Understanding the benefits and challenges of further involving the private sector in public infrastructure development
PUBLIC-PRIVATE PARTNERSHIPS
Training Modules

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These modules are part of online training materials developed by ESCAP to support countries in the Asia-Pacific region to further involve the private sector in infrastructure development. The full set of training materials can be accessed on http://www.unescap.org/our-work/transport/financing-and-private-sector-participation/public-private-partnership-course
The first Module outlines the main features of Public-Private Partnerships (PPPs) and highlights the differences between PPP and traditional procurement of public infrastructure. The key benefits, but also the risks and limitations, of the PPP procurement mechanism are presented.

Objectives

Why PPPs?

- Long term solution for public infrastructure
- More efficient delivery of public services
- Lower funding pressure on the government

- Poor quality construction
- Inadequate maintenance
- Private sector capacity to deliver services more efficiently and cheaply than the public sector
- Lack of available budget

Definition

Public Private Partnerships

"A long-term contract between a private party, and a government agency, for providing public services and/or developing public infrastructure, in which the private party bears significant risk and management responsibility"
Introduction to PPPs

Funding

Private Sector Remuneration

User fees

Availability payments

Check against performance indicators

- availability of all lanes
- minimum travel time
- limited number of road crashes
Benefits

- Accessing Private Capital
- Realizing Efficiency Gains
- Risk Transfer

*life-cycle cost*

**Cost**

Option 1
Option 2

**Construction Cost**
**Maintenance Cost**
**Time**

In PPP: both construction and operation costs are taken into consideration

Option 2 = cheapest over the life of the asset

**Additional revenue stream**

**Protection vs. cost overruns**

**Guarantee of funding for maintenance**

Notes:

- Not suitable for all projects
- Complex / High transaction costs
- Fiscal direct and indirect liabilities
- Political and social sensitivity
  - “user-pay principle”
- Limited flexibility
The Module details the various possibilities to involve the private sector in infrastructure development and presents the different risk and responsibilities that can be shifted to the private sector. It also describes the key benefits and limitations that can be expected from each model.
### Management

- Fee for managing a public facility: performance based
  - No private capital investment
  - Short Term (2 to 5 years)

- Potential operational gains
  - Low complexity / quick implementation
  - Less politically sensitive

- Only existing infrastructure
  - Very limited transfer of risk (e.g., commercial risk)
  - No additional funding provided

### Water Sector

- Efficiency gains
- Less challenging

  - Private Sector Remuneration
  - Bonuses for exceeding targets
  - Customer tariff

### Operation / Maintenance

- Transfer the responsibilities of operating/maintaining a public asset to the private sector

  **Port Terminal (Leasing)**
  - Example 1
  - Example 2

  **Road Maintenance**
  - Performance based road asset management and maintenance contract

  **Fixed vs. New Pothole**
  - All potholes bigger than a certain dimension must be filled within x days
  - Risk transfer → Efficiency gains
  - Paying on a per-input basis → Monitoring against performance indicators

### Notes:

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- ...
Building / Rehabilitation

The private sector might be entrusted with the responsibilities of building and financing a new public asset that it will have to operate / maintain.

"Availability" model

- Hospital
- Regular payments from the government if infrastructure is available
- Monitoring against performance indicators
- Example

"User fees" model

- Toll road Project
- Right to collect fees from users
- Private investment
- Significant risk transfer to the private operator
- Potential for efficiency gains in all phases of the project

Ownership

No asset transfer back to public authorities
... but critical role for the public sector

Main "client" of the infrastructure built
(e.g. Off-take agreement)

Regulatory role
(e.g. ensuring sufficient competition)
The Module presents the different elements that are necessary to enable the emergence of PPP projects. It also explains the important role that the Government has to play in order to create the right conditions for the successful development of a PPP programme.

Objectives

- What is required for PPP development?
- What Government can do to promote PPPs?

Notes:

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The Module outlines the key principles for allocating risks in a PPP project and presents the main types of risk that need to be considered. It also gives some guidelines in terms of which partner should support which type of risks.
**Operational**

Cost increase → Revenue losses

- Interruption of services
- Additional Maintenance
- Salaries
- Input prices

**Allocation**

Tariff Adjustment to Inflation

Long-term input supply agreement

**Asset Handover**

Residual Value?

- Asset condition
- Year of Start of Concession
- Year of End of Concession

**Demand**

What is demand risk?

- Financial distress

Is it easy to estimate the future demand?

NO!

- Forecasting
- General Economic Downturn
- Demographic change
- Competition
- Overestimated "willingness to pay"

Optimistic Bias
What's the best allocation?

Too difficult to forecast demand --> the private sector will charge a lot for covering the risk.

Strong incentive for the operator to attract users.

Notes:

Financial

Currency

Availability

Repatriation

Convertible rules
**Political, Legal & Regulatory**

Why is it important?
- Potential impact on Project viability

Private Sector has no control on these risks

Protection / Compensation?
- If risk deemed too high... no private sector interest

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**Political risks**

- Compensation?
- Political Risk Insurance?
- Expropriation
- Breach of contract
- Early Termination

**Regulatory risks**

- Every 6 months if performance standards met
- Staff in conflict
- Unilateral tariff revision

**Force Majeure**

**Political & Natural Events**

- Compensation?
- Termination?
- 6 - 12 months
- Allocation
- Public
- Private

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**Risk Matrix**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Description</th>
<th>Likely Effect</th>
<th>Mitigation Measures</th>
<th>Allocation</th>
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<tbody>
<tr>
<td>Construction</td>
<td></td>
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<td></td>
<td>public/private</td>
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<tr>
<td>Operation</td>
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<td>Policy</td>
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**Early in project development**

**Influence Pricing**
Module 5
PPP Structure and Financing

The Module presents the basic structure of a PPP project while reviewing the key stakeholders involved in this type of project. The Module also introduces some basic financial indicators to assess the profitability of PPP projects and to calculate the cost of the different sources of funding.
Basic Project Finance Structure?

Is the project profitable?

Cash Flows

Revenues

Costs

Year 1
Year 2
Year 3
Year ...

In practice: Financial Model

Assumptions
Projections

Internal Rate of Return (IRR)

= indicator of profitability

What does it mean to have IRR = 8%?

is equivalent to:

A good estimation of the cash flows is required
**Shareholder Agreement**

**Equity providers**
- Capital invested by sponsors
- Project developers
- Construction companies
- Private equity funds

“First in, last out”
Any project losses are first born by equity investors

... but:
Higher risk, higher return

**Debt providers (e.g. banks)**
- Sources
  - Commercial banks
  - International financial institutions
  - Export credit agencies

Interest rate depends on the risk profile
Project finance debt interest rate > Government Borrowing
Debt maturity < project life

**Refinancing**
- Short-term financing
- Year 1: Financial Close
- Year 2: Debt Maturity
- Year 20: End of concession

Opportunity?
- High risk
- Low risk

- Lower risk = Cheaper financing
- Refinancing after construction
- Treatment of refinancing benefits?
How much does it cost to finance a project?

Leverage
Ratio between debt and equity

Funding cost?

Weighted Average Cost of Capital (WACC)

25%
Return requested = 15%

75%
Interest rate = 5%

20% Debt
80% Equity

Financing method

More debt means lower cost
but higher risk of failure!

Limiting leverage allowed?
(e.g. if government is providing some guarantee)

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