



# **Public-Private Partnerships For infrastructure in Central Asia**

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# OUTLINE

- What
- Why
- Status of PPP in CAREC
- Who are the players
- How to



# WHAT IS PPP?

- PPP covers a wide variety of arrangements for the participation of private organisations in public projects.



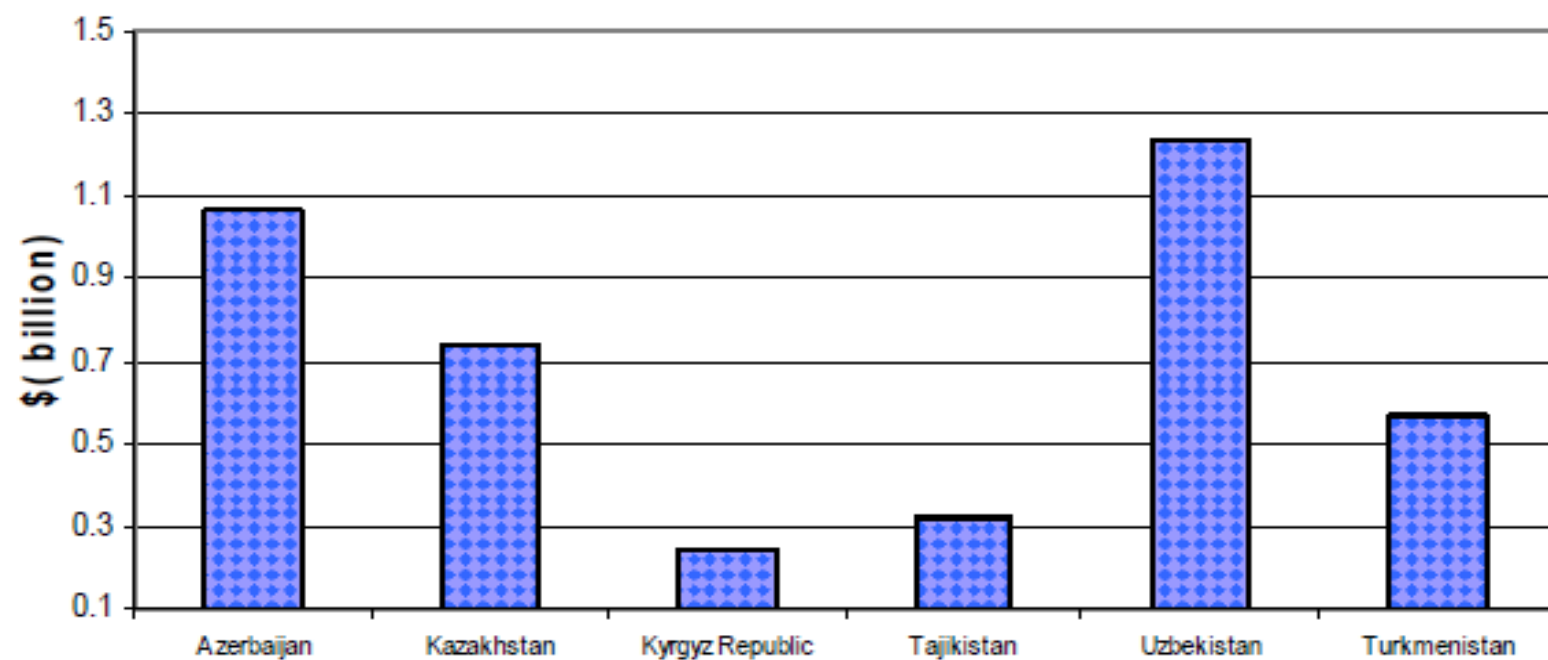
- Transportation facilities, water and waste-water services, telecommunications systems, energy generation and distribution and waste management facilities.
- Can be financed mainly by user charges.
- Private participation can cover design, construction, financing and operation.

# WHY PPP in CAREC Countries?

- Connectivity (within, between and beyond the countries) is key to expanding trade and access to markets and supporting broader economic growth
- PPP is key to achieving connectivity



**Annual Infrastructure Demand, Central Asia**  
in US\$ billion

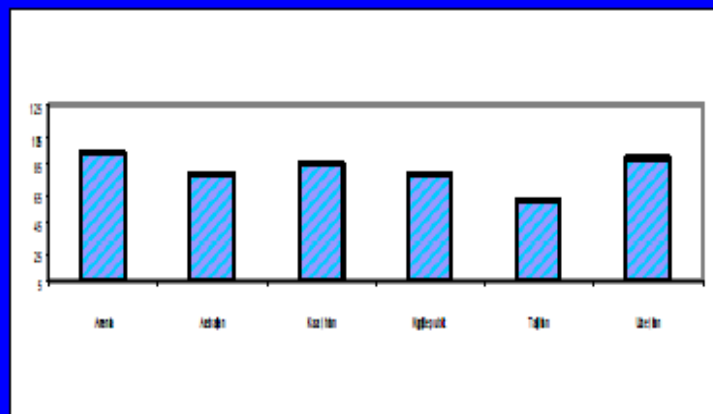


Source: ADB. 2007. Survey of Market for Subnational Finance in Asia and the Pacific

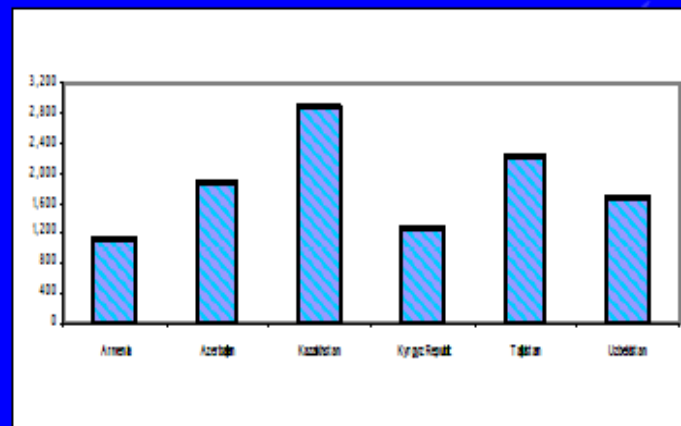


# ...There are Significant Variations in Service Access

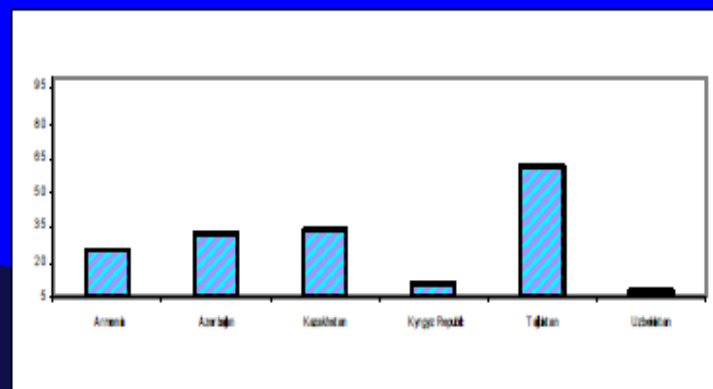
Water supply access (%)



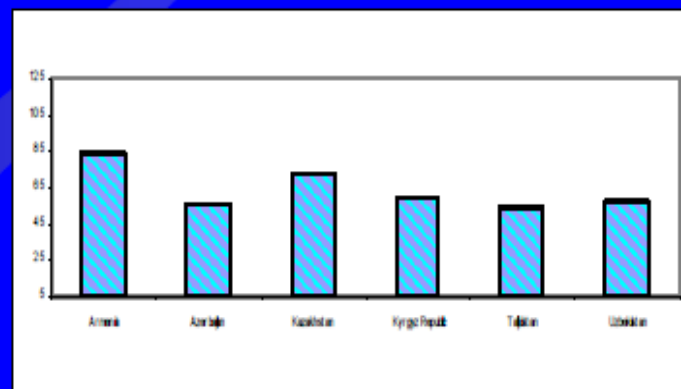
Electricity access (kwh/capita)



Telephone access (subscribers / 100 inhabitants)



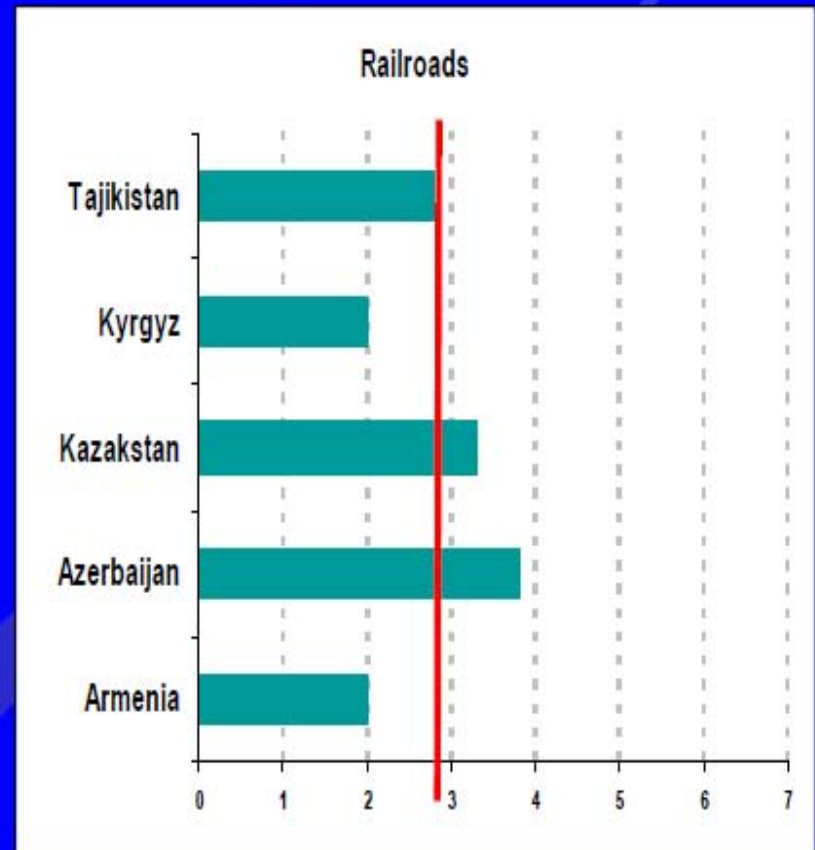
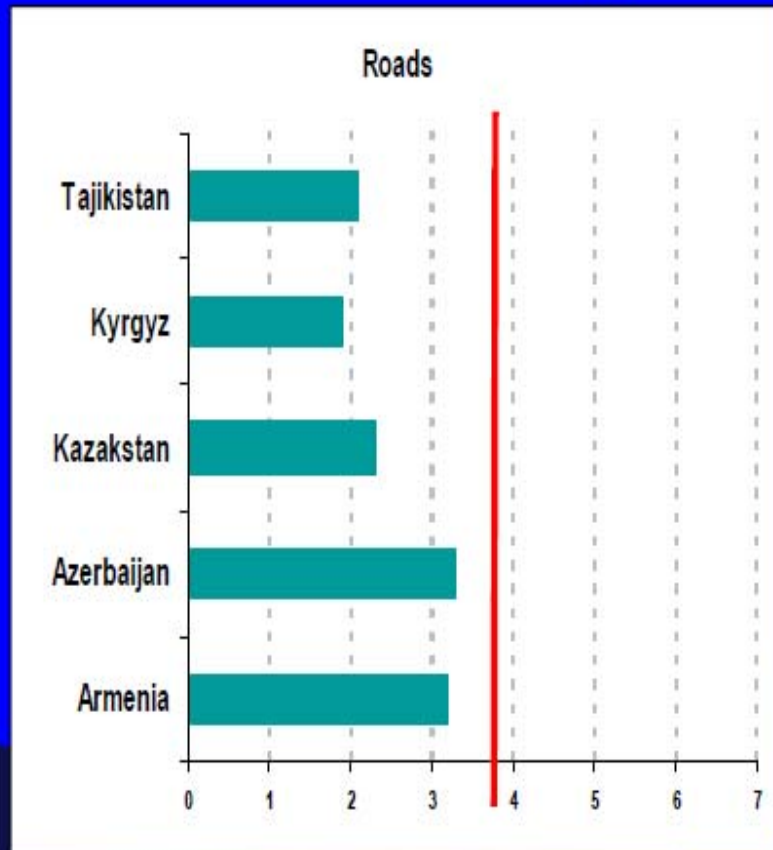
Improved Sanitation



Source: World Development Indicators, 2006

# Roads and Railroads: Quality Ranking

World Competitiveness Report Ranking, 2006-2007

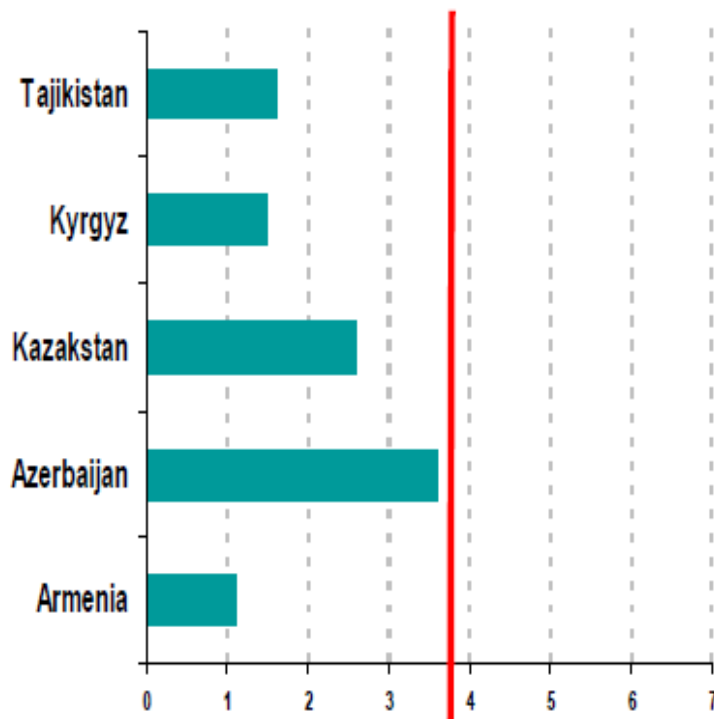


Note: Vertical line is the average for all 125 surveyed countries, both within and outside of East Asia.

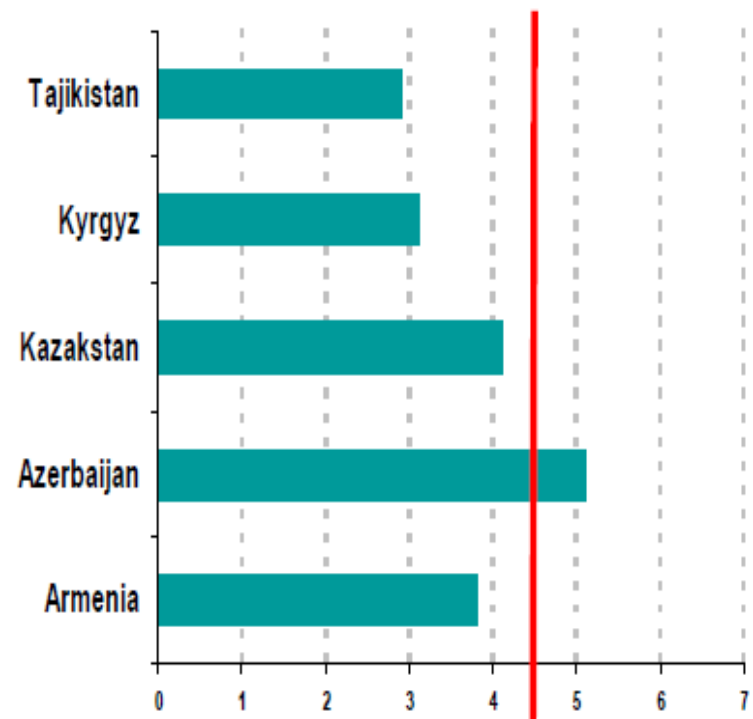
# Ports and Air Transport: Quality Ranking

World Competitiveness Report Ranking, 2006-2007

Ports



Air Transport

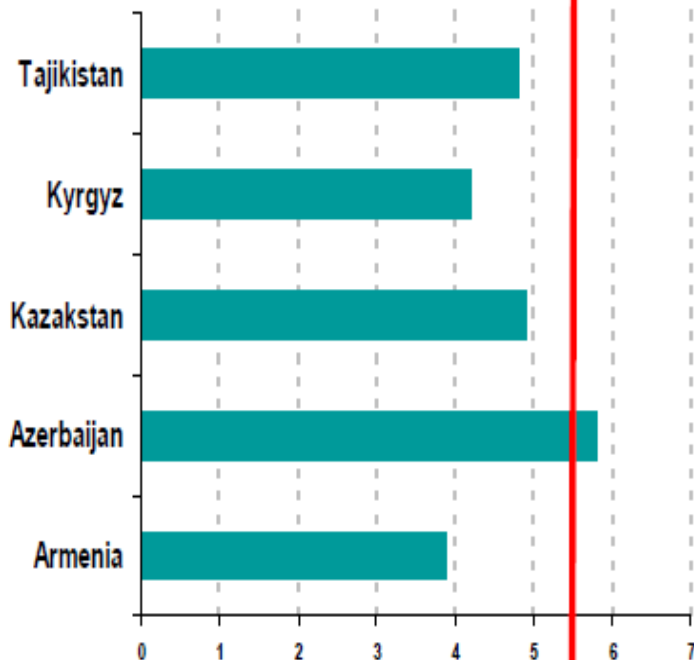




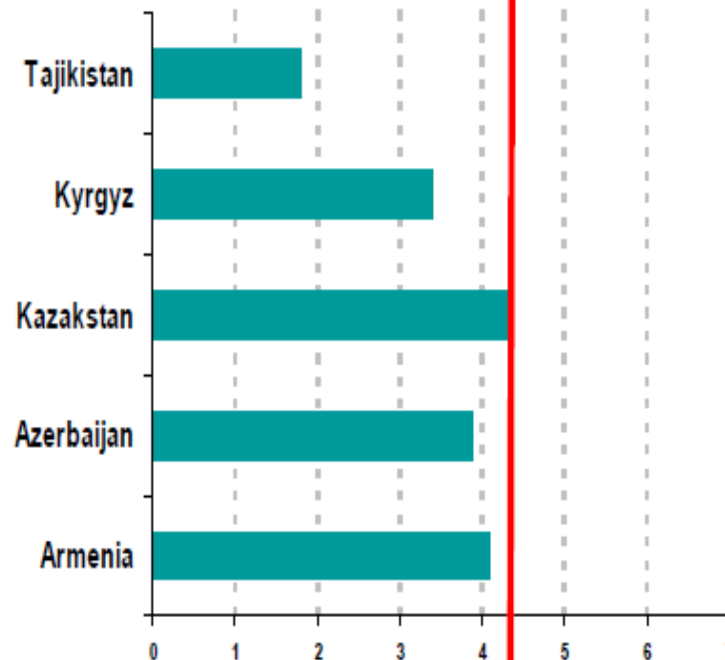
# Telephones and Electricity Supply: Quality Ranking

World Competitiveness Report Ranking, 2006-2007

Telephones



Electricity Supply

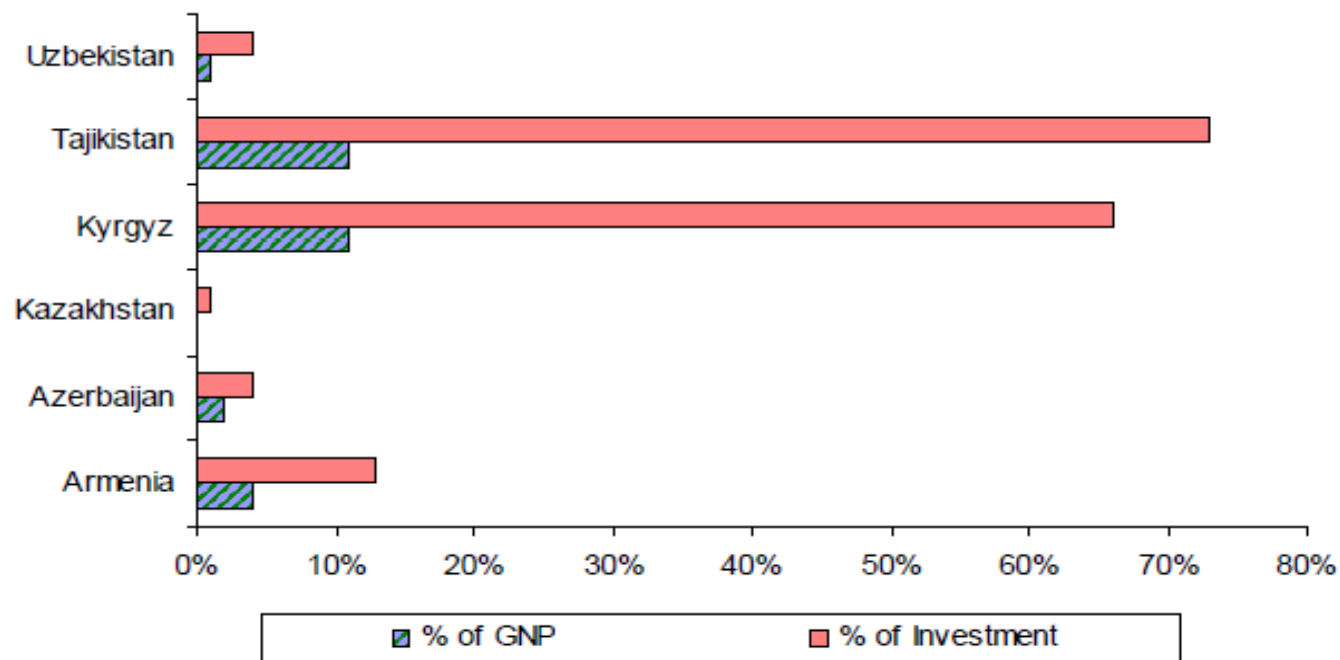


## **CAREC Infrastructure - Financing Needs**

- CAREC Region requires infrastructure financing of about \$12 billion per annum
  - Actual expenditure is likely to be less than half this amount, mobilized from
    - Public sector
    - International donors
    - Private sector

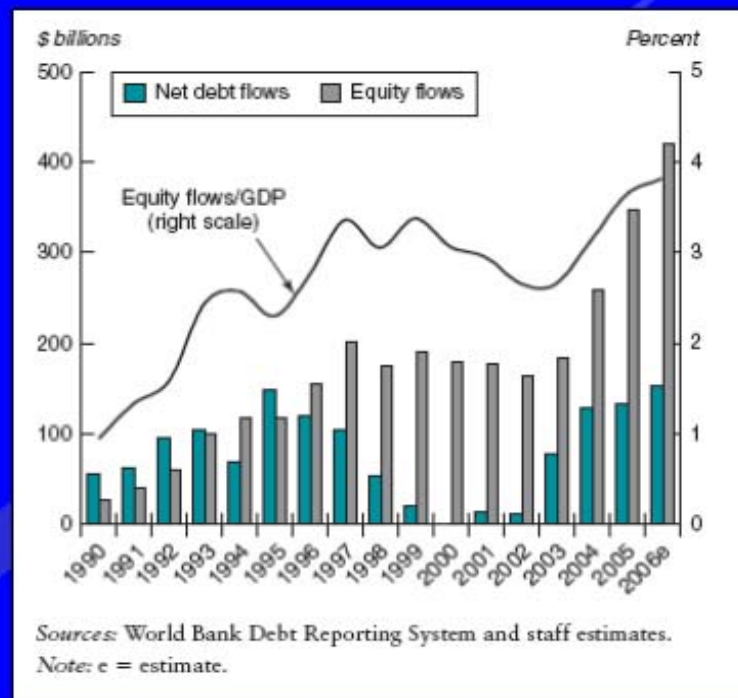
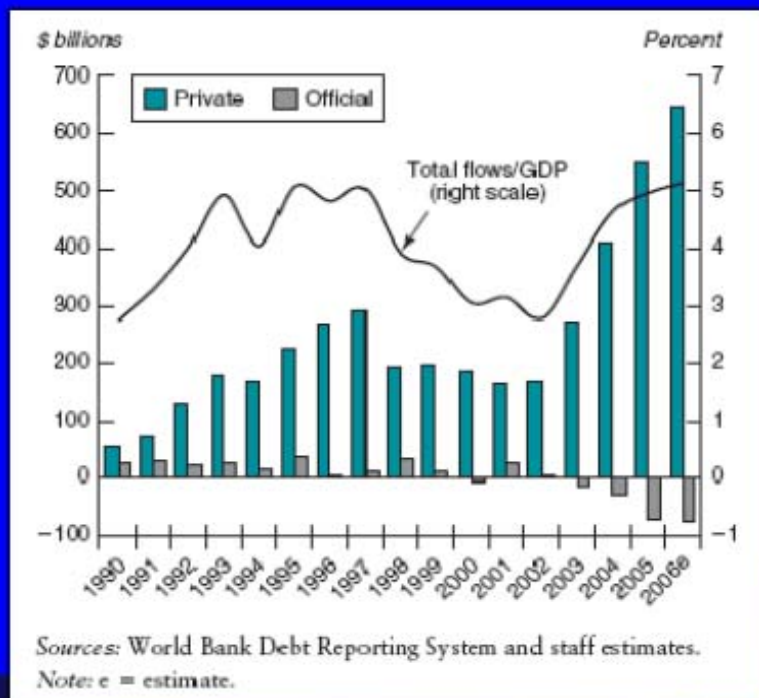
# CAREC Infrastructure Financing - the International Community

CARAC Development Assistance  
% of GDP and % of investment, 2005



Source: World Development Indicators, 2005

# Private Sector is Becoming the Dominant Source of Finance in Developing Economies, 1990-2006



Source: Global Development Finance, 2007

Increasingly, these funds are being directed towards private infrastructure investment

# WHY PPP in CAREC Countries?

- introduces competition / improves efficiency;
- Introduces managerial practices/experience of private sector;
- restructure public sector service by embracing private sector capital / practices;
- Can achieve greater efficiency than traditional methods of providing public services.

# WHY PPP?

- Sharing project risk with private partners;
- Technology transfer and capacity building for partner government organisations;
- New sources of tax revenue from private partners.



# WHY PPP?

- Access to design, construction, finance and management expertise available from the private partners, not otherwise available to the government;
- Ability to access private capital markets for project-specific finance; leverage guarantees by donors
- Superior construction and operating performance from the private sector;

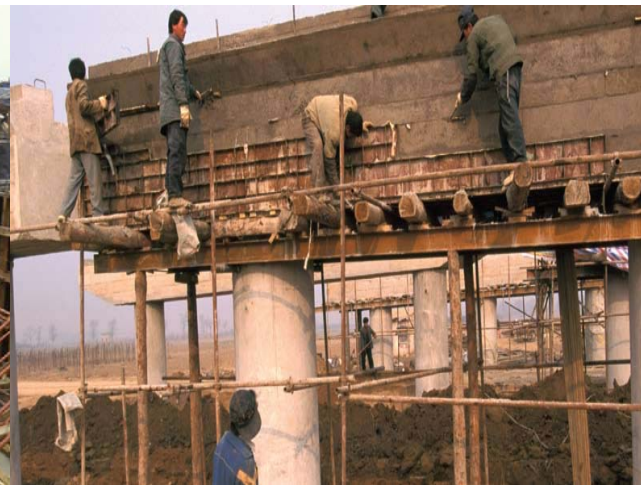


# Impact of PPP

- Telecom PPP in Afghanistan
- Electricity in Armenia
- <http://www.ppiaf.org/content/view/113/147/>

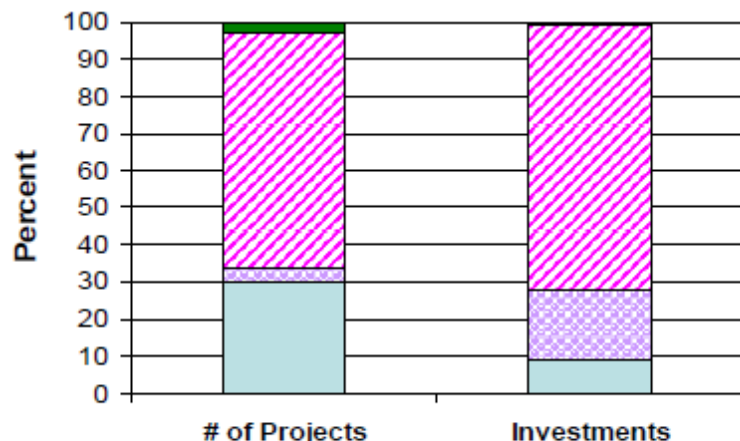


## **Current State of PPP in CAREC Countries:**



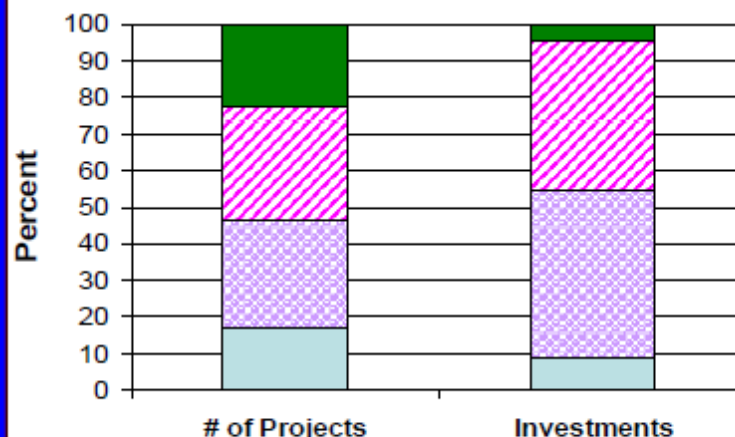
# Private Infrastructure Investment Commitments: 2005-2006

GLOBAL: By Contract Type  
2005-2006



- Management and lease contract
- Greenfield
- Divestiture
- Concession

ECA: By Contract Type  
2005-2006

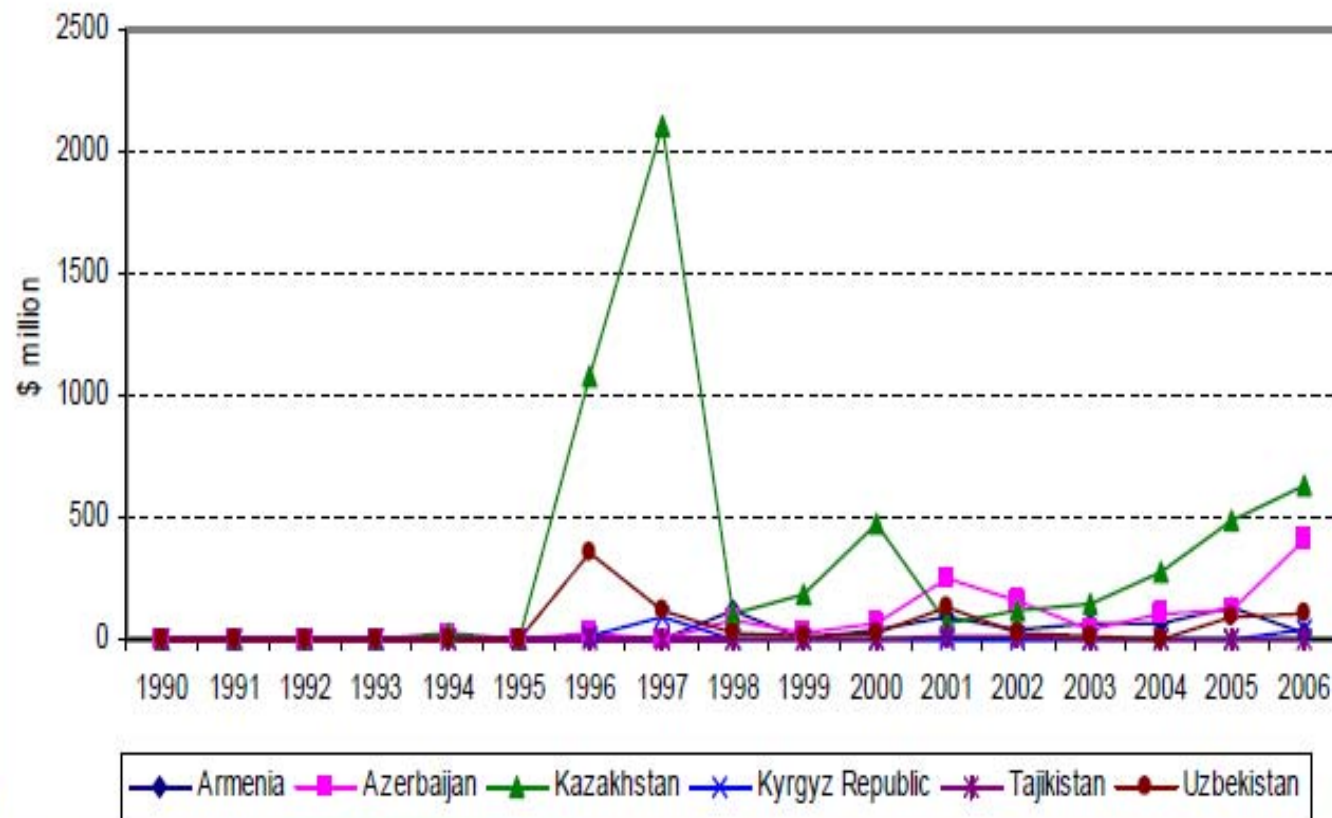


- Management and lease contract
- Greenfield
- Divestiture
- Concession

- Greenfield (concessions) continues to be dominant form of contract
- (Brownfield) concessions second most popular (in terms of number of projects) but relatively small deal size
- In ECA – divestiture still important source of private capital

# CAREC PPI

*- Starting to Increase from a Low Base*

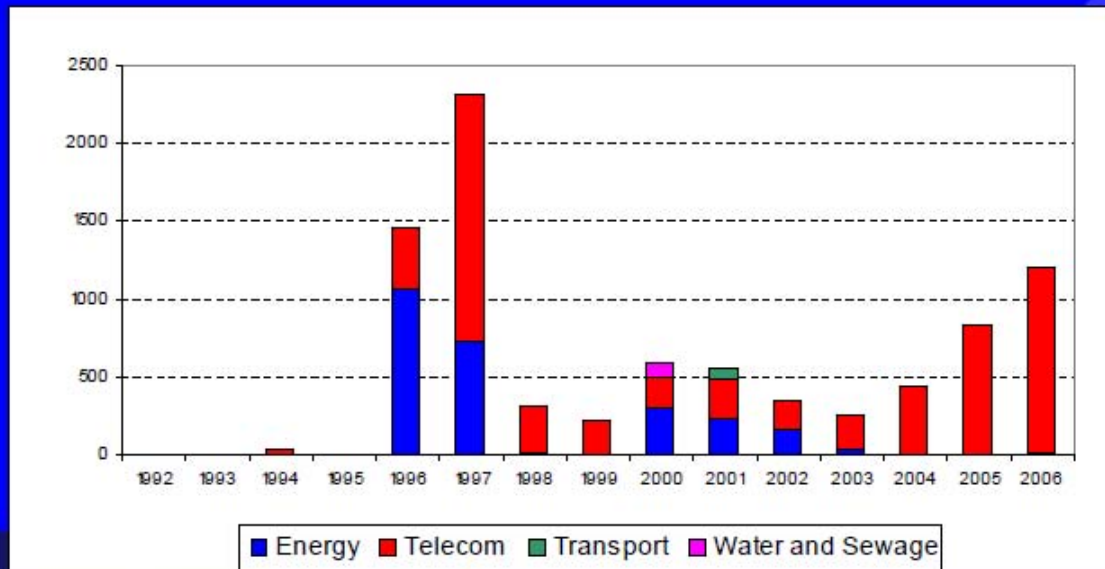




## CAREC PPI

– *Driven by Energy pre-crisis period and Telecom in post-crisis*

US \$ million





# PPP Projects 1990-2007: Tajikistan

Sector	Sub-Sector	Number of Projects	Total Investment (US Mil)
Energy	Electricity	1	16
Telecom	Telecom	5	74
Total		6	90

## Mongolia

Sector	Sub-Sector	Number of Projects	Total Investment
Telecom	Telecom	4	44
Total		4	44

# PPP Projects 1990-2007: Uzbekistan

Sector	Sub-Sector	Number of Projects	Total Investment (US Mil)
Telecom	Telecom	7 (Greenfield)	1,483
Transport	Railroads	1 (Divestiture)	25
Water and sewerage	Utility	1 (Management contract)	0
Total		9	1,508

# PPP Projects 1990-2007: Kazakhstan

Sector	Sub-Sector	Number of Projects	Total Investment
Energy	Electricity	15 (Management)	1,496
	Natural Gas	11(Divestiture)	604
	Total Energy	26	2,100
Telecom	Telecom	4	5,437
	Total Telecom	4 (Greenfield)	5,437
Transport	Airports	2 (Concession)	31
	Railroads	1	231
	Total Transport	3	262
Total		33	USD 7,799 Million

Mostly divestiture

# PPP Projects 1990-2007: China

Sector	Sub-Sector	Number of Projects	Total Investment
Energy	Electricity	174	33,062
	Natural Gas	182	4,277
	Total Energy	356	37,339
Telecom	Telecom	4	14,518
	Total Telecom	4	14,518
Transport	Airports	17	2,766
	Railroads	8	6,084
	Roads	133	25,397
	Seaports	62	13,202
	Total Transport	220	47,449
Water and sewerage	Treatment plant	273	5,543
	Utility	31	2,884
	Total Water and sewerage	304	8,427
Total		884	107,732

# PPP Projects 1990-2007: China

Sector	Concession	Divestiture	Greenfield project	Management and lease contract	Total (Mil USD)
Energy	1,182	7,063	29,094	0	37,339
Telecom	0	14,518	0	0	14,518
Transport	8,530	10,526	28,392	1	47,449
Water and sewerage	4,067	498	3,319	543	8,427
Total	13,779	32,605	60,805	543	107,732

# PPP Projects 1990-2007: Afghanistan

Sector	Sub-Sector	Number of Projects	Total Investment
Energy	Electricity	1	2
Telecom	Telecom	5 (GF)	1,447
Total		6	1,448

## Kyrgystan

Sector	Sub-Sector	Number of Projects	Total Investment
Telecom	Telecom	6 (GF)	228
Water and sewerage	Utility	1 (MC)	0
Total		7	228



# Comparative Infrastructure Indicators

Indicators	Mongolia	Tajikistan	Uzbekistan	Kazakhstan	Kyrgyz Republic
GNI per capita, Atlas method (current US\$)	880	390	610	3,790	490
Access to electricity (% of population)	90	..	..	..	..
Electric power consumption (kwh per capita)	..	2,226	1,670	2,911	1,269
Improved water source (% of population with access)	62	59	82	86	77
Improved sanitation facilities (% of population with access)	59	51	67	72	59
Total telephone subscribers per 100 inhabitants	27	..	..	..	19



## Modalities of public-private partnerships





Service  
Contracts

Management  
Contracts

Leases

Build/Operate/  
Transfer

Divestiture

## PPPs – Main Modalities

1. **Service contracts** are short term and in infrastructure relates to services such as project design, construction, operations and/or maintenance
2. **Management contracts** provide only private sector management expertise and no capital, primarily used when Government wants to access private sector management and technology skills to operate facilities
3. **Operating leases** provide only private sector management expertise and no capital, used when the Government does not wish to sell an asset
4. **Design Build Finance Operate (DBFO) Concessions** are a primary form of PPP, used where the Government purchases the outputs, often using a fixed annuity payment, plus a performance bonus, such as in the road sector. This type of PPP is relatively new in emerging economies, but it is becoming increasingly important in countries such as India.
5. **Build Own Operate Transfer (BOOT) concessions** are the other main form of PPP, used where the Government does not purchase the outputs directly, but tariffs are typically set by a regulator, such as in the power sector. This is the most common form of PPP used in emerging economies to date.

***Each modality offers increasing levels of financial risk being assumed by the private sector service provider with increasing regulatory risk for the Government***

## PPP Modalities – Resource and Risk Allocation

PPP Option	Labor	Capital investment/ Financing	Contract Duration	Output Risk (quality, minimum unit costs & secure availability)	Investment Risk (competitive return on equity capital)
Service contract	Private	NA	1 – 2 years	Public	Public
Mgt. Contract	Private	Public	3 – 5 years	Public	Public
Operating Lease to Private Sector	Private	Public	5 – 15 years	Public	Public
Concession (DBFO)	Private	Private	15 – 25 years	Public	Private
Concession (BOOT)	Private	Private	15 – 25 years	Private	Private

# Compliance with Concession Law: Central Asia and Transition economies

**Table 1. Level of Compliance/Conformity with International Practices regarding Concession Legislation: Case of Transition Countries with and without Concession Law.**

<b>Very High Compliance/ Fully Conforms</b>	<b>High Compliance/ Largely Conforms</b>	<b>Medium Compliance/ Generally Conforms</b>	<b>Low Compliance/ Partly Conforms</b>	<b>Very Low Compliance/ Does Not Conform</b>
Bulgaria	Ukraine	Hungary	Belarus	Slovak Republic
Kyrgyz Republic	Croatia	Moldova	Serbia and Montenegro	Armenia
Lithuania	Uzbekistan	Romania	Bosnia and Herzegovina	Czech Republic
	Slovenia	Macedonia	Latvia	Russia
		Tajikistan	Turkmenistan	
		Kazakhstan	Albania	
		Estonia	Georgia	
			Azerbaijan	
			Poland	

Source: EBRD. "Concession Assessment Project." Cover Analysis Report, 2004.





# Public-Private Partnerships

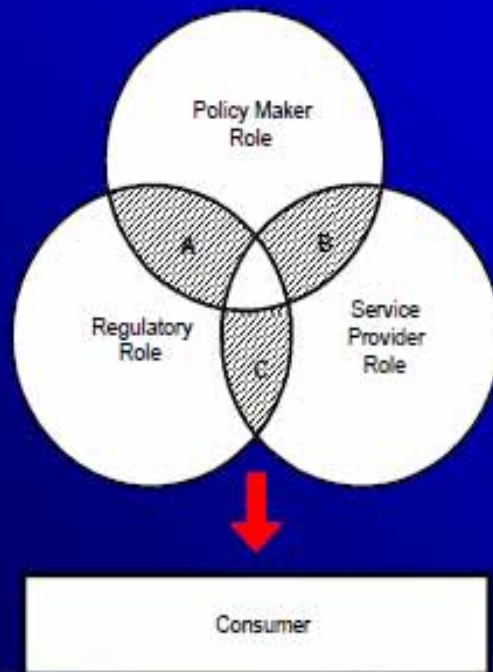
## Stages of Development



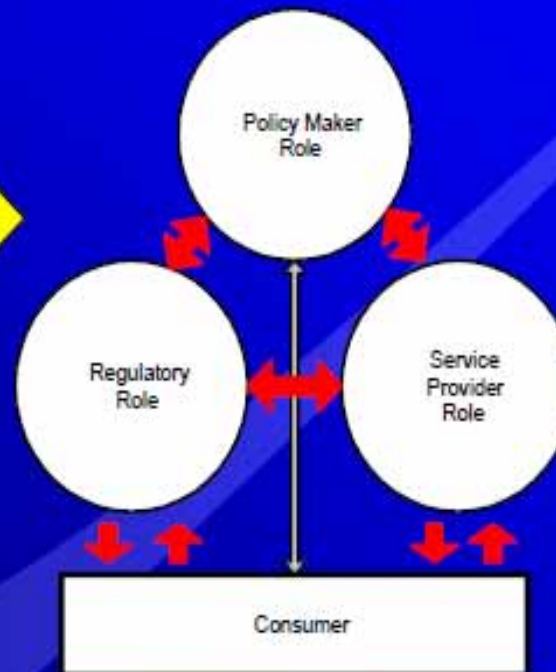


# PPP Development - Stage 1: Unbundling of Public Sector Functions

Vertically Integrated Monopoly

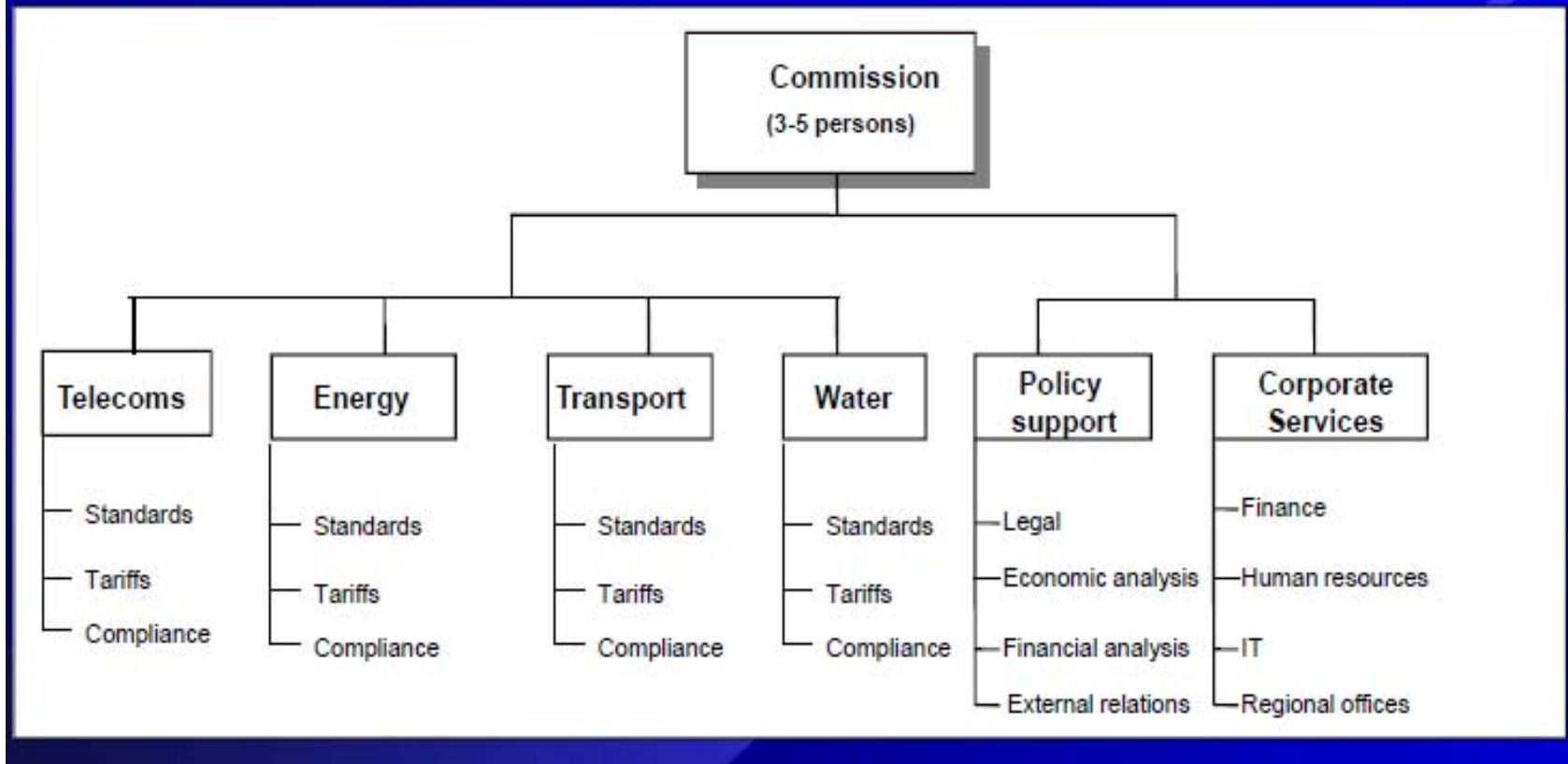


Competitive Supply

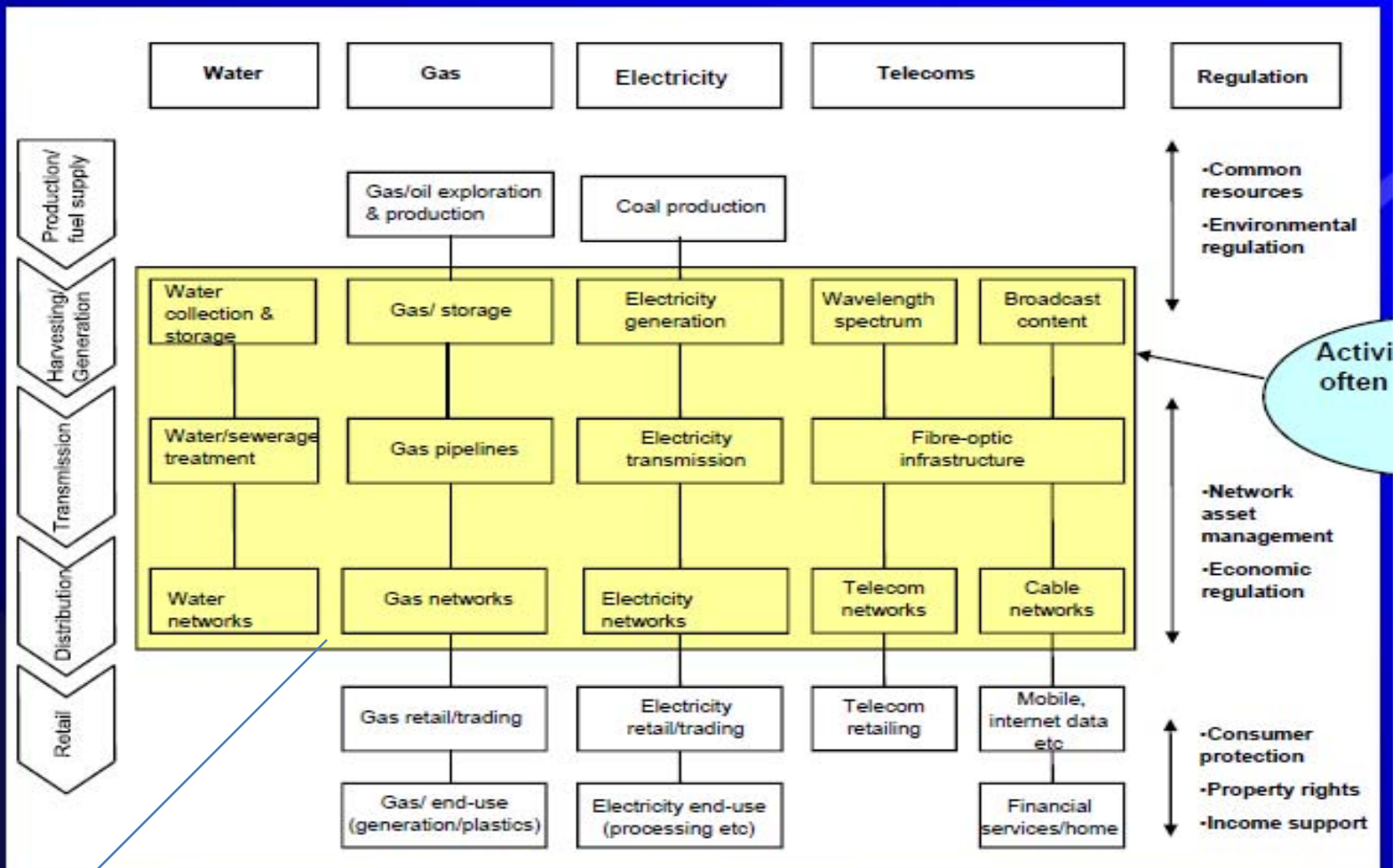


# PPP Development -

## Stage 2: Establishing an Independent Regulator



# PPP Development - Stage 3: Unbundling of Service Provision



# HOW TO: PPP PROCESS

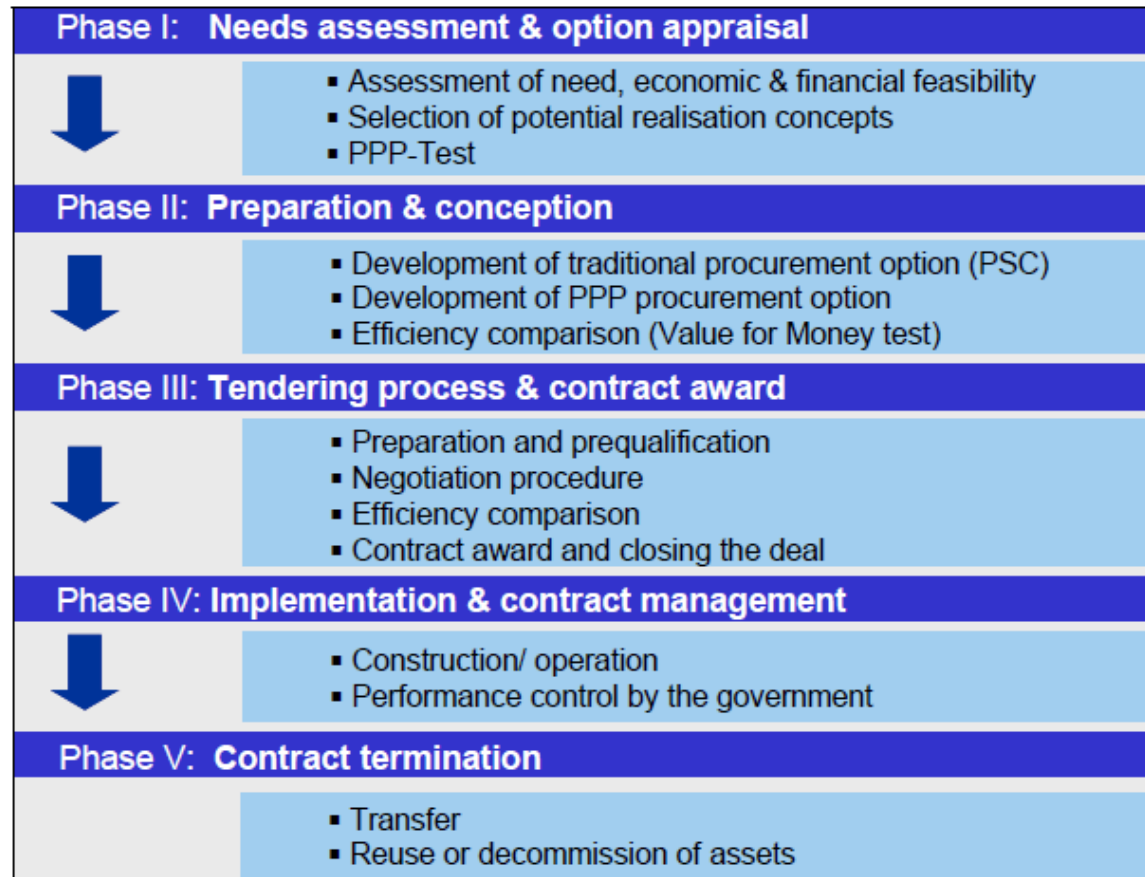


Figure 6 – Typical Procurement Process for functional/vertical PPPs

# WHO ARE THE PLAYERS?

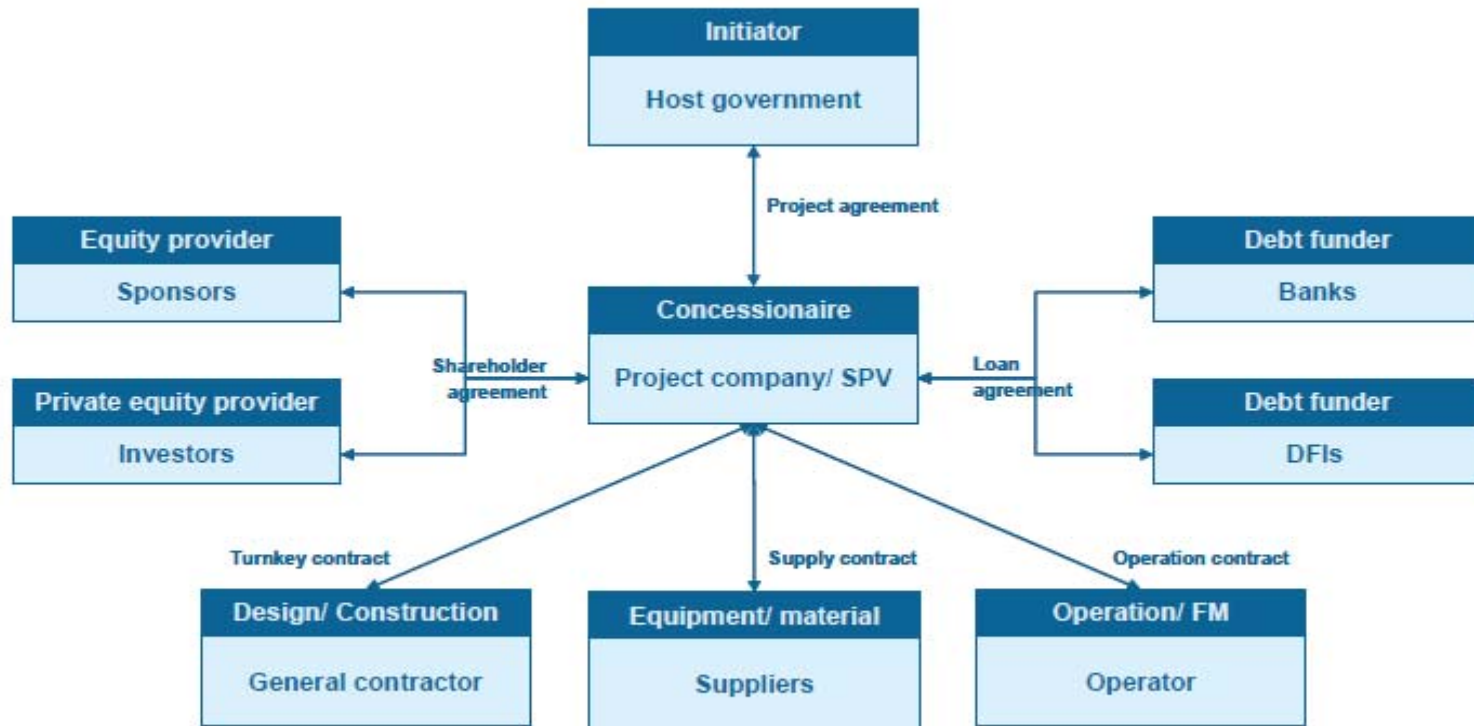
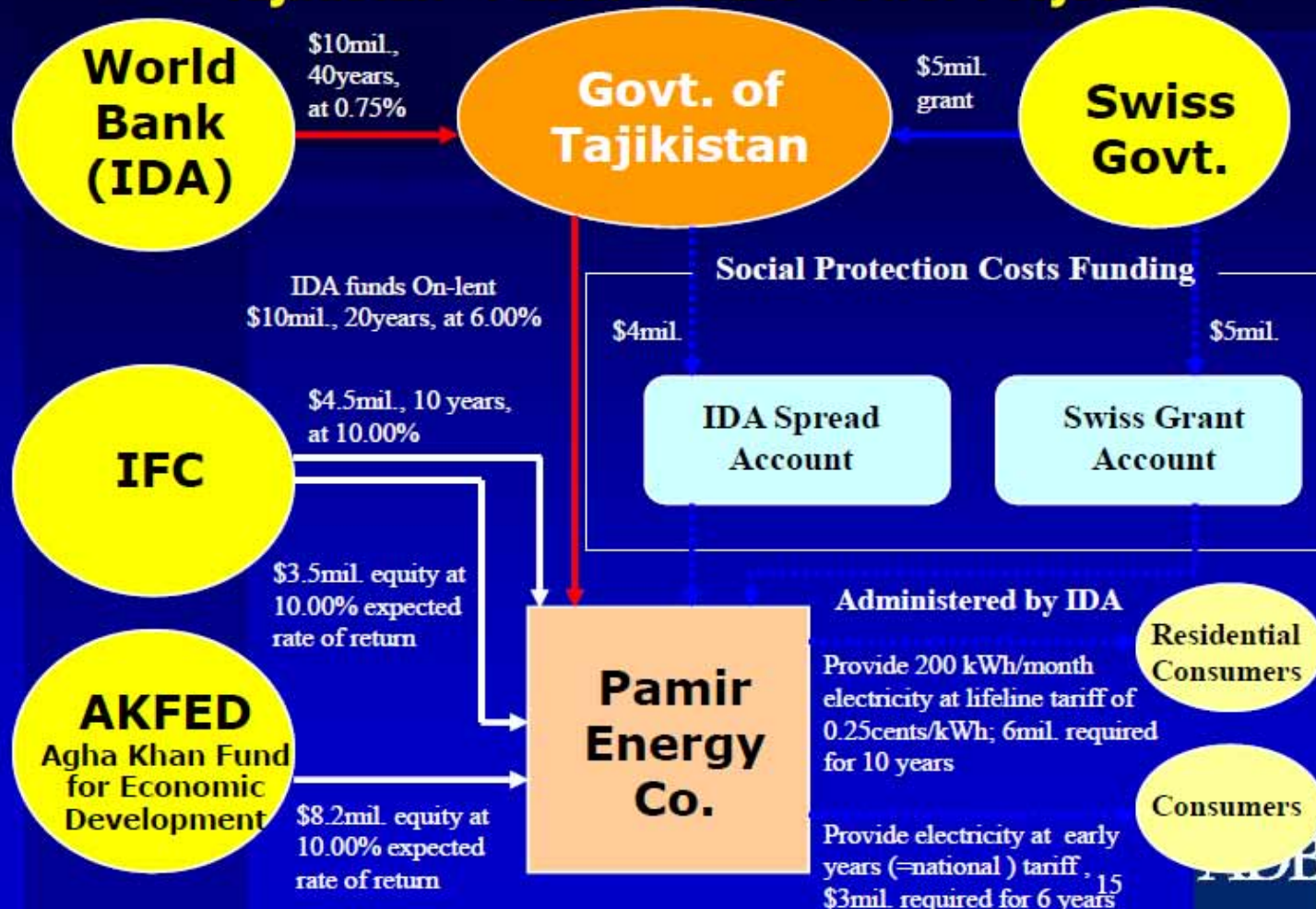


Figure 7 – Principal parties and different kind of contracts in a typical PPP structure



# Tajikistan - Pamir Private Power Project



# WHO ARE THE PLAYERS AND WHAT ARE THEIR INTERESTS?

*Table 2 – Principle project stakeholders and their contributions*

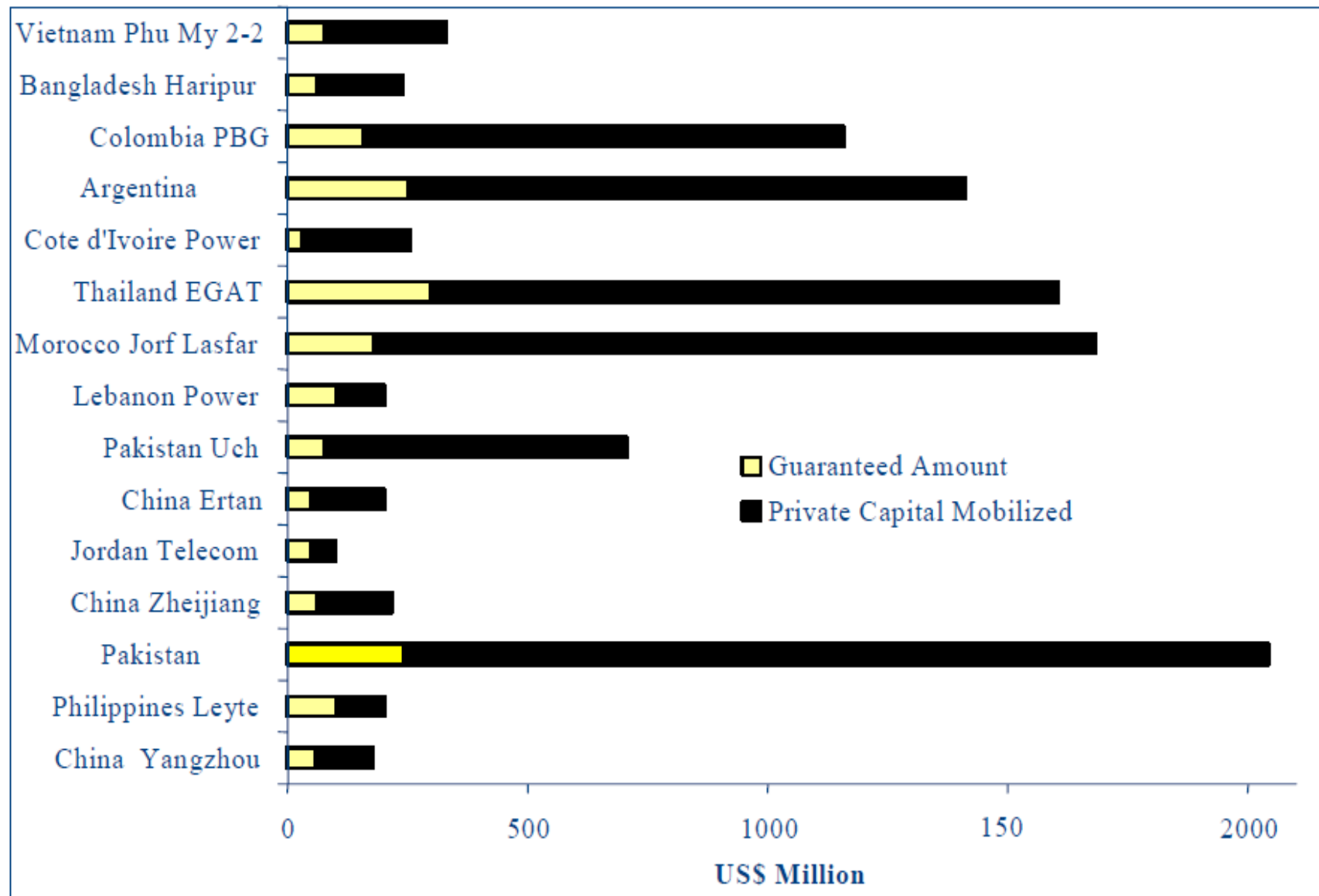
Objectives	Contributions
<b>Project executing organisation</b>	
Efficiency gain	Concession/ licenses
Leveraging of government budget	Service fee
Acceleration of the project	
Better service quality	
Compliance with requirement and regulations	
<b>Sponsors</b>	
Adequate rate of return	Equity
Strategic capability	Competence and experience
<b>Investors</b>	
Maximising of return	Private equity
	Monitoring of quality
	Financial competence
<b>Lending banks</b>	
Loan repayment	Debt
Careful financial evaluation	Monitoring of quality
	Financial competence
<b>Development finance institutions (DFIs)</b>	
Loan repayment	Debt
Support of development goals	Monitoring of quality
	Financial competence
<b>Construction contractor</b>	
Sufficient margin	Required construction work
	Turnkey fixed-price contract
<b>Facility manager and operators</b>	
Sufficient margin	Required service
	Fixed-price contract

# Role of Donors

- Help build the enabling environment for a heightened and sustained private sector participation in infrastructure development.
- Risk Guarantee - donors help provide peace of mind for investors, thus strengthening investor confidence;
- Helps promote knowledge transfer in best practices for infrastructure development



**Figure 1. Examples Of Guarantees' Leverage in Catalyzing Private Resources.**



# Role of Donors

- Promote Regulatory Reform Advocacy and Dialogue
- Provide Financial and Technical Expertise
- Help leverage private sector funds
- Provide loans, guarantees, equity, syndication, technical assistance
- Hard currency, long term-local currency financing,

Table 3 – Financial Instruments used in PPP Road Projects, Source: World Bank 1999

Financing Means			Private Funding	Public Funding
General funding			None	Common tax
Specific funding			None	Earmarked tax
Equity			Common stock	
Mezzanine finance	Equity type		Preferred stock, stock with selling option, etc.	
	Debt type		Subordinated loan, subordinated bonds, convertible bonds	
Debt	Loans		Commercial loans (syndicated loans)	Loans from government or international financing agencies, regional development banks
	Bonds	Private placement	Project Bonds	Government guaranteed bonds, municipal bonds, public corporation bonds, bonds guaranteed by international financing agencies
		Public Offering		
Guarantees		Guarantee by commercial bank, credit line, standby facility, monocline insurance	Guarantee by government, govt. financing agencies, international agencies, regional agencies	
Project Income			Toll revenue, income from supplemental projects	
Retained earnings			Retained surplus, retention fund	
Asset securitization			Bond	None
Stock increase of capital			Stock market flotation	None
Value Capture; partial use of profit from development due to the project			None	Increased tax on real estate, benefit assessment, special impact fee, dedication, assessment district, space lease, tax increment financing

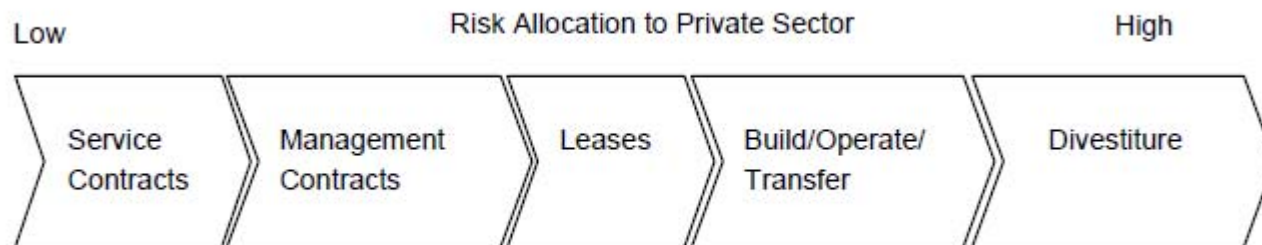


## Risks in PPP



# Risk Allocation

- Risk should be allocated to the party with the best capability to control the events that might trigger its occurrence.
- Risks must be properly identified, understood and evaluated by all parties involved in the project.
- A party must have the technical/managerial capability to manage the risk.
- A party must have the financial ability to sustain the consequences of the risk or prevent the risk from occurring.
- A party must be willing to accept the risk.



*Figure 9 – Risk Transfer Continuum of PPP Projects*

# Risks in a Tollway PPP

1. *Political risks*, which include discontinuation of concession, tax increase, inappropriate tariff implementation, inappropriate tariff increase, new government policy, etc.
2. *Construction risks*, which include inappropriate design, land acquisition, project delay, project site condition, contractor's failure, etc.
3. *Operation and Maintenance risks*, which include tollway network condition, operator's incompetence, construction quality, etc.
4. *Legal and Contractual risks*, which include concession time warranty, flawed/inconsistent contract document, etc.
5. *Income risks*, which include inaccurate traffic volume estimate, inaccurate tollway tariff estimate, construction of a competing alternative road, etc.
6. *Financial risks*, which include inflation, devaluation, interest rate, changes in monetary policies, limited capital, etc.
7. *Force major*, such as weather condition, war, natural disasters, etc.



# Risks of PPP

- Large projects frequently involve a range of partners with different interests:
  - construction, management and finance interests
  - donors with significant non-financial interests (for example environment and social impacts);
  - government organisations that are not all agreed on different aspects of the project;

# Risks of PPP

- Private partners will naturally seek to reduce the risk to themselves of construction, financing, demand for project outputs, pricing and regulation;
  - will seek guarantees from the government,
  - Government can be left carrying a substantial part of the commercial risk of the project;
  - Examples:



# Risks of PPP

- Large projects with major construction costs may take a **long time to recoup** the initial investment;
- **circumstances may change** over the life of the partnership agreement for example in resource or energy prices;
- this can be a **major source of conflict** between the government and its private partners during the life of the contract.

## 4. Significant issues and risks

- *Complexity of project agreements:* For major projects, the private partner is usually a purpose-built consortium and may include designers, constructors, users, financiers etc. This increases complexity of interests and negotiations over contract conditions.

## 4. Significant issues and risks

- *Contingent liabilities on government:* Whenever a private partner is expected to recoup its investment from user charges or financing is secured against the project, it will probably seek “explicit or implicit guarantees from government;
- volumes , revenues, input prices, and so on,
- the government can be left with significant contingent liabilities

## 4. Significant issues and risks of PPP

- a natural monopoly should not require additional government protection in the form of an exclusive concession, but governments sometimes put barriers against new entrants
- blocking credit and access to foreign exchange, taxing dividends and profits inequitably, imposing unfair import duties, and establishing bureaucratic hurdles

## 4. Significant issues and risks of PPP

- *Length of agreement:* For major investments where the ownership is in private hands, the period of lease, concession or franchise may be correspondingly long (“perhaps > 30 years”) to enable the firm to recoup its investment.
- Long-term agreements carry a number of risks:
- There will be significant potential for conflict if economic conditions change over the period, for example with projects dependent on long-term agreements on energy prices.

## 4. Significant issues and risks of PPP

- The firm is at risk because the government may reserve the right to withdraw the concession before the end of the investment period.
- With a term concession the firm may be tempted to “disinvest” towards the end of the period by reducing maintenance: government can compensate firm for unamortised investment or “rebid” the concession periodically (if incumbent doesn’t bid the highest price, the successful bidder pays the bid price to the incumbent).

# **Strategic issues in negotiating PPPs: regulatory framework**

- The process of regulation should be as straightforward and predictable as possible,
- automatic price adjustments based on predetermined formulas;
- minimal reporting requirements

# **Strategic issues in negotiating PPPs: Regulatory Framework**

- A regulator may be required but...
- ...In the case of contracts, leases and concessions ... the contract document itself might serve as the regulatory device:
- setting performance standards, tariffs, and the process and frequency of adjusting tariffs



# Strategic issues in negotiating PPPs

- Price regulation (telecom, energy, water etc) traditionally based on firm's ROR, which encouraged unnecessary capital investment;
- now more often based on price caps – but there is a danger of erosion of service quality

# Strategic issues in negotiating PPPs

- The traditional concern is about capture of the regulator by the regulatee – but also the regulator may be captured by special interests such as an advocacy group
- How to avoid?

# Strategic issues in negotiating PPPs

- Allocation of contractual risks, rewards and responsibilities between government and partner:
  - Business risk: construction cost overruns: site problems, regulatory approvals, import authorities, scope changes; operating cost overruns: particularly labour problems due to redundancy;
  - Revenue risk: discussion of take or pay agreements;

# Strategic issues in negotiating PPPs

- **Financial risk:** debt-service coverage: project or sovereign risk; exchange rate risk – denomination of contracts;
- **Political risk:** regulatory mechanism and formula for increases; compensation for expropriation; repatriation of profits; dispute resolution: third country contracts, insurance, international disputes resolution
- Other: technology, environmental, force majeure
  - insurance or “bail out?”

# Strategic issues in negotiating PPPs

- **Bidding or negotiations issues**

- Negotiations are almost inevitable for large and costly projects or where this is one of the first cases of a particular type in a sector.
- Bidding is prepared to international standards and based upon a well used model with assured profitability.



# Strategic issues in negotiating PPPs

- **Procurement Issues**

- Rate-setting and adjustment mechanism
- Funding future capital upgrading and expansions
- Restriction of ownership transfer” (government wants to lock in a partner, private firm wants to be able to change portfolio over investment lifetime)
- Tax concessions – rates and exemptions, energy tariffs, credits or waivers for certain outstanding liabilities
- Labour understandings – what to do with current employees
- Investment protection– dispute resolution, repurchase or bailout options

# Strategic issues in negotiating PPPs

- **Financing Issues**

- Allocation of project risk and sovereign risk.
- Introduction to financial instruments for project financing.
- Reducing financing burden through:
  - Cushioning capital costs – ways in which government can reduce capital costs
  - Revenue sources – user charges, government subsidies, earmarked taxes, “value capture”; “sale of air rights”, collateral revenue from spin-off developments (e.g. shopping facilities at an air terminal).



# Models for PPP Collaboration in Central Asia

- PPIAF Model
- India Model
- CAREC MODEL?
- How feasible is it?
  - Project identification
  - Project design and appraisal
  - Financing of the Regional PPP center
  - Staffing, etc



## Discussion

- What are the prospects of PPP in your countries?
- What are the challenges that you face in particular sectors?
  - Water infrastructure (dams, distribution, treatment, sanitation)
  - Tollways, Airports, Energy generation and distribution

