TCT workshops
Key PPP concepts and principles

TCT Headquarters, Belgrade
12 and 13 October 2022
Objectives of the session

1. Introduce PPPs, key concepts, types of PPPs
2. Discuss the “5 case model”, a framework for PPPs
3. Define the “successful PPP”
Contents of the session

1. What is a PPP? Why using PPPs?
2. The “5 case model”, a PPP thinking framework
3. Key PPP concepts
4. Defining the “successful PPP”
5. Some PPP projects from the transport sector
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A public-private partnership is...

- A long-term contract
- Between a public authority and a private sector company
- For a public service
- Focused on outputs rather than project inputs
- With a whole-of-life cycle perspective on project requirements
- Allocates certain project risks to the private partner (e.g. design, construction, operation)
- Uses private financing to underpin the risks transferred
- Private partner remuneration by: user payments (concessions), performance based payments from the public authority (availability payment projects), capital contributions or a mix of systems
PPPs are not...

- **Free** – someone has to pay for the service in the end
- **Just a financing tool** – financing is only part of the story
- **About hiding long-term liabilities** – balance sheet treatment may be a driver but it should not be the only or the main one
- **About dumping responsibilities** on the private sector – not a way to outsource public sector core tasks
- **Simple** – PPPs are complex to put in place and manage and require significant preparation / resources / skills
- **“Deals”** – they are about long-term delivery of a public service
- **A panacea**, they can go wrong...
Why use PPPs? (1/2)

• Improve quality and consistency of public services

• Improve management of risks (e.g. interface between construction and operation)

• Improve visibility and certainty of whole-life costs

• Improve delivery of infrastructure to time and budget

• Encourage innovation in design, construction and/or service provision

• Access skills not available in the public sector
Why use PPPs? (2/2)

- Enable public sector to focus on its core activities – policy making, regulation, planning, preparation of project pipeline...
- Encourage third party scrutiny of projects – avoid “white elephants”
- Mobilise private sector capital to enable additional or earlier delivery of public services
- Improve revenue generation through improved use of infrastructure
- Improve fairness – matching long-term benefits to long-term payments
- Support the reform of public sector practices – “the mirror effect”
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Five key questions – the “5 case model”

1. Has the public authority identified the needs and requirements to be met and the strategy to address the needs?

2. Has the public authority:
   a. chosen the right project solution to address the needs (options analysis, CBA)?
   b. chosen the right way to deliver the project (VfM exists)?

3. Can the market deliver the project? (technical specs, “bankable”)?

4. Can the public authority afford to pay for the service (“affordability” analysis, budgeting), from which sources?

5. Can public administration manage the process (laws, institutions, processes, people)?
Issues may often conflict with each other

- **MANAGEMENT**
  Can the project be practically delivered?

- **STRATEGIC**
  Is the project strategically necessary?

- **AFFORDABILITY**
  Is the project affordable?

- **ECONOMIC**
  Is the project economically & socially desirable?

- **COMMERCIAL**
  Is the project commercially viable?
Issues may often conflict with each other
Issues may often conflict with each other
PPP: lifecycle perspective on projects

Phase I
Project identification

Phase II
Project preparation

Phase III
Project procurement

Phase IV
Project implementation

What is needed?
How is it delivered?
Should we buy it?
Did we get want we wanted?

Approval
Approval
Approval
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Key PPP concepts for discussion

- Affordability
- Bankability
- Value for Money
Comparing Value for Money versus affordability

**Value for Money**
Should we deliver this project as a PPP?

**Affordability**
Can we afford to deliver this project as a PPP?
Value for Money concept

- The relationship between value and the cost
- For project delivery options:
  - Value = quality and quantity of the service
  - Cost = cost of delivery of the service
- A relative concept: something has VfM when compared to something else...
- VfM assessment = which delivery option represents the optimal balance of value (long-term and risk-adjusted) and cost?
- Not be confused with affordability: you might be able to pay for a terrible PPP!
Value for Money along the project lifecycle

**Phase I**
Project identification

*What is needed?*

VfM assessment:
- Does the project have potential as a PPP
- Should we commit time and resources to prepare it as a PPP?

**Phase II**
Project preparation

*How is it delivered?*

VfM assessment:
- Should we launch the public procurement of the project as a PPP?

**Phase III**
Project procurement

*Should we buy it?*

VfM assessment:
- How do we compare the private sector bids and decide to award the PPP contract?

**Phase IV**
Project implementation

*Did we get want we wanted?*

VfM assessment:
- How is the PPP performing against its objectives?
Value for Money assessment

• Typically a combination of two approaches

Qualitative analysis

• Motivations for a PPP approach
• Suitability assessment of PPP option
• Comparison of qualitative benefits of PPP vs traditional procurement

Quantitative analysis

• Estimate and compare risk-adjusted whole life costs of PPP versus traditional procurement
Value for Money – qualitative assessment

• Motivations for a PPP approach

  What are the main issues I want to address using a particular project delivery mode?

• Suitability assessment of PPP option

  Is the PPP approach viable for the project?

• Comparison of qualitative benefits of the PPP option

  What are the constraints of a PPP approach? And how does PPP compare with traditional procurement when measured against the motivations?
Value for Money – quantitative assessment

Net Present Value of cost (from public perspective) of implementing the project as a PPP

versus

Net Present Value of cost (from public perspective) of implementing the project through traditional procurement

Compare the estimated costs of a PPP delivery option (shadow bid model) with those of a traditional delivery option (public sector comparator)

Compare the costs of actual PPP bids with the public sector comparator
# Value for Money – quantitative assessment

## High level summary of a typical methodology and practical implementation issues

<table>
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<tr>
<th>Public Sector Comparator</th>
<th>Issues</th>
<th>Shadow PPP</th>
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<tr>
<td>Step 1: develop ‘raw PSC’ cashflow model of expected capex, opex and revenues of the project</td>
<td>Access to reliable cost info esp. opex that reflects delivering the same service levels for both PSC and PPP options</td>
<td>Step 1: Cashflow model of expected capex, opex and revenues for PPP. Possible efficiency factors may be added</td>
</tr>
<tr>
<td>Step 2. Adjust the project costs and revenues for risks (using tools such as VAR, optimism bias factors)</td>
<td>Access to reliable risk valuation data – this is highly assumption based and can be open to challenge.</td>
<td>Step 2: add Authority costs (e.g. transaction and contract management costs) and any funding requirements</td>
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<tr>
<td>Step 3: Adjust for competitive neutrality between the PSC/PPP (e.g. taxation)</td>
<td>Theoretically assumed and actual tax arrangements are often quite different.</td>
<td>Step 3: determine level of availability payments (revenues) = financial viability</td>
</tr>
<tr>
<td>Step 4: Discount cashflows to arrive at NPV of PSC using a justified discount rate</td>
<td>Often controversial: choice of rate has significant impact on result with higher rates favouring the PPP option (due to later payments). Rates also reflect underlying policy choices that may not be so obvious.</td>
<td>Step 4: Discount availability payments (revenues) to arrive at NPV of PPP</td>
</tr>
<tr>
<td>Step 5: Compare with NPV of the shadow PPP</td>
<td>Difference can often be quite small (and smaller than the accuracy range of the underlying assumptions)</td>
<td>Step 5: Compare with NPV of the PSC</td>
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High level summary of a typical methodology and practical implementation issues:

### Public Sector Comparator

1. **Step 1:** Develop ‘raw PSC’ cashflow model of expected capex, opex and revenues of the project.
2. **Step 2:** Adjust the project costs and revenues for risks (using tools such as VAR, optimism bias factors).
3. **Step 3:** Adjust for competitive neutrality between the PSC/PPP (e.g. taxation).
4. **Step 4:** Discount cashflows to arrive at NPV of PSC using a justified discount rate.
5. **Step 5:** Compare with NPV of the shadow PPP.

### Issues

- Access to reliable cost info esp. opex that reflects delivering the same service levels for both PSC and PPP options.
- Access to reliable risk valuation data – this is highly assumption based and can be open to challenge.
- Theoretically assumed and actual tax arrangements are often quite different.
- Often controversial: choice of rate has significant impact on result with higher rates favouring the PPP option (due to later payments). Rates also reflect underlying policy choices that may not be so obvious.
- Difference can often be quite small (and smaller than the accuracy range of the underlying assumptions).

### Shadow PPP

1. **Step 1:** Cashflow model of expected capex, opex and revenues for PPP. Possible efficiency factors may be added.
2. **Step 2:** Add Authority costs (e.g. transaction and contract management costs) and any funding requirements.
3. **Step 3:** Determine level of availability payments (revenues) = financial viability.
4. **Step 4:** Discount availability payments (revenues) to arrive at NPV of PPP.
5. **Step 5:** Compare with NPV of the PSC.
A Guide to the Qualitative and Quantitative Assessment of Value for Money in PPPs
Public-Private Partnerships in the Western Balkans

2018
Affordability concept

• How much money will we need? Where will the money come from?
• Helps define real project options
• Forces debate on who should pay for the project, the funding sources
• Informs the budgetary process and encourages long-term lifecycle budgetary thinking
• Avoids longer-term fiscal problems
• Improves contracting authority’s negotiating strength
• Reduces the risk of procurement/project cancellation
• Protects the country’s credibility in the market
Affordability assessment

- Estimating project costs over lifecycle (CAPEX, OPEX, financial) to determine long-term service costs
- Building a public sector financial model
- Inflation assumptions
- Public sector demand and revenue analysis
- Sensitivity analysis to calculate an “affordability envelope”
- Estimate other public sector costs: preparation, contract management, upfront subsidies, land purchase, etc
Affordability, funding and financing

• Important not to confuse funding and financing

• Beware of the “affordability illusion” coming from the availability of financing sources...

• Private finance is a bridge to the time that you will need to pay

“Pay as you build, or pay as you use, but you must pay!”
Affordability, budgeting and statistical treatment

**Affordability**

*Can we afford to deliver this project as a PPP?*

- How much money will we need?
- Where will the money come from?

**Budgeting**

*How do we ensure future payment obligations are budgeted for?*

*How do we avoid future fiscal shocks?*

**Statistics**

*How do we reflect the PPP in statistical reporting on national deficit/debt?*
Bankability assessment

• Analysis of potential financing sources: domestic and international banks, multilaterals (EIB, EBRD...), infrastructure funds, pension funds, insurance companies

• Analysis of project features: risk allocation, size, duration/tenor

• Market sounding including:
  – Disclosure of project overview (objective, economics, tech specs)
  – Check lenders project financing experience
  – Check lenders’ reaction to risk profile, including construction risk, demand risks (if any), Authority payment risk, etc
  – Check availability of hedging products to mitigate interest rate and exchange risk (if any)
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So what is a successful PPP project for the public sector?

1. A project that fits the needs identified: it is economic, effective and efficient
2. It has positive CBA and has VfM if delivered as a PPP
3. It can be delivered by the private sector, is bankable and technically viable
4. It is affordable within a long term budget, and without “surprises”
5. It can be effectively monitored and managed by the public sector
6. It delivers as expected according to technical specs and budget during implementation phase (construction and operation)
So what is a successful PPP project for the public sector?
Public sector good practices for success

• Understand PPP lifecycle challenges

• Robustness and clarity of the legal and institutional framework

• Clear and well established public administration procedures

• Adequate capacity and resources of public administrations along the lifecycle

• Coordinated action of public administrations and seamless information flows, project lifecycle perspective

• Good communication with the general public, private partners, press, etc

• Promote transparency and disclosure of information
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Road sector PPPs

- Concession (user paid)
Road sector PPPs

- Availability based PPP (public sector paid)

Private investors
Lenders

Public Authority
PPP Contract
SPV

Financing Agreements

Construction contractor
O&M contractor

Users

Tolls

Annual payments (subject to availability & performance)

• Investment
• Dividends
Port sector PPPs

- **Assets of port infrastructure**
Port sector PPPs

- Three typical PPP models in the port sector

- Availability based
  - Public partner commercial risk

- Landlord Port
  - Shared commercial risk

- Full concession
  - Private partner commercial risk
Port sector PPPs

- Landlord model concession

- Port Authority
  - Concession Contract
  - Investment
  - Dividends
  - Concession fees
  - [Capital contribution]

- Private investors
- Financing Agreements
- Concessionaire
- Usage fees
- Users

- Lenders

- Leixões Port
- Sines Terminal XXI
Port sector PPPs

• Institutional PPP

Port Authority

SPV capital structure

51%
15%
34%

• Investment
• Dividends

Concession contract

• Concession fees
• [Capital contribution]

Public / Private investors

Lenders

Financing Agreements

SPV

Usage fees

Users

• Port of Solenzara
• Port La Nouvelle
Port sector PPPs

- Availability based PPP
Railway sector PPPs

- **Assets** of railway systems

  - **Substructure**: embankments, earthworks, drainage, ballast
  - **Superstructure**: ties, rails, signaling, communications, safety equipment, catenary
  - Stations, tunnels, bridges
  - Marshalling yards, depots
  - Rolling stock
### Railway sector PPPs – some examples

<table>
<thead>
<tr>
<th>Project</th>
<th>Assets in contract scope</th>
<th>Contract</th>
<th>Paymech</th>
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<tr>
<td>HSL Zuid (NL)</td>
<td>Superstructure (substructure excluded)</td>
<td>DBFM</td>
<td>Availability</td>
</tr>
<tr>
<td>HSL Sud Europe Atlantique (FR)</td>
<td>Full infrastructure</td>
<td>Concession</td>
<td>Traffic</td>
</tr>
<tr>
<td>HSL Bretagne Pays de la Loire (FR)</td>
<td>Full infrastructure</td>
<td>DBFM</td>
<td>Availability</td>
</tr>
<tr>
<td>Northern Diabolo (BE)</td>
<td>Tunnel + station (upgrade connecting lines excluded)</td>
<td>DBF</td>
<td>Traffic</td>
</tr>
<tr>
<td>Liefkenshoek Rail Link (BE)</td>
<td>Civil works of tunnel (superstructure &amp; connecting lines excluded)</td>
<td>DBFM</td>
<td>Availability</td>
</tr>
<tr>
<td>Albacete-Alicante HSR (ES)</td>
<td>ETCS track-side equipment</td>
<td>DBFM</td>
<td>Availability</td>
</tr>
<tr>
<td>Metro Sul do Tejo (PT)</td>
<td>Full infrastructure and rolling stock</td>
<td>Concession</td>
<td>User fees</td>
</tr>
<tr>
<td>Lisbon Tagus River crossing (PT)</td>
<td>Heavy rail rolling stock and its O&amp;M (provision of transport services)</td>
<td>Concession</td>
<td>User fees</td>
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</tbody>
</table>
Railway sector PPPs – infrastructure

Infrastructure availability-based PPP

Infrastructure concession
Fernando Crespo Diu

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