) is not as capable as, and does not have the capacity, of the original partner.

It is common practice to require the private partner to obtain the government’s prior authorization for a change of control, while changes in shareholdings that do not

affect the control of the project company are sometimes (in some countries) only subject to prior communication, which is good practice¹¹⁵.

This risk is perceived by the private partner (the sponsor in this case, or original shareholders) in a different way: industry developers and financial investors require some level of flexibility so as to access liquidity. Therefore, they will expect to have a reasonable ability to sell their equity position to a third party. This is usually sought after construction and some period of operation (so as to consolidate the value of the project).

It is good practice that a contract provides for a flexible but controllable ability to dispose of and sell the shares to a new investor (at least after the construction period), trying to look for the right balance between the public service concern and the commercial feasibility of the PPP transaction.

1.4 Describing other Risks that Affect or may Occur in Both Phases of the Contract, and its Potential Allocation

1.4.1 Changes in Law –Specific and Discriminatory Changes in Law

The risk of changes in law refers to the risk of changes that may affect the project outcome, impacting on the costs (capital costs by means of new investments) or current operating costs (higher maintenance costs or higher operating costs).

Law is broadly defined for this purpose as laws, regulations, and government policies.

As long as the change in law affects any business, the risks should be generally assumed by the private partner¹¹⁶.

However, there may be changes in specific laws that do not affect the general course of any business, but only the specific sector in which the project company operates (for example, public transport, roads, and so on). These are generally known as specific changes in law. When a change in law is considered a specific change in law¹¹⁷, there are a wide divergence of practices¹¹⁸.

Moreover, there may be “discriminatory” changes in law specifically addressed to the project company. When a change in law is considered discriminatory, full compensation should be provided to the private partner.

¹¹⁵ Chapter 0.7.3 provides more information about this matter.

¹¹⁶ Some countries (including developed countries, for example, the UK) in some circumstances also share the risk with the public partner under the same scheme explained for specific changes in law, when these are unforeseen and related to or materially affecting capital expenditure (Capex) investment. Also, in EMDE countries in an early or immature stage of PPP development, it may be sensible to retain or share “general change in law” risks during those early stages of development of its PPP programs.

¹¹⁷ Mandatory technological enhancements are a subset of changes in law and usually will refer to specific changes in law.

¹¹⁸ Even discriminatory changes are dealt with in different manners in some countries. For example, the Private Finance Initiative (PFI) contract standards (version 4, 2007) in the UK also considers discriminatory changes adequate for shared risk treatment rather than providing full compensation.

This PPP Guide considers it good practice to take back the risks of specific changes in law as long as they are significant in terms of consequences or impact. A good common approach is to share the risk — but always provide a cap in the overall exposure of the private partner, so the risk is quantifiable.

For example, the first x percent of the risk impact of a single event may be borne by the private partner. Beyond that threshold, the contract may establish that the parties will each assume 50 percent of the impact up to the upper limit of the risk, which may be defined in a y percent of cost deviation.

In addition, it is common and good practice to provide for an overall cap as a sum of the impact of all potential events, and established as a percentage of the original investment or an absolute figure.

Caution should be taken in order to avoid double paying for the service. For example, if a change in law requires replacement of an asset (for example, metering systems in water supply), the cost should be calculated as the difference from the estimated cost of any planned renewal of that asset.

1.4.2 Changes in Service/Scope of Works

Setting aside the potential limits established by the procurement regulations in a number of countries, changes in scope of works (changing the design prescriptions) and changes in service requirements are always a risk event to be allocated clearly to the public partner.

This is one of the areas of risk where it is clear that the contract should not just state what the risk allocation is, but should also contain clear and transparent provisions governing how the process will be handled in the case of a change occurring, including how the price or cost will be defined and how compensation will be granted.

Chapters 7 and 8 explain this matter further.

1.4.3 Force Majeure

Force majeure has been introduced in this chapter (see section 5.6).

As described in the referred section, force majeure may have different meanings (and therefore a different scope in terms of events included within the category or general term) in different jurisdictions, and it may even be a legally defined term of direct application to PPP contracts (especially in civil code countries where the administrative legal corpus regulates the procurement and public contracts).¹¹⁹

Relying on the French code and tradition, which is in this respect quite consistent with international regulations, to be regarded as a force majeure event (and therefore

¹¹⁹ *Public Private Partnerships in Infrastructure Resource Center* (PPP IRC) provides an interesting description of the variety of approaches to force majeure definition and advises on how to incorporate the concept in the PPP contract. <http://ppp.worldbank.org/public-private-partnership/ppp-overview/practical-tools/checklists-and-risk-matrices/force-majeure-checklist>. See also *Termination and Force Majeure Provisions in PPP Contracts produced by Allan and Overy and EPEC (2014), describing the approach in a number of European countries*.

provide relief to the contractual obligations), the event must have the following features.

- Externality;
- Unpredictability; and
- Irresistibility.

All of the definitions worldwide (legal definitions or contract specific definitions) include Acts of God as force majeure events, and many of them include a number of man-made events (war, terrorist activities, general labor disputes/strikes, and so on). This later subset is sometimes categorized as political risk.

No matter how the term is defined (if it is defined) in the respective legislation, the risk events considered force majeure should be carefully considered and defined in every country when dealing with PPPs. A concrete definition, including the scope of events to be covered under the term, should be clearly defined in the contract (or better, provided as a contract standard), or the authority should consider certain events (depending on the project) to be taken back explicitly in the contract (under a shared approach as explained below), even if they are out of the scope of the general legal definition (if any).

This PPP Guide considers that Acts of God are always compensation events (granting time and money), as are wars and terrorism. Other potential force majeure events are discussed explicitly in this appendix: riots, vandalism, general strikes (though not strikes in the SPV or its contractors or sub-contractors).

Such events, to the extent they are defined under the force majeure category, are clear events for the authority to take them back.

Technically speaking, these are shared risks (a number of the potential events categorized as force majeure in the contract or by law), as the contract will impose the obligation for the private partner to contract out certain insurance policies which will commonly cover some events potentially regarded as force majeure events. This is so that the first loss in such events will be borne by the private partner who, in turn (and as prescribed in the contract), will be compensated by the indemnity claimed under the insurance policy. The risk of the indemnity being accessible is a risk of the private partner, unless the risk has become an uninsurable risk in the course of the contract (see below “uninsurable events”).

The contract (and as far as possible the policies) should establish that the indemnity amount has to be applied to the loss or any impact suffered by the asset or service.

Force majeure risks are not only to be treated in terms of compensation, defining who should bear a loss and when. The contract should also define how to handle the risk of the service not being available during a certain period of time due to a force majeure event, including provision for either party to renounce the contract and ask for an early termination.

When the contract terminates for a force majeure event, a termination compensation sum should be clearly granted by the contract (see termination provisions in section 8.8).

Force majeure events should not be confused with unforeseen events. A force majeure event may be considered an unforeseen event, but not any unforeseen event will be a force majeure event. The unforeseen nature of a risk event is not a risk category itself but is implicit in most of the risks, and as such, it may or may not result in relief or compensation depending on the specific risk event as described or predefined in the contract (for example, archaeological findings in some circumstances, geo-technical conditions, a change in law in others).

A relevant aspect in considering a force majeure event, also applicable to most of the compensation events as defined in the contract, is that the event should not provide undue protection if the private partner fails to behave as expected. For example, if the design requirements specify that the infrastructure should be designed to withstand a one in one hundred year flood, the private party should bear all of the costs resulting from a one in fifty year flood, but it may be entitled to compensation if a one in five hundred year flood occurs.

The contract shall clearly establish that the private partner, as economic owner of the asset, must exercise all of its due diligence to avoid a risk and mitigate its consequences.

1.4.4 Vandalism and Strikes

Vandalism is the risk of intentioned acts against the asset or parts of the asset. Generally, vandalism is a risk to be allocated to the private partner, as it is the economic owner of the asset and as such has the first responsibility to protect the asset's physical and operational state.

However, in some specific projects, this risk is a shared risk. This may be a sensible approach when the likelihood and consequences are of a high level and where the vigilance and protection of the asset against potential acts of vandalism are too difficult or too costly.

Regarding strikes, when these are not general strikes but only affecting the specific project, the risk is also generally borne by the private partner. In some countries, it is common practice also to transfer a general strike risk in the same way.

1.4.5 Insurance Requirements and Uninsurable Risks

A risk originally insurable (at the inception of the contract), and for which a requirement to be so insured has been included in the contract, may become uninsurable during the life of the contract. Unless specifically imputable to the private partner, this risk (of becoming uninsurable) should not be borne by the private partner. Instead, it is good practice that a contract provides for the ability to change the specific insurance requirement or for an automatic waiver of that specific obligation.

A risk may still be insurable but at prohibitive premium. This is usually handled under the benchmarking approach to insurance costs, so that when the total premium exceeds the cap exposure (for example, 100 percent of additional costs above the cost baseline), the authority may decide, at its discretion, to remove the specific risk

insurance requirement. In this case, it should include a payment to the government by the partner of the amount saved (or a deduction of that amount from the payments).

When a benchmarking system for sharing risk of the insurance premium is not in place, the contract should establish at least a provision for specific risks that may be regarded as uninsurable when the premium for the risk reaches some defined extraordinary threshold.

1.4.6 Private Perspective – Early Termination Risk

From the perspective of the public partner, early termination risk is mainly a budgetary risk (in addition to the concern of how the service will be provided after the termination, at least until the private partner is replaced by a new contractor) which relates to the ability to meet the obligation to pay termination compensation when due. Proper risk management for the public sector is to assess this risk and include it in the affordability analysis, before approving the project tender. Good or bad approaches in this sense relate to the framework (fiscal management) taking into account the convenience of having adequate regulations in place to account for and report on liabilities (including, as in this case, contingent liabilities).

From the perspective of the private partner, this risk relates to the potential insufficiency of the termination compensation to meet the financial obligations with third parties and the investors — noting that the expectation shall not be the same depending on the cause of the termination.

Ultimately, this risk is assumed by the private partner as part of its assessment in terms of commercial feasibility under its own parameters.

However, this should not prevent the authority mitigating the risk, as perceived by the private partner, by means of a clear description and definition on how the compensation sum will be calculated in each termination scenario, and when it will be paid.

The risk of the availability of funds to pay for the compensation is a clear risk allocated to the public party. This implies the need for the contract or the legal framework to allow the private partner to sue the government in the case of not paying when due, as well as the clear provision of cost protection against a delay in the payment. In this latter sense, it is bad practice to calculate the accrued interest calculations (in the case of delay) based on "official interest rates" or on a public debt benchmark. Instead, the calculation should take into account the financial costs to be suffered by the project company in its entirety.

Section 9.9 of this chapter deals further with the provisions of termination.