A PPP overview:

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A Research Partnership[1]

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[1] Public-Private Partnerships: A Basic Guide, Cambridge University Press, 2013.

Overview

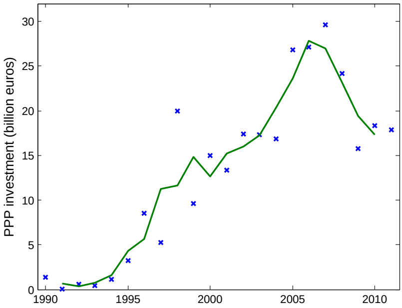
Broadly speaking, three contractual forms to provide infrastructure services:

1. Public provision
2. Privatization
3. Public-private partnerships (PPPs).

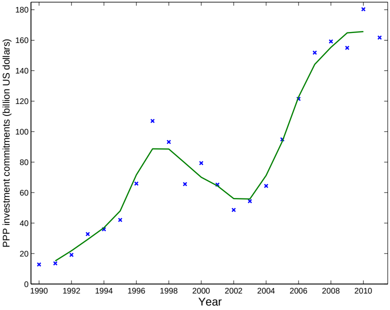
A relevant topic

- Europe: 15-25% of infrastructure investment in Portugal and the UK.
- Latin America: Argentina, Brazil, Chile, Colombia, Mexico and Peru are big users.
- Australia (not New Zealand)
- China

Investment in PPPs



Europe



Low- and Middle-income countries

Talk Overview

- Economic characteristics of infrastructure show us when to use PPPs.
- When:
  - Better than public provision (VFM?)
  - Better than privatization?
- How
  - Risk sharing?
  - contract design?
  - fiscal accounting?

Traditional economic approach to market structure:

- Natural monopoly $\rightarrow$ price regulation of utility
- Constant returns to scale $\rightarrow$ competition
- Public infrastructure: $\rightarrow$?

EXAMPLES

- Electric power generation (competition feasible) $\rightarrow$ privatization.
- Electric distribution (natural monopoly) $\rightarrow$ regulated utility.
- Highway (natural monopoly, exogenous demand volatility) $\rightarrow$?
- Public hospitals (clients know quality, cannot be charged, information asymmetries) $\rightarrow$?
- Jails ("clients" cannot be charged and they do not demand the service) $\rightarrow$?

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- *"Any collaboration between public bodies, such as local authorities or central government, and private companies tends to be referred to a public-private partnership (PPP)." The BBC*

COMMON TERMS

Partnerships: BLT, BLTM, BOT, DBOT, DBFO, DBFO/M, ROT, JV, greenfield vs. brownfield.

- B=Build, L=Lease, T=Transfer, M=Manage, D=Design, F=Finance, O=Operate, R=Rehabilitate

Contractual arrangements, from Guasch 2002.

Public supply and operation
↓
Outsourcing
↓
Corporatization and performance agreements
↓
Management contracts
↓
Leasing (affermage)
↓
Franchise
↓
Concession
↓
Build-operate-transfer (BOT)
↓
Build-own-operate (BOO)
↓
Divestiture by license
↓
Divestiture by sale
↓
Private supply and operation

"Concessions"

"Privatizations"

What is a PPP

- PPPs lie somewhere between public provision and privatization.
- Essential aspects:
  - Assets are owned by the public sector but controlled temporarily by private party.
  - Planning and design is done by the public sector, sometimes with private party.
  - Public sector is residual claimant (ambiguously) for construction risk, maintenance risk and demand risk.

The main example: Highways

In terms on amount invested, the most important type of PPP.

- Large and sunk upfront investments
- Long lived assets
- Usually a natural monopoly (intercity) or part of a network (urban) or both.

Operation and maintenance

- Maintenance a function of use
- Excludable rival good: congestion is a problem.
- Deterioration obvious only when repairs are very costly.
- Damage nonlinear on axle weight.
- Choices at construction can alter life cycle costs.

Policy risk

- Unintended
  - Monetary and exchange rate policies
  - Improvement in general quality standards.
- Intended
  - Building competing road
  - Expropriation, regulatory takings.

Demand risk

- Large and mainly exogenous (case of Spain).
- Traffic projections often mistaken.
  - Macro risk affects projections
  - There is also much micro risk,

Example (Dulles Greenway, Washington DC)

- *Demand projected at 30.000/day at toll of US$ 1.75.*
- *Initially 8.500/day (also wider competing road)*
- *Tolls lowered to US$ 1, rides increased to 22.000/day.*
- *The PPP defaulted, renegotiated its bonds and started making money.*

Benefits of PPPs

- Reduction of life cycle costs through bundling construction-operations-maintenance.
- Maintenance and service quality (specially if user fees that empower users).
    - Private party has large sunk investment at risk.
    - Sporadic maintenance more expensive $\Rightarrow$ continuous maintenance.
    - Under public provision, continuous maintenance not attractive for political reasons (low- middle-income countries)

Other benefits

- Potentially less waste of funds going through government (user fees go directly to concessionaire).
- More ability to resist populist pressures to reduce user fees.
- When user fees, users pay and not the rest of the country.
- If no guarantees or subsidies, market test of the infrastructure project.

Dangers of PPPs

- There are no major fiscal benefits. There are fiscal risks.
- Risk of easy money, over-designed projects, ambitious PPP programs.
- Renegotiation
- Political economy problems.
- Additional corruption possibilities.

Examples: failures and successes

- UK had 668 operating PPPs in 2009. Schools, hospitals, transportation, etc. However, has to pay £9-10 Billion/year until 2030.
- Portugal obtained a new set of (partially empty) highways. Has to pay 1% of GDP until 2025 to repay costs.
- Mexico was unsuccessful in its first attempt at highway PPPs in the 1990s. Cost to Mexico: US$ 12 Billion. Now doing better.
- Colombia was unsuccesful in the first three generations of highway PPPs. Roads did not get built or were delayed by several years, contingency payments excessive.
- Chile was successful: Modernized its highway system in 1995-2005 with controlled costs. Faces congestion and need for renegotiation,
- Mozambique's Trac 1 highway was successful, shortening travel times and improving road quality until recently.

Mozambique's Trac 1 highway

Chile’s highway PPPs

Chile before

Chile after

Are PPP's a free lunch?

PPPs and fiscal constraints

- PPPs are supposed to relax fiscal contraints.
- From an fiscal accounting point of view …not in reality.
- Consider the PFI program: UK repays capital costs of private party with annual payments.

$\boxed{\textbf{Is it not debt?}}$

The case of a PPP financed with user fees

- Consider a PPP highway financed by tolls.
  - Public sector could have built the road with public provision.
  - Collected the same tolls.
  - No difference from a financial point of view, nor in effect on tax-induced distortion.
- Difference is in fiscal accounting: Investment is considered as spending.
- This limits investment ⇒ attempts at differentiation according to risk transfer (Eurostat).
- Other forms of investment do not receive this preferential treatment: education.
- In the UK, PFI used to evade Maastricht agreement on public spending (F. Times).

Subtler financial arguments for PPPs

- If the process of transferring resources from government to firms is inefficient due to corruption or excessive bureaucracy.
- A PPP can collect its compensation directly without government intervention.
- If the government is is sensistive to complaints about tolls, and reduces them.
- A private firm is less responsive to populist pressures, requests compensation.

Example

- *The City of Chicago did not raise tolls on the Chicago Skiway for decades, until forced by courts or by privatization.*
- *Even under PPPs, the government may intervene: In the leased Indian Toll Road, the state froze tols until 2016, with compensation to the private party.*

Contract renegotiation

- In the long term all contracts must be renegotiated. Conditions change.
- As the UK has found out, this can be very expensive.
- Initial competitive condition $\rightarrow$ bilateral monopoly (Williamson 1976),
- Renegotiations can corrupt the political system: lots of money at stake.
- Renegotiations can be used during construction to satisfy interest groups, or to escape constraints imposed by social cost-benefit analysis.
- If the government has all the bargaining power, expropriates private party.
- So all agreements must be consensual, unless a fair standard can be found.

Examples

Example

(Renegotiations)

- *The contract for an urban PPP in Santiago was increased to include large mains collector for rainwater after winter flooding (more than 50%).*
- *Fiscal cost of renegotiation was 20.3% in Chile, 26.5% in Peru, plus 3.4 and 7.1 additional years of contract.*
- *In Colombia, 223%, according to E. Bitrán.*
- *In the UK, only 35% of PFI projects renegotiated during construction, 25% of projects due to requests from public sector.*

Moreover, renegotiations give an unfair advantage to firms that specialize in negotiations at the expense of engineering ability.

Conclusions

- PPPs are powerful tools: can provide resources and human capital to drastically improve infrastructure.
- In the case of highways, better maintenance, lower life cycle costs.
- Temptation to spend what looks like free resources.
- These resources are not free, except in fiscal accounting terms.
- Renegotiations are a serious but necessary issue.
- PPPs provide scope for corruption, specially if non-competitive awards.