Public-Private Partnership (PPP) & Project Finance Transactions
Major Types of Infrastructure Financing

- **Sovereign Borrowing**
  - Government borrows to on-lend
  - Its Agency/SOE (or subnational) borrows with full credit guarantees of the Government
  - Lenders look at sovereign credit rating

- **Corporate Finance**
  - SOE (or subnational) borrows on its own credit standing
  - Debt paid back by corporate balance sheet, i.e. cash flow from multiple revenue sources
  - Lenders look at corporate credit standing

- **Limited-recourse Project Finance**
  - Project Debt & Equity paid back by specific project’s (would-be) cash flow:
    - Project’s revenues: wholesale off-take agreement; user fees
    - Pre-determined government’s contractual payments: subsidy; availability payments
  - Financing secured by project assets and revenue-producing contracts, not sponsor’s balance sheet; security package often requires government undertaking (risk guarantee) covering risks which are not under private financiers’ control
  - Equity Investors & Lenders look at the contractual framework of the project to assess the reliability, stability & adequacy of cash flow to pay debt services and earn equity return
Creditworthiness of Transactions and Risk Mitigation Solution
(Example for Better-Rated Developing Countries)

Credit Rating (S&P)

<table>
<thead>
<tr>
<th>Credit Rating</th>
<th>Speculative</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>BBB</td>
</tr>
<tr>
<td>CC</td>
<td>BB</td>
</tr>
<tr>
<td>CCC</td>
<td>B</td>
</tr>
<tr>
<td>B</td>
<td>BB-</td>
</tr>
<tr>
<td>BB</td>
<td>BBB</td>
</tr>
<tr>
<td>A</td>
<td>Investment Grade</td>
</tr>
<tr>
<td>AA</td>
<td>High Grade</td>
</tr>
</tbody>
</table>

Target Countries (benchmark)

- **BBB**: Mexico, SA, Russia, Brazil, Colombia, India, Indonesia, Philippines
- **BBB-**: Vietnam
- **BB+**: Turkey
- **BB**: Indonesia, Philippines, Nigeria, South Africa

SOEs (Corp. Finance)
- Eskom (SA), Gasprombank (Russia), BNDES (Brazil), Power PGE/PLN (Indonesia), Power Grid (India), TEIAS (Turkey)

Sub-National Govmt
- Rio, Sao Paulo (Brazil), High performing states in India, Ho Chi Minh City (Vietnam)

Resource Expt. Projects
- Moz- RSA Hydropower Exports; Oyo Tolgoi Copper Mine, Nepal Hydro Power Exports to India

FX Gen. Projects
- PIBT Port Invst (Pakistan) APM Terminals Callao (Peru)

Brown Field PPP
- Power Distribution & Transmission Investments in Eastern Europe, India

Green Field PPP
- IPPs in Vietnam, Indonesia, South Africa
Decision Tree for Infrastructure Development

Feasibility of PPP Development

Technical Feasibility Study

- Project Scope
- Investment Requirements ($)
- Economic analysis
- ESIA scoping

User Fees can be charged?

- YES
  - Fees in FX by credible payers?
    - YES
      - Country risk acceptable?
        - YES
          - PPP with GOV funding support:
            - Capital Subsidy
            - Availability Payment Scheme
          - PPP with GOV undertaking:
            - SOE off-taker performance
            - FX convertibility
        - NO
          - PPP with GOV undertaking:
            - Change in law risk
            - Expropriation risk
            - GOV parties’ contractual performance, etc.
    - NO
      - PPP with GOV undertaking:
        - Change in law risk
        - Expropriation risk
        - GOV parties’ contractual performance, etc.
  - NO
    - PPP with GOV undertaking:
      - Change in law risk
      - Expropriation risk
      - GOV parties’ contractual performance, etc.

Public Funding

- Government Borrowing
- Budget

Public project with:
- Private O&M

PPP Schemes

Private Project

Feasible Financing Modality:

- PPP with GOV undertaking:
  - Change in law risk
  - Expropriation risk
  - GOV parties’ contractual performance, etc.

Guarantee from creditworthy third-party (e.g., WB/MIGA, ECAs) to backstop Government undertaking for the project
Typical PPP Contractual Structure
With Off-take Agreement
(power generation projects, bulk water supply projects)

Government

BOT/Implementation Agreement, Government Guarantee etc.

Ownership & control

Private Investors

Equity

Commercial & Official Lenders

Loans

Project Company

Off-take Agreement

State-Owned Off-Taker (Utility)

Implementation Agreement /Government Guarantee:
Government undertakes SOE performance under PPA & other government risks
Example: Vietnam (B2/BB-); Laos; Indonesia (Baa3/BB+)

EPC Contractor

O&M Contractor

Commercial Contracts
Limited-Recourse Project Finance with Off-take Agreement
Vietnam: Phu My 2-2 BOT Power Project (IPP)
PPP Contractual Structure
With ongoing **Subsidy Payments from Government**
(road projects, urban transport projects)

- **Government**
  - Concession/Implementation Agreement, (including availability payments, operation subsidy, etc.)
  - $?
  - Infrastructure users

- **Project Company**
  - $?
  - EPC Contractor
  - O&M Contractor

- **Private Investors**
  - Equity

- **Commercial & Official Lenders**
  - Loans

- **Commercial Contracts**
PPP Contractual Structure
with ongoing Government Financing Support
(road/urban transport projects)

Government may consider:
- **Availability payment** (to pay for capacity)
- **Operation subsidy** for initial years
- **Minimum revenue guarantee**, etc.

Expected Toll Revenue vs Risks:
- Insufficient traffic volume
- High tariff discourages usage
- Resistance for tolling (availability of free roads/competitive transport modality)
- Tariff cannot be adjusted for FX fluctuation (adjusted for inflation, at best)

**Revenue required by the project**
(taxes, O&M, debt services, investor’s equity return, etc.)

Year 0

Year 30 (end of concession)

Construction Period (no revenue)

Tariff revenue is expected to be built up over the life of concession
(in case of non-tolled infrastructure, no revenue)
Projects with substantial capital costs
With up-front **Government Financing Support**
(sizable hydropower projects, urban transport projects)

- **Private Investors**
  - Equity

- **Commercial & Official Lenders**
  - Loans

- **Government**
  - BOT/Implementation Agreement, Government Guarantee etc.
  - Off-take Agreement
  - $ (Ownership & control)

- **State-Owned Off-Taker (Utility)**

- **Government Funding of Civil Works**
- **Private Funding of Equipment**
- **O&M Contractor**

**Government may consider:**
Financing part of the project (eg civil works) with public financing (on-lending of sovereign/SOE borrowing)
How a Private Project is typically Financed?

Mobilizing Debt is a Key to lower financing costs and lower required power tariff levels

- **Equity** (25-30%)
  - High Risk & High Return
  - Investors’ Return Expectation 15-20%+ depending on risk level of the projects
  - Low Return (interest spread only)
  - Lenders are typically very risk-averse & will not lend if any risk is not adequately mitigated
  - Libor + [2-5]% depending on risk level

- **Debt** (75-70%)
  - By lowering the project risk, debt can be mobilized, lowering financing costs
  - High risk projects are more expensive, requiring more equity to attract lenders to come in. (Example: 100% equity financing if lenders will not lend due to excessive risks)
  - The longer the maturity of debt, the lower the annual debt services (principal repayment and interest payment) → the lower the tariff required in initial years
## Typical Risk Allocation in PPP Contracts

Private investors will not take risks which are not under their control.

<table>
<thead>
<tr>
<th>Risk</th>
<th>IPP Project Company</th>
<th>Government /SOE off-taker</th>
<th>WB PRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financing (raising equity &amp; debt)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction (completing on time &amp; within budget)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation &amp; Maintenance (plant availability)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demand (Demand volume, tariff adequacy &amp; off-taker payment risk)</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Foreign exchange fluctuation, inflation</td>
<td></td>
<td>X (tariff indexation to pass on to consumers)</td>
<td>X</td>
</tr>
<tr>
<td>Foreign exchange convertibility/transferability</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Change in law/regulations</td>
<td></td>
<td>X (reciprocal; tariff adjustment)</td>
<td>X</td>
</tr>
<tr>
<td>Political: expropriation, war &amp; civil disturbance</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Natural force majeure affecting IPP</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural force majeure affecting the SOE off-taker</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fuel (supply and price)</td>
<td>(X)</td>
<td>X (if supplier is SOE; tariff to reflect fuel charge)</td>
<td>X</td>
</tr>
</tbody>
</table>
## Risk Allocation: PPA & Government Guarantee

**Example Government Guarantee & World Bank Guarantee**

<table>
<thead>
<tr>
<th>Country: Project</th>
<th>Payment Types</th>
<th>SOE Off-taker Payer</th>
<th>Government Guarantee To the Project</th>
<th>WB PRG (Government Indemnity to WB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam: Phu My 2-2 IPP</td>
<td>Ongoing PPA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Termination Compensation</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Jordan: Aman East IPP</td>
<td>Ongoing PPA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Termination Compensation</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Nigeria: Azura IPP</td>
<td>Ongoing PPA</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Termination Compensation</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Kenya: Triumph Power IPP</td>
<td>Ongoing PPA</td>
<td>X</td>
<td>X*</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Termination Compensation</td>
<td>X</td>
<td>X*</td>
<td>X</td>
</tr>
</tbody>
</table>

* Limited to political FM & FM affecting SOE