Asia PPP Network Training 2010

Project Finance & PPP

2010.10.5
I. What is project financing?
   1. In short, project financing is
   2. Major features of project financing

II. Criteria for a successful financing and ;

III. How those are directly connected with PPP
✓ In short, project financing is
What is Project Finance

Project Financing

“A financing of a particular economic unit in which a lender is satisfied to look initially to the cash flows and earnings of that economic unit as the source of funds from which a loan will be repaid and to the assets of the economic unit as collateral for the loan”

(Nevitt & Fabozzi)
What is Project Finance

Conventional financing

Lender

External funding

Borrower

Internal and external funding

Project

Borrower is responsible for the debt, not the project

Project financing

Lender

External funding

Borrower

Internal funding

Project

The project is an independent “business unit (economic unit)” and is responsible for the debt

Source: Swiss Re
What is Project Finance

Borrower/Sponsor

- Project A
- Project B
- Project C (New)

New Co.

Source: J. Lee (KDB)
✓ Major features of project financing
1. **Cash flows! Cash flows!! Cash flows!!!**

- “EBITDA (revenue, cash flows) is the mother’s milk of project financing”

- Cash flows must be sufficient to;
  - service any debt contemplated
  - provide cash needs (taxes, capex, opex, etc.)
  - still provide an adequate cushion for contingencies

- Cash flows must be prepared and justified by appropriate independent feasibility and engineering studies

- Cashes are strictly controlled via **Cash flow waterfall**, a predetermined mechanism for allocation and use of cash flows
2. Independent, single purpose company

- Insulation of sponsors: off-balance sheet financing, non/limited recourse
  - Credit sources/guarantees may be available to the project which would not be available to the sponsors
  - May be better credit terms and interest costs in situations in which a sponsor's credit is weak
  - Can improve the return on the capital invested in a project by high leveraging
  - Tax advantages in some jurisdictions
  - Investment protection in foreign projects may be achieved by joining as joint ventures with international parties, thus lessening the sovereign risk
Major features of PF

3. Many parties (1)

- Project or vehicle company (SPV/SPC)

- Sponsors
  - strategic investors: often involved in aspects of construction, operation/management, purchase of services or output, ownership of land
  - financial investors
  - municipalities
  - Purchaser of services or output, Property owner

- Lenders
  - syndication, club deals etc.
  - arrangers and participants
  - multilaterals, export credit agencies
  - account / collateral (agent) bank, technical (engineering) bank
3. Many parties (2)

• Advisors / Consultants
  - financial: prepare an information memorandum and sell the project to the lending banks
  - technical: involve in the feasibility study and assist in the technical, financial and operational side of the project
  - (international & local) legal: review the legal, tax and regulatory system and work on the complex documentation
  - accounting
  - insurance

• Host government / municipalities

• Rating agencies, insurer, etc.
4. Extensive contracting

• Shareholder/sponsor agreements, shareholders support agreement

• Loan documents
  ▪ project loan agreement
  ▪ inter-creditor agreement

• Project documents
  ▪ concession agreement
  ▪ construction contracts
  ▪ operating & maintenance agreement
  ▪ sales/off-take agreement

• Others
Major features of PF

A typical BTO type project
Major features of PF

5. Higher transaction costs

• Creation of an independent entity: can be up to [60] b.p.

• Fees related to the project financing
  ▪ advisory fees
  ▪ management fees: arranger’s fee, participants’ fees
  ▪ account/collateral agents’ fees
  ▪ commitment fee
Criteria for a successful project financing, and;

How these are embedded in the PPP framework
A successful project financing

“The key to a successful project financing is structuring the financing of a project with as little recourse as possible to the sponsor while at the same time providing sufficient credit support through guarantees or undertakings of a sponsor or third party, so that lenders will be satisfied with the credit risk.”

“The same principles used to finance a major (expressway or an airport) can be used to finance (a school or a hospital)
**Recommended Financing Strategies for PPP for Different Risk Conditions (1)**

<table>
<thead>
<tr>
<th>Risk Conditions</th>
<th>Financing Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk</td>
<td>• Use high debt-to-equity ratio for maximum leverage and maximum return on invested equity.</td>
</tr>
<tr>
<td></td>
<td>• Establish minimum contingency credit facilities to minimize financing costs.</td>
</tr>
<tr>
<td></td>
<td>• Use capital markets to procure debt financing to reduce interest costs.</td>
</tr>
<tr>
<td></td>
<td>• Procure long-term financing early to reduce financing costs.</td>
</tr>
</tbody>
</table>

| High Political Risk      | • Involve international firms or organizations to create leverage with local government authorities. |
|                          | • Seek assistance from influential individuals or organizations who have rapport with local government authorities. |
|                          | • Seek local government support and guarantees.                                         |
|                          | • Procure insurance from government organizations such as the Overseas Private Investment Corporation. |
|                          | • Establish contingency credit facilities to cover unanticipated expenses.               |

Source: Adapted from Schaufelberger and Wipadapisut, 2003.

**Recommended Financing Strategies for PPP for Different Risk Conditions (2)**

<table>
<thead>
<tr>
<th>Risk Conditions</th>
<th>Financing Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Financial Risk</td>
<td>• Obtain loans from international lending institutions.</td>
</tr>
<tr>
<td></td>
<td>• Use fixed rate or standardized rate debt financing.</td>
</tr>
<tr>
<td></td>
<td>• Denominate loans in local currency.</td>
</tr>
<tr>
<td></td>
<td>• Structure debt financing in the same currencies as anticipated revenues.</td>
</tr>
<tr>
<td></td>
<td>• Structure revenues in both local and foreign currencies.</td>
</tr>
<tr>
<td></td>
<td>• Seek government support and guarantees.</td>
</tr>
<tr>
<td></td>
<td>• Insert revenue escalation provision into the contract.</td>
</tr>
<tr>
<td></td>
<td>• Establish a contingency credit facility to cover unanticipated expenses.</td>
</tr>
<tr>
<td>High Market Risk</td>
<td>• Finance early phases with equity and temporary loans and refinance during the operation phase with lower-cost long-term debt.</td>
</tr>
<tr>
<td></td>
<td>• Structure the debt repayment schedule to start low and escalate during the initial years of operation.</td>
</tr>
<tr>
<td></td>
<td>• Negotiate contract terms that allow increases in user fees.</td>
</tr>
<tr>
<td></td>
<td>• Establish a contingency credit facility to cover unanticipated revenue shortfalls.</td>
</tr>
<tr>
<td></td>
<td>• Restructure debt, if necessary, to solve cash flow problems during the concession period.</td>
</tr>
</tbody>
</table>

Source: Adapted from Schautelberger and Wpadpisut, 2008.

Source: Kwak et al. (2009) “Towards a comprehensive understanding of public private partnerships for infrastructure development”.
Criteria for a successful PF

1. A credit risk rather than an equity risk is involved
2. A satisfactory feasibility study and financial plan have been prepared
3. A supply of raw material, building materials, and energy / transportation to be used by the project is available and assured
4. The contractor/the operator are experienced and reliable
5. New technology is not involved
6. A stable and friendly political environment exists: licences and permits are available; contracts can be enforced; legal remedies exist
7. There is no risk of expropriation; country and sovereign risks are satisfactory
8. Currency and foreign exchange risk have been addressed; inflation rate projection and interest rate projection are realistic
Criteria for a successful PF

9. The project has value as collateral
10. Satisfactory appraisals of resources and assets have been obtained
11. Adequate insurance coverage is contemplated
12. Force majeure risk has been addressed
13. Cost over-run risk, delay risk has been considered
14. Environmental risk are manageable
15. (Others)
Critical Success Factors for PPP projects (1)

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>PPP Types</th>
<th>Focused Regions</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akintoye et al.</td>
<td>PFI</td>
<td>UK</td>
<td>• Factors that contribute to the achievement of best value in PFI projects are detailed risk analysis and appropriate risk allocation, drive for faster project completion, curtailment in project cost escalation, encouragement of innovation in project development, and maintenance cost being adequately accounted for.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Factors that impede the achievement of best value in PFI projects are: high cost of the PFI procurement process, lengthy and complex negotiations, difficulty in specifying the quality of service, pricing of facility management services, potential conflicts of interests among those involved in the procurement, and the public sector clients’ inability to manage consultants.</td>
</tr>
<tr>
<td>Jefferies et al.</td>
<td>BOOT</td>
<td>Australia</td>
<td>• CSFs are identified from reflection of an Australian sports stadium project, which include: solid consortium with a wealth of expertise, considerable experience, high profile and a good reputation, an efficient approval process that assist the stakeholders in a very tight timeframe, and innovation in the financing methods of the consortium.</td>
</tr>
</tbody>
</table>
## Critical Success Factors for PPP projects (2)

<table>
<thead>
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<th>PPP Types</th>
<th>Focused Regions</th>
<th>Key Findings</th>
</tr>
</thead>
</table>
| Li et al. 5 | PFI       | UK              | • The most important CSFs, in descending order of importance, are: a strong private consortium, appropriate risk allocation, available financial market, commitment/responsibility of public/private sectors, thorough and realistic cost/benefit assessment, technical feasibility, a well-organized public agency, and good governance.  
• CSFs are classified into five principle factor groupings: effective procurement, project implementability, government guarantee, favorable economic conditions, and available financial market. |
| Qiao et al. 4 | BOT     | China           | • Eight independent CSFs include: appropriate project identification, table political and economic situation, attractive financial package, acceptable toll/tariff levels, and reasonable risk allocation, selection of suitable subcontractors, management control, and technology transfer. |
| Zhang 6   | PPP       | International   | • Five main CSF aspects are identified: economic viability, appropriate risk allocation via reliable contractual arrangements, sound financial package, reliable concessionaire consortium with strong technical strengths, and favorable investment environment. |

Source: Kwak et al. (2009)
A successful project financing

Criteria for Successful PF
- Lenders’ perspectives -

Critical Success Factors for PPP projects

Recommended Financing Strategies
- Sponsors’ perspectives -
1. Credit risk rather than equity risk is involved (1)

• Lenders are not in the business of taking equity risk even if compensated for equity premium or more

• The question of whether a credit risk or an equity risk is involved usually arises in connection with the adequacy of the underlying equity investment in the project

• Where the equity investment is not sufficient to support the proposed borrowing, guarantees of the project debt will be necessary

• Some financiers/funds specialize in investment in mezzanine financing such subordinate debt, etc.
Criteria for a successful PF

1. Credit risk rather than equity risk is involved (2)

- How can the adequacy of funding be assured? What can be done to fill the funding gap?
- How can the funding sources be diversified?
- Is there any remedy action available during a financial crisis?
Illustration 1

Credit risk vs. Equity risk

- Senior Debt
- Subordinate Debt
- FI Equity
- Gov't default
- Conc’n default
- Force majeure
The Re-Defining P3 (US)

<table>
<thead>
<tr>
<th>P3s Pre-Crisis</th>
<th>P3s “Re-Defined”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets considered</strong></td>
<td><strong>Projects focus on a clear public need that benefits from private-sector involvement</strong></td>
</tr>
<tr>
<td>High-profile, large monetization of existing assets</td>
<td>Upfront payment</td>
</tr>
<tr>
<td><strong>Transaction Structure</strong></td>
<td>Revenue-sharing structures</td>
</tr>
<tr>
<td>Large upfront payments</td>
<td>Availability payments (for greenfields)</td>
</tr>
<tr>
<td><strong>Debt Financing Source</strong></td>
<td>Combination of public and private funding (TIFIA, PABs, project finance banks and bond market)</td>
</tr>
<tr>
<td>Private funding (project finance banks and bond market)</td>
<td>Leverage at approximately 60%–70% of total value for brownfield projects</td>
</tr>
<tr>
<td>Leverage around 80% of total value</td>
<td></td>
</tr>
<tr>
<td><strong>Dedicated Capital</strong></td>
<td>Only $10Bn raised in 2009, although pro-forma 2010 figure of $24Bn¹</td>
</tr>
<tr>
<td>$35Bn raised in 2007</td>
<td></td>
</tr>
<tr>
<td><strong>P3 Process</strong></td>
<td>Increase focus on long-term partnership and investors’ operating qualifications</td>
</tr>
<tr>
<td>Highly competitive process based on valuation</td>
<td></td>
</tr>
</tbody>
</table>

Source: James R. (2010) “Infrastructure public private partnerships re defined: an increased emphasis on partnerships”
The Re-Defining P3 (US)

<table>
<thead>
<tr>
<th></th>
<th>P3s Pre-Crisis</th>
<th>P3s “Re-Defined”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong></td>
<td>Maximize upfront proceeds</td>
<td>Create financially stable long-term partnership</td>
</tr>
<tr>
<td><strong>Municipality</strong></td>
<td>Fund capital expenditures and operations</td>
<td>Apply proceeds to budget shortfalls and other funding requirements</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td></td>
<td>Fund capital projects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stimulate economic development</td>
</tr>
<tr>
<td><strong>Investor</strong></td>
<td>Single-digit rates of return for investments with low perceived risk</td>
<td>Higher returns as infrastructure is no longer considered completely insulated from the broader economy</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Political Will</strong></td>
<td>Policy maker disagreement about use of proceeds</td>
<td>Increase public and private education around P3s has helped address potential concerns</td>
</tr>
<tr>
<td></td>
<td>- P3s seen as a “last resort” and only as way to get upfront funding</td>
<td>- Bi-partisan support</td>
</tr>
</tbody>
</table>


Investor Required Rates of Return by Asset Class (US Market)

Source: Morgan Stanley estimates

Source: James et al (2010)
Korean Case: Diversification of the funding sources has been a main mission (1)

- **Korea Infrastructure Fund (1999)**
  - established under the government’s initiative
  - 5 local financiers and CDP Capital (Canada) as limited partners
  - unfortunately, liquidated in 2002 without a performance record

- **Korea Road Infrastructure Fund (2002)**
  - established by Macquarie Bank on strictly commercial basis
  - equipped with Macquarie’s experiences in PPP projects and prompt investments from the local financial institutions including pension funds
  - currently listed on KRX with Market Cap of approx. 1.57 TWons.
Korean Case: Diversification of the funding sources has been a main mission (2)

- Korean Teachers’ Credit Union (approx. 15 TWons.) & Military Mutual Aid Association (approx. 8TWons.) were participated as the early birds
  - characterized with higher hurdle rates, prompt decision making, etc.
  - especially interested in the secondary investments such as acquisition/refinancing of the existing projects

- National Pension Fund debuted as a bottomless pit of funding sources
  - fund size of over 300 TWons.
  - NPF is in a good chemistry with the local PPP project investments because they have a range of preferable features such as built-in inflation hedging, country/political risk-freeness, long duration and long payout structure in the same denomination (no exchange risk), etc.
Private participation in Korean PPP market

<table>
<thead>
<tr>
<th></th>
<th>Equity</th>
<th>Mezzanine</th>
<th>Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Infra Funds</td>
<td>Pension Funds</td>
<td>Infra Funds</td>
</tr>
<tr>
<td></td>
<td>Infra Funds</td>
<td>Pension Funds</td>
<td>Infra Funds</td>
</tr>
<tr>
<td></td>
<td>Bank</td>
<td>Pension Funds</td>
<td>Bank</td>
</tr>
<tr>
<td></td>
<td>Green Field</td>
<td>Brown Field</td>
<td>Existing</td>
</tr>
</tbody>
</table>
Korean Case: Prompt measures taken to cope with the financial crisis including

- Lowered equity capital requirements on concessionaires (5–10%) to further assure the adequacy of equity investment
- For large-scale projects, increased ceilings on guarantees provided by the Infrastructure Credit Guarantee Fund
- KDB to provide bridge financings without CA amendments
Criteria for a successful PF

2. Feasibility study and financial projection (1)

• “EBITDA (revenue, cash flows) is the mother’s milk of project financing”

• Cash flows must be sufficient to;
  ▪ service any debt contemplated
  ▪ provide cash needs (taxes, capex, opex, etc.)
  ▪ still provide an adequate cushion for contingencies

• Cash flows projection (revenue, expenses, etc) must be justified by appropriate independent feasibility and engineering studies by outside experts/consultants
  ▪ ratio test: Debt Service Coverage Ratio (DSCR)
  ▪ sensitivity test: base case and worst case scenario
Criteria for a successful PF

2. Feasibility study and financial projection (2)

☑ What is an appropriate type for the project?

☑ What is an appropriate mechanism for hedge/alleviate the revenue/demand risk?

☑ How can escalation to be reflected on the revenue etc.?
Korean Case: To insure stability of cash flows (1)

- Minimum revenue guarantee (MRG): a unitary payment in which the govt’s is to make up the difference between the actual revenue collected and the pre-agreed level of the projected revenue
  - MRG worked as the worst case scenario to banks
  - Levels of MRG were deteriorated gradually until the scheme was eventually carved out in 2009

<table>
<thead>
<tr>
<th>Jan 1999</th>
<th>May 2003</th>
<th>January 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Solicited</td>
<td>Unsolicited</td>
</tr>
<tr>
<td>Period</td>
<td>Whole operating period</td>
<td>15 Years</td>
</tr>
<tr>
<td>Guarantee Level (Max)</td>
<td>90%</td>
<td>80%</td>
</tr>
<tr>
<td>Condition</td>
<td>None</td>
<td>No MRG applied if Actual Revenue &lt; 50% of Forecasted Revenue</td>
</tr>
</tbody>
</table>

Source: Jae-Hyung Kim (2008)
Korean Case: To insure stability of cash flows (2)

- **Two tier tariff structure**: a tariff mixed with fixed portion to cover fixed cost and variable portion to cover variable cost of the project available to the earlier wastewater treatment projects

- Government subsidy during construction phase

- **Foreign exchange losses share**: given portion of the additional losses realized on foreign currency loans due to fluctuation to be assumed by the government
3. A supply of raw material, building materials, and energy and transportation to be used by the project are available and assured (1)

- Supply sources and contracts for feed stocks or raw material to be used by a project must be assured at a cost consistent with the financial projection. **Building materials** must be available at the projected cost => **bargaining power**, supplier’s or buyer’s market

- Energy costs are of paramount importance because of their escalation, and the possibilities of fluctuations in the future

- Transportation costs for moving the product/service from the project facility to the market be assured at a cost consistent with the financial projection
3. A supply of raw material, building materials, and energy and transportation to be used by the project are available and assured (2)

- What can be an appropriate scope of the public sector’s responsibility? Which party shall bear the unexpected cost overruns?
- What can be done in a market disturbance?
Korean Case: Prompt measures taken to cope with the financial crisis including

- Shared inflation rate risk with concessionaire for certain BTL projects through compensation of price changes of building materials
Criteria for a successful PF

4. Experienced and reliable contractor/operator

• The contractor must have technical expertise to complete the project, so that it will operate in accordance with cost and production specification.

• The operator must have the financial and technical expertise to operate the project in accordance with the cost and production specification which from the basis for the financial feasibility of the project.

• Lenders prefer a project financing in which one of the sponsors has the technical expertise to operate the facility and has experience of operating similar facilities.

☑ How can the evaluation criteria and selection process be prepared?
☑ What can be done in case of insolvency of the contractor/operator?
Criteria for a successful PF

5. No new technology is involved

- The project should not involve new technology
- Lenders who rely on cash flows from a project to service debt expect the project to be similar to other full-size working projects, with proven technology and engineering

☑ Is PPP applicable to all sectors?
PPPs in infrastructure by sector (OECD countries)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>1.75</td>
<td>17</td>
<td>0.99</td>
<td>1.96</td>
</tr>
<tr>
<td>Water</td>
<td>2.05</td>
<td>45</td>
<td>2.14</td>
<td>2.01</td>
</tr>
<tr>
<td>Road</td>
<td>51.76</td>
<td>163</td>
<td>58.32</td>
<td>50.15</td>
</tr>
<tr>
<td>Rail</td>
<td>26.60</td>
<td>38</td>
<td>24.28</td>
<td>27.10</td>
</tr>
<tr>
<td>Transport</td>
<td>14.37</td>
<td>49</td>
<td>9.88</td>
<td>15.60</td>
</tr>
<tr>
<td>Other</td>
<td>2.61</td>
<td>44</td>
<td>1.14</td>
<td>3.01</td>
</tr>
<tr>
<td>Sum</td>
<td>100</td>
<td>362</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Dealogic ProjectWise database (data extracted 19/2/08).

Criteria for a successful PF

6. A stable and friendly political environment exists; licences and permits are available; contracts can be enforced; legal remedies exist

- Any necessary permits must be readily available, and restrictions must be realistic

- What can done to alleviate administrative bottlenecks?

- To what extent can a concessionaire be allowed to have “right to go” ? - level of discretion

- Can documentation in foreign language be available ?
Criteria for a successful PF

7. No risk of expropriation; country and sovereign risks are satisfactory

- **Expropriation** can be direct or indirect; it can be fast or creeping
  - form of taxes
  - failure to renew licences or import or export permits
  - environmental restriction

- The risk of expropriation can be lessoned if the project company is owned by a number of investors from more than a country. Prominent local investors from the host country should be involved, if feasible

- It may, in fact, be to both the lenders’ and investors’ advantage if loans to the project are from an international consortium of lenders

☑ How can the risk of expropriation be stipulated in detail in a concession agreement so as to provide a comfort to the private sector?
8. Currency and foreign exchange risks have been addressed: inflation rate projection and interest rate projection are realistic

- Currency risk problems arise where revenues, expenses, capital expenditures and loans are in more than one currency and, therefore, subject to potential losses from currency fluctuations.

- During construction lenders look to the sponsors to make up any foreign exchange losses by providing additional funding.

- Can and should the public sector assume the currency losses of the private?
- Can and should the public sector step in during the financial market turmoil?
Korean Case: Prompt measures taken to cope with the financial crisis including

• Shared interest rate risks with concessionaires through;
  - compensation for the excess changes in base interest rates through grading of risks at the time of the concession agreement; and
  - shorter periods for readjusting benchmark bond yields (from 5yr. to 2yr.)

• Shared inflation rate risk with concessionaire for certain BTL projects through compensation of price changes of building materials
9. The project as collateral

- Lenders may be willing to rely on to some extent on project facilities and properties as collateral and security for debt repayment.

- What is an appropriate level of the termination payment?
- How can the public have the right to step in?
- How can the termination process be reasonable and justified?
10. Satisfactory appraisals

- Independent appraisals of project assets must be available

☑ How can the costs be justified?
11. Adequate insurance coverage

- An adequate insurance program must be available both during construction and operation of the project

☑ What is the proper coverage?
12. Force majeure risk

- Transaction documents in a project financing should include clauses which specify the events that excuse performance and the legal consequences of each event

- How can this risk be covered or mitigated?
- Which party shall be responsible for the costs?
## Criteria for a successful PF and PPP

### How these criteria embeded in PPP context [1]

<table>
<thead>
<tr>
<th>Criteria for a successful PF</th>
<th>Risks embedded in</th>
<th>Measures/Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A credit risk rather than an equity risk is involved (Short funding, Funding gap)</td>
<td>PPI Act, Basic Plans, CA, Policy drives</td>
<td>Infrastructure Fund, infrastructure Bond, SOC Credit Guarantee Fund, Reduction of the required equity ratio</td>
</tr>
<tr>
<td>2. A satisfactory feasibility study and financial plan have been prepared (Demand risk/Revenue risk)</td>
<td>PPI Act, Basic Plans, CA</td>
<td>Construction subsidy, MRG, Pricing (Two-tariff), Various tax incentives, Recognition of ancillary revenue sources</td>
</tr>
<tr>
<td>3. A supply of raw material, building materials, and energy / transportation to be used by the project is available and assured</td>
<td>Basic Plans, CA</td>
<td>Sharing of adverse movement in inflation risk</td>
</tr>
<tr>
<td>4. The contractor / the operator are experienced and reliable</td>
<td>Basic Plans, CA, (RFP)</td>
<td>Prerequisites for contractor/operator in PQ</td>
</tr>
<tr>
<td>5. New technology is not involved</td>
<td>PPI Act, Policy drives</td>
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Criteria for a successful PF and PPP

How these criteria embedded in PPP context [2]

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<tr>
<td>6. A stable and friendly political environment exists: licences and permits are available;</td>
<td>PPI Act, CA, Policy drives</td>
<td>Land expropriation rights to the concessionaire, Use of public properties for free</td>
</tr>
<tr>
<td>contracts can be enforced; legal remedies exist (Regulatory risk, Enforceability of contract)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. There is no risk of expropriation; country and sovereign risks are satisfactory (Political</td>
<td>PPI Act, CA</td>
<td>(Under investment risk)</td>
</tr>
<tr>
<td>risk, Country risk, Sovereign risk)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Currency and foreign exchange risk have been addressed; inflation rate projection and</td>
<td>Basic Plans, CA</td>
<td>Risk sharing for adverse movements in interest rate,</td>
</tr>
<tr>
<td>interest rate projection are realistic (Foreign exchange risk, Inflation risk, Interest risk)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. The project has value as collateral</td>
<td>Basic Plans, CA</td>
<td>Buyout option, Early termination with the Termination value</td>
</tr>
</tbody>
</table>
### Criteria for a successful PF and PPP

#### How these criteria embedded in PPP context [3]

<table>
<thead>
<tr>
<th>Criteria for a successful PF</th>
<th>Risks Allocated to</th>
<th>Measures/Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Satisfactory appraisals of resources and assets have been obtained</td>
<td>Policy drives</td>
<td>Recognition/acknowledgement of the relevant costs, Compensation for proposal cost</td>
</tr>
<tr>
<td>11. Adequate insurance coverage is contemplated</td>
<td>CA</td>
<td>Insurance coverage stipulated</td>
</tr>
<tr>
<td>12. Force majeure risk has been addressed</td>
<td>Basic Plans, CA</td>
<td>Risk sharing mechanism stipulated</td>
</tr>
<tr>
<td>13. Cost over-run risk, delay risk has been considered</td>
<td>CA</td>
<td>(Bundling)</td>
</tr>
<tr>
<td>14. Environmental risk are manageable</td>
<td>CA</td>
<td>(Risk of expropriation)</td>
</tr>
</tbody>
</table>
Recent remedies to ease burdens of the financial crisis

<table>
<thead>
<tr>
<th>Key remedy action taken by the government</th>
<th>Risk shared</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lowered equity capital requirements on concessionaires (5–10%) to further assure the adequacy of equity investment</td>
<td>Short funding</td>
</tr>
<tr>
<td>2. For large-scale projects, increased ceilings on guarantees provided by the Infrastructure Credit Guarantee Fund</td>
<td>Funding gap</td>
</tr>
<tr>
<td>3. Sharing of interest rate risks with concessionaires through compensation for the excess changes in base interest rates through grading of risks at the time of the concession agreement; and shorter periods for readjusting benchmark bond yields (from 5yr. to 2yr.)</td>
<td>Interest risk</td>
</tr>
<tr>
<td>4. Shared inflation rate risk with concessionaire for certain BTL projects through compensation of price changes of building materials</td>
<td>Inflation risk, Supply of materials</td>
</tr>
<tr>
<td>5. KDB to provide bridge financing without CA amendments</td>
<td>Short funding, Funding gap</td>
</tr>
</tbody>
</table>
### Criteria for a successful PF and PPP

**List of Risks Associated in PPP Projects**

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Risks</td>
<td>• Expropriation, reliability and creditworthiness of the government • Change in law and government policies • Political opposition • Corruption • Delay in approvals • Political force majeure events</td>
</tr>
<tr>
<td>Financial Risks</td>
<td>• Unfavorable economy in the host country • Rate of return restrictions • Lack of credit worthiness • Inability to service debt • Bankruptcy • Complex financial structure of PPP projects • Lack of guarantees • Financing risks • Loan ability • Fluctuation of the inflation rate, interest rate, foreign currency exchange rate • Unfavorable international economy</td>
</tr>
<tr>
<td>Construction Risks</td>
<td>• Land acquisition and compensation • Construction cost overrun • Construction time delay • Material/labor availability • Project site conditions • Contractor’s failure • Construction force majeure events</td>
</tr>
<tr>
<td>Operation and Maintenance Risks</td>
<td>• Operation and maintenance cost overrun • Operator’s incompetence and low operating productivity • Availability of material • Force majeure events</td>
</tr>
<tr>
<td>Market and Revenue Risks</td>
<td>• Insufficient revenue • Government restriction of profit and tariff • Inaccurate pricing and demand estimate • Fall of demand • The competition risks • Force majeure events</td>
</tr>
<tr>
<td>Legal Risks</td>
<td>• Prejudiced and unfair process of awarding the project • Host-country’s interference in choosing subcontractors • Overprotective control/supervision by the host government • Disapproval of guarantees by the government • Change of host country’s fiscal regime • Change of host-country’s consideration of the project’s scope • Non-cooperation between public agencies • Actions or omissions of the public authorities that prevent the project to be completed • Unsteady legal and regulatory framework • Poor legislation • Non-enforcement of legislation • Lack of a stable project agreement • Vague and inconsistent clauses and specifications and inaccurate phasing • Non-accordance between all contracts in the BOT framework • Language barrier for the contract • Breach of contract provisions • Revision of the contract clauses • Unanticipated change of the concessionaire scheme • Lack of confidentiality and trust in the concession company • Risks of early termination • Legal force majeure events</td>
</tr>
</tbody>
</table>

*Source: Kwak et al (2009)*
Risk allocation in PPP

“Every risk should be allocated to the partner who is in the best position to affect the risky outcome and minimize any negative impact of the underlying uncertainty on the project.

If none of the partners can control and hence manage a risk, the issue is to find the partner who can best bear the risk”

(Timo Välilä 2005)
Thank You

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