

Infrastructure Finance: Sources & Global Trends

Opportunities for Private Sector Investment and Partnerships in the CAREC Region

Bob Finlayson
Senior Evaluation Specialist (Private Sector)
Asian Development Bank

Enquiries: bfinlayson@adb.org

Institutional Homepage: www.adb.org

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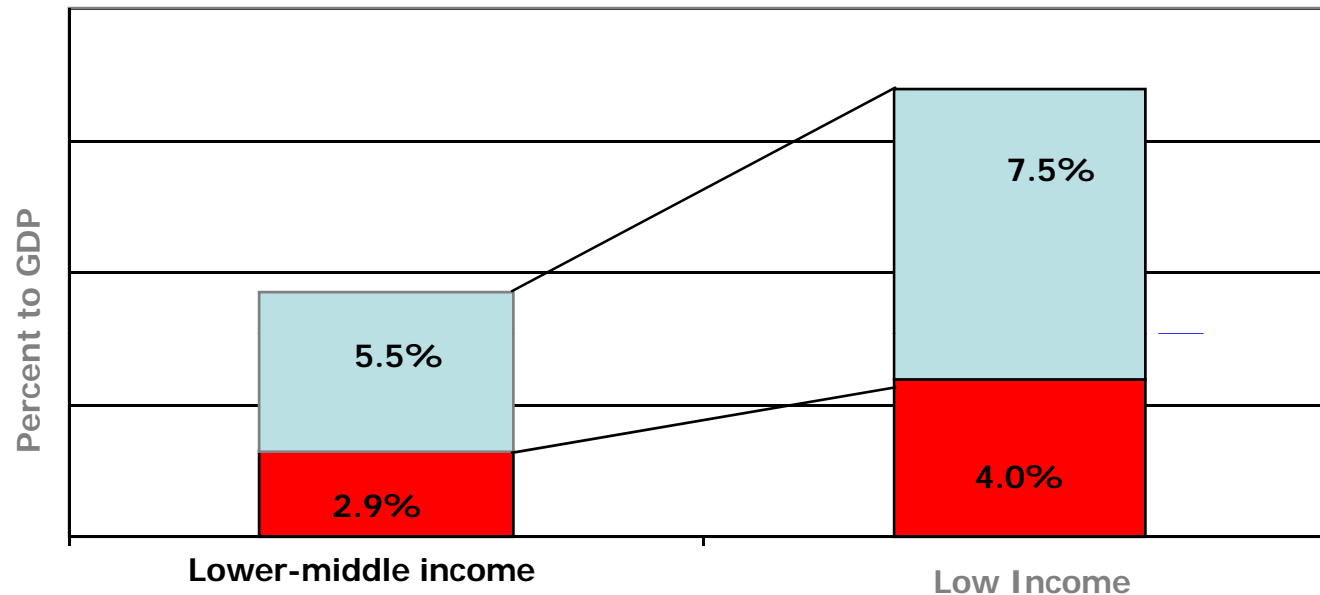
The logo for the Asian Development Bank (ADB), consisting of the letters 'ADB' in a white serif font on a dark green square background.

Global Infrastructure Challenges

- Developing countries invested 4% of national output in infrastructure
BUT:
 - **1.1 billion** lack adequate access to clean water
 - **2.4 billion** lack adequate sanitation
 - **4 billion** lack sound wastewater disposal
 - **2 billion** lack electric power
- Investment, O&M needs considerable – between 5.5 to 9% of GDP

Infrastructure Financing Gap - Asia

Annual Expenditures on Infrastructure as Share of 2003 GDP
(Actual versus Needed 2003)

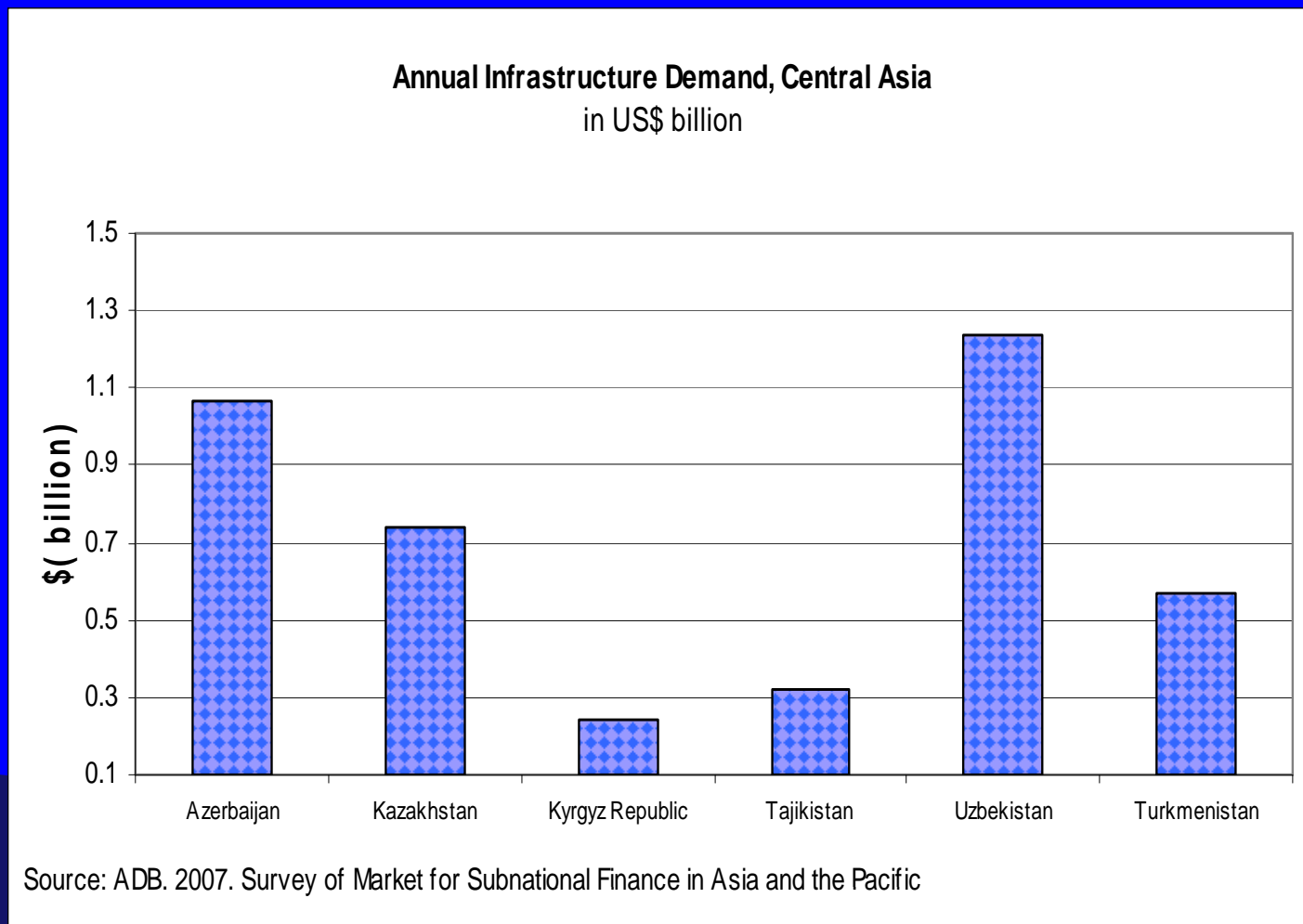


	Actual	Needed
Low income countries	4.0%	7.5 % - 9.0%
Middle income countries	2.9%	5.5% - 7.0 %

■ Needed ■ Actual

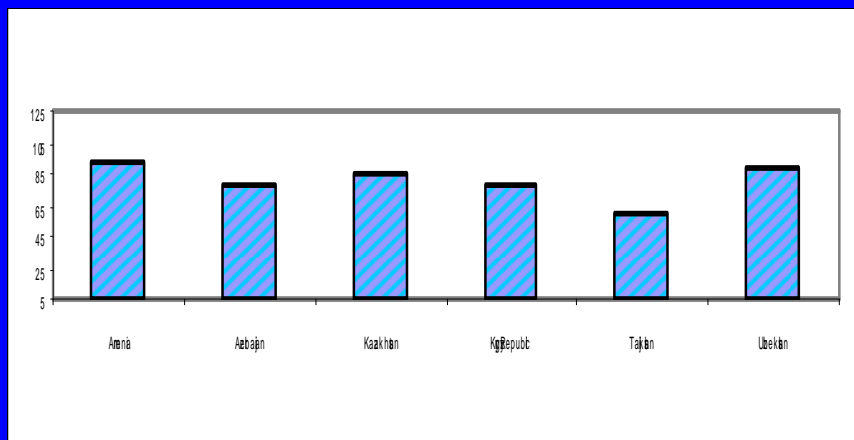
ADB. 2007. *Survey of Market for Subnational Finance in Asia and the Pacific*

CAREC's Infrastructure Financing Needs

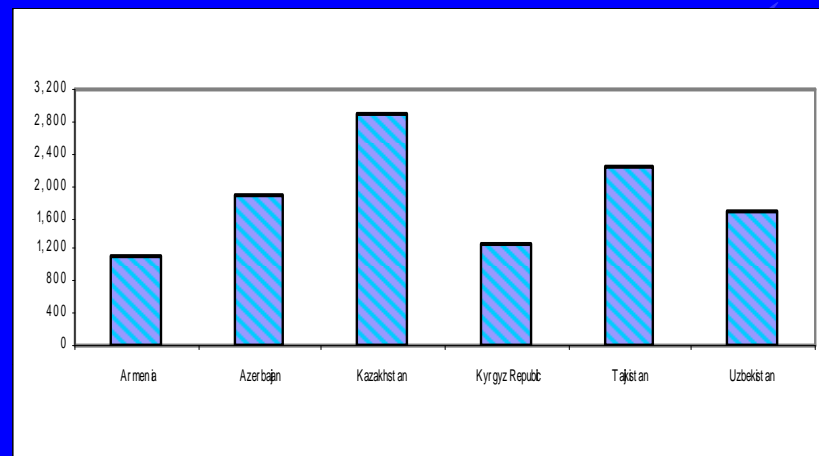


...There are Significant Variations in Service Access

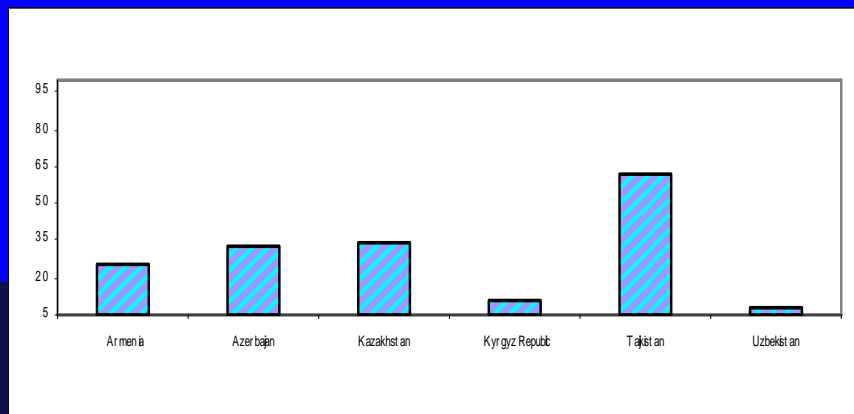
Water supply access (%)



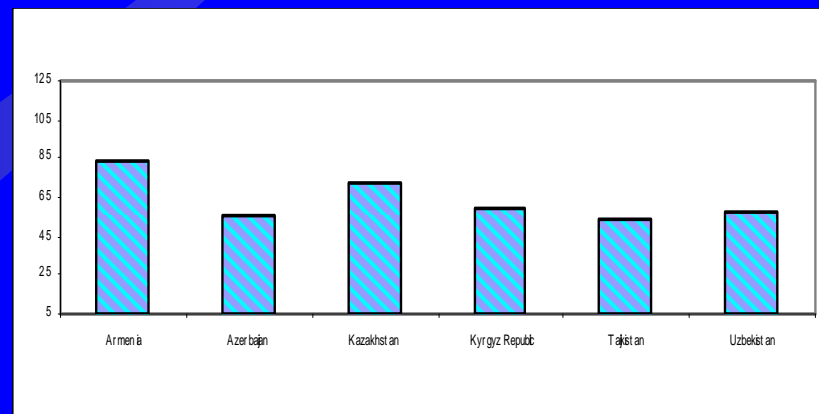
Electricity access (kwh/capita)



Telephone access (subscribers / 100 inhabitants)



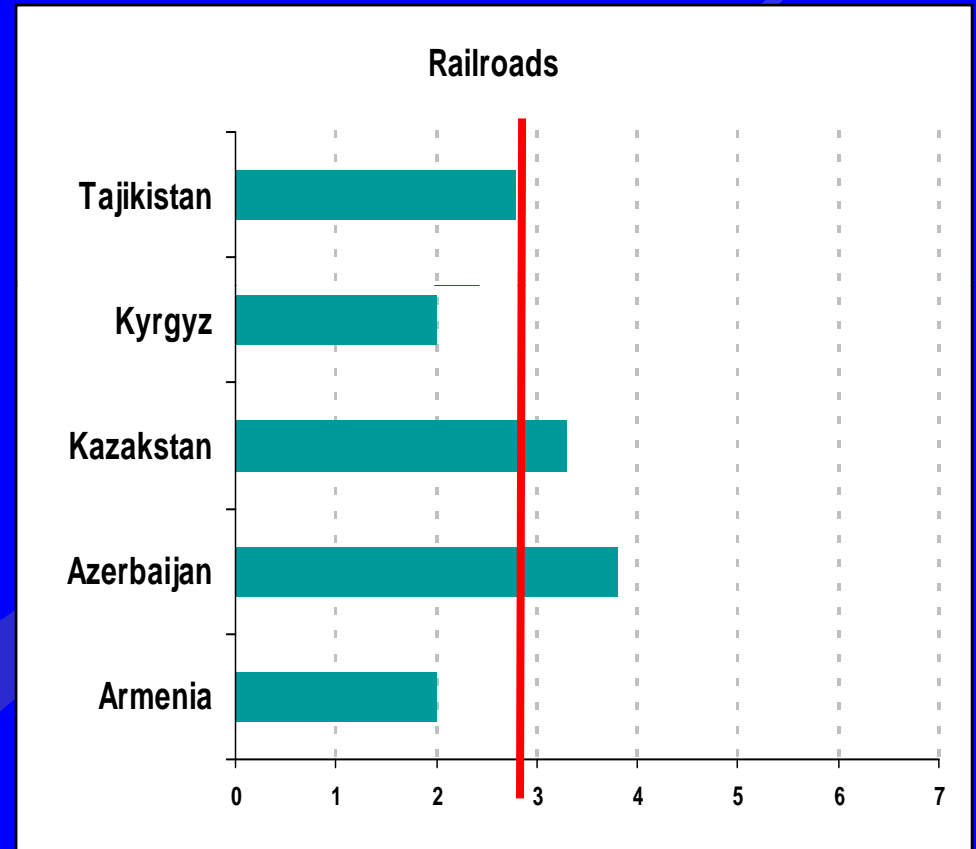
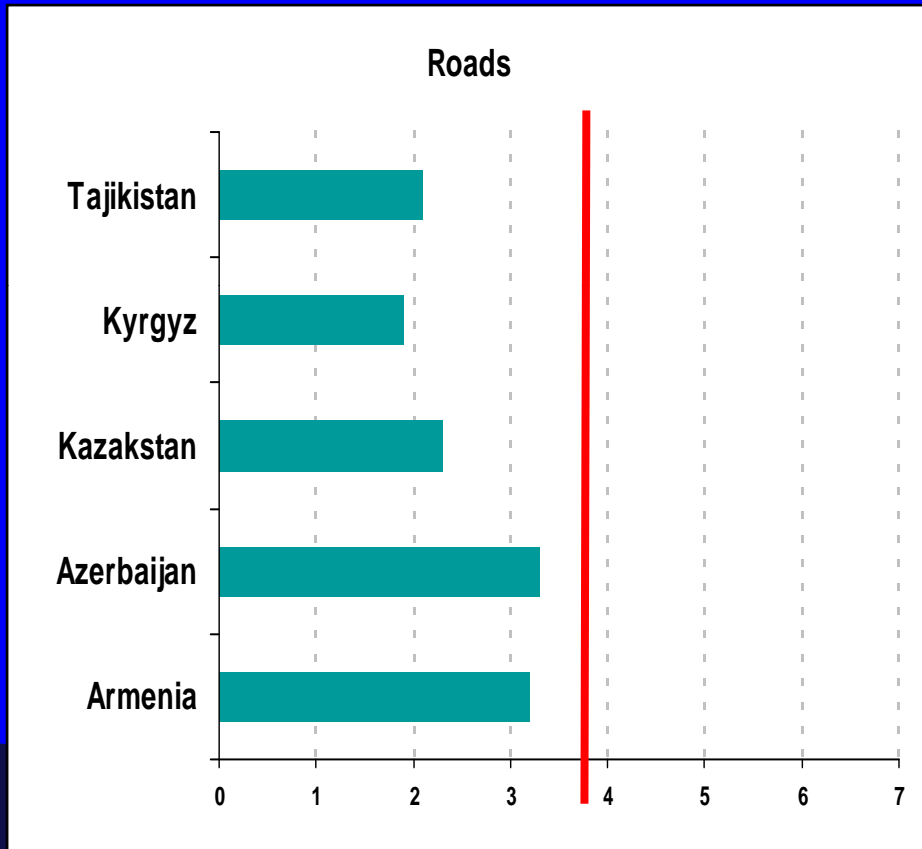
Improved Sanitation



Source: World Development Indicators, 2006

Roads and Railroads: Quality Ranking

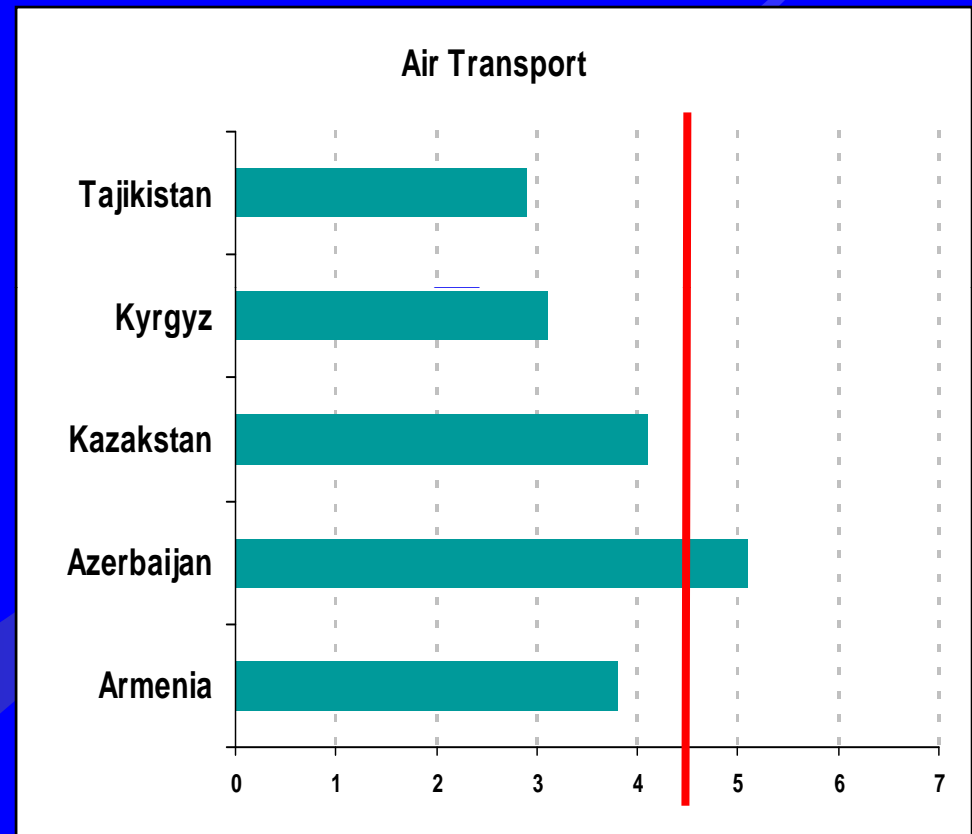
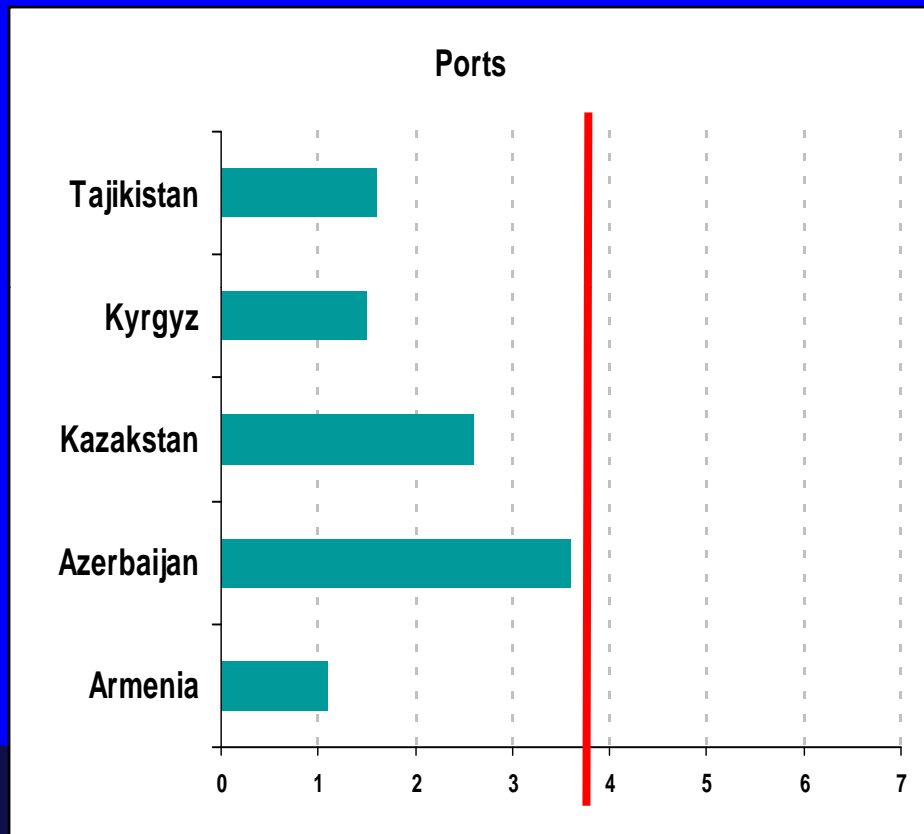
World Competitiveness Report Ranking, 2006-2007



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

Ports and Air Transport: Quality Ranking

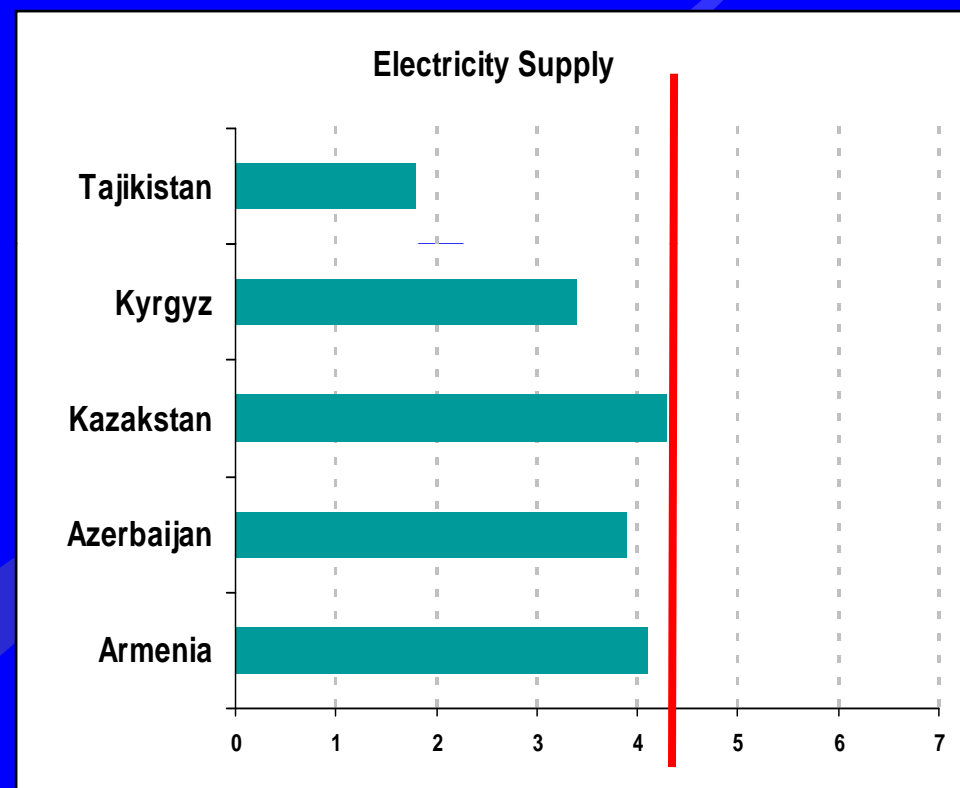
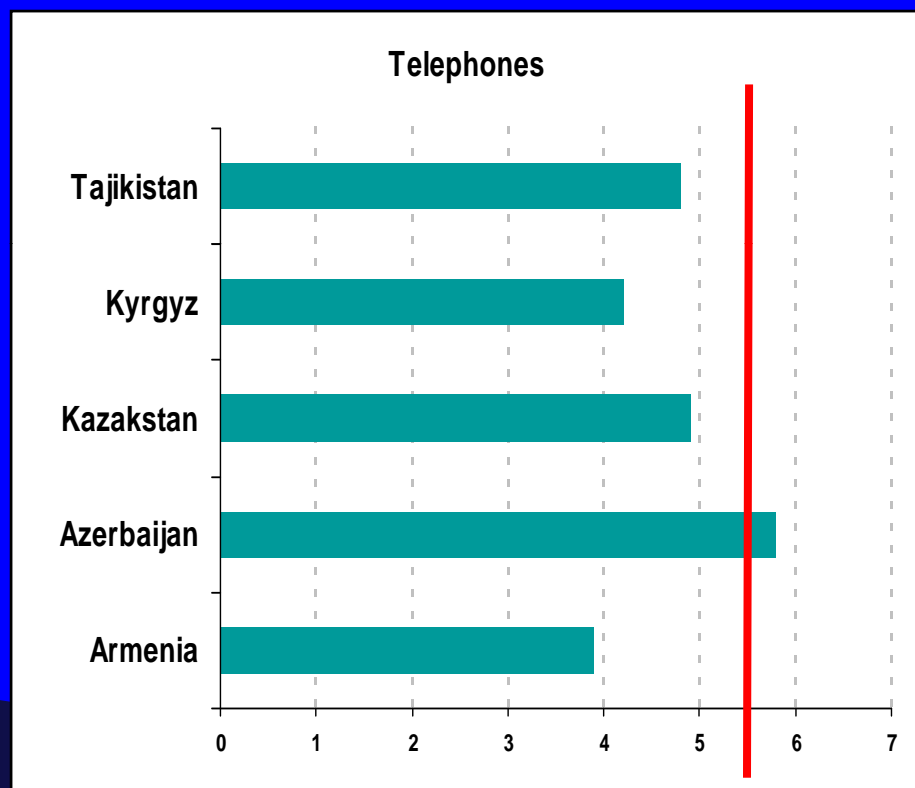
World Competitiveness Report Ranking, 2006-2007



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

Telephones and Electricity Supply: Quality Ranking

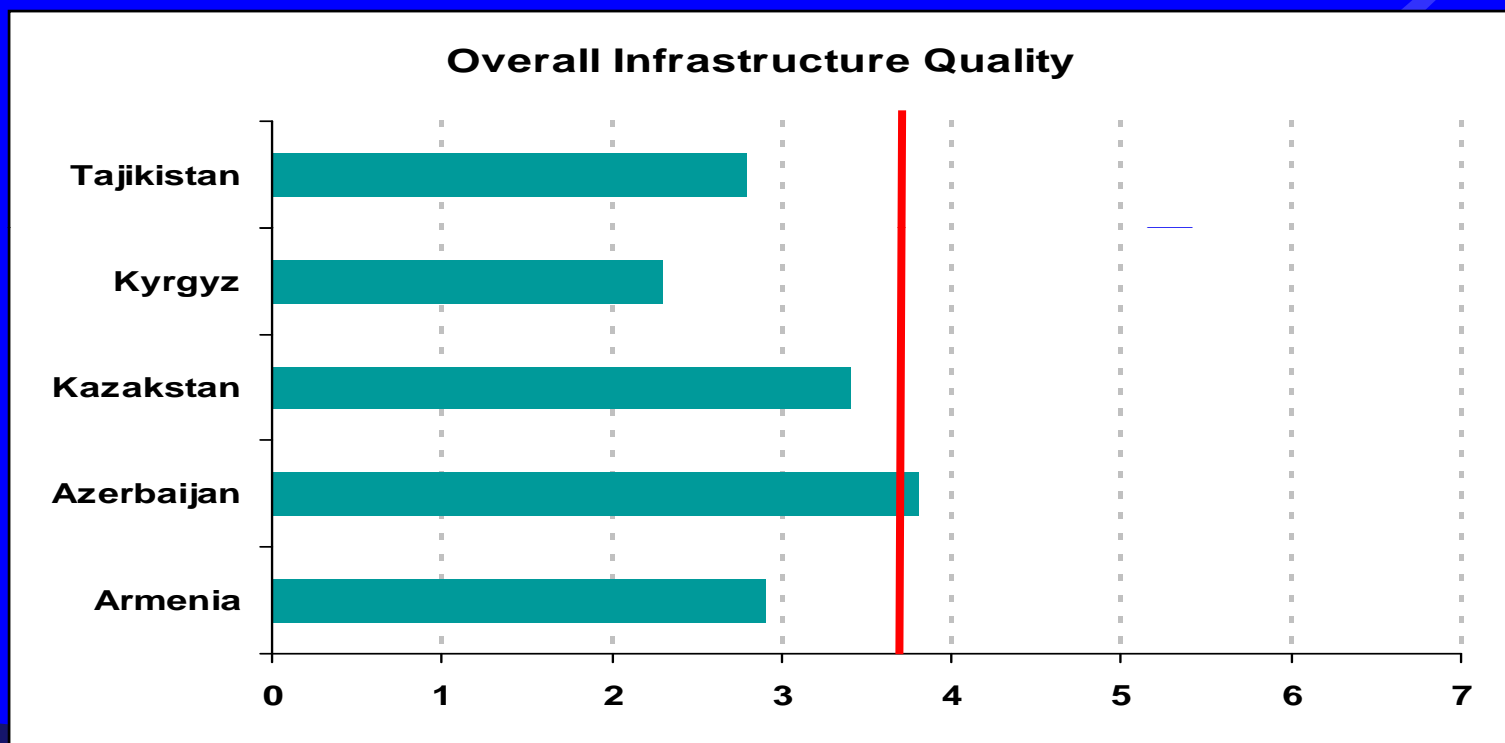
World Competitiveness Report Ranking, 2006-2007



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

... and Infrastructure Quality Remains an Impediment to Economic Competitiveness

World Competitiveness Report Ranking, 2006-2007

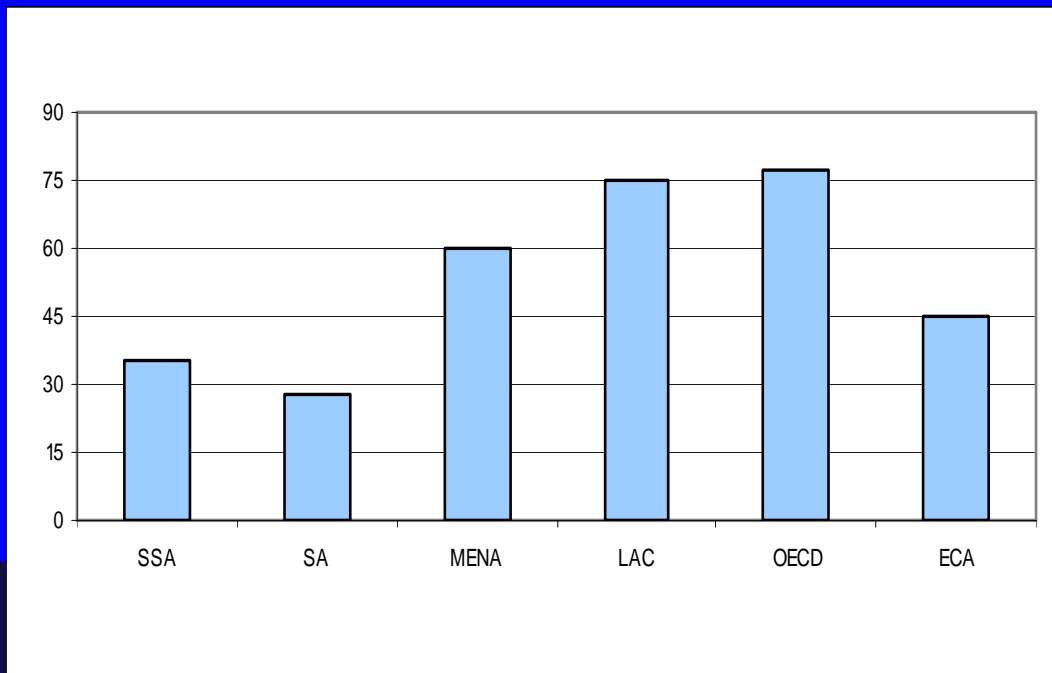


Note: Vertical line is the average for all 125 surveyed countries, both within and outside of East Asia.

Urbanization Is the New Driver for Infrastructure & Productivity

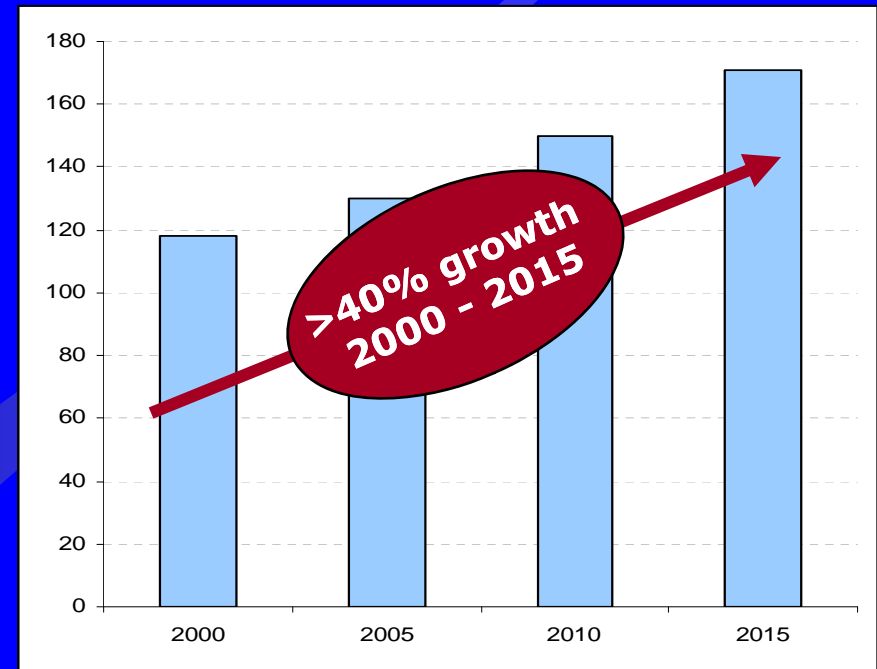
... in 20 years, urbanization and infrastructure financing needs in CAREC can be expected to increase significantly

Urban population (% total population)



Source: World Development Indicators, 2006; United Nations World Urbanization Prospects, 2003

Growth in number of cities over one million inhabitants



Source: United Nations World Urbanization Prospects, 2003

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 - Domestic Resources

Macroeconomic Indicators 2006 (US\$ billion)

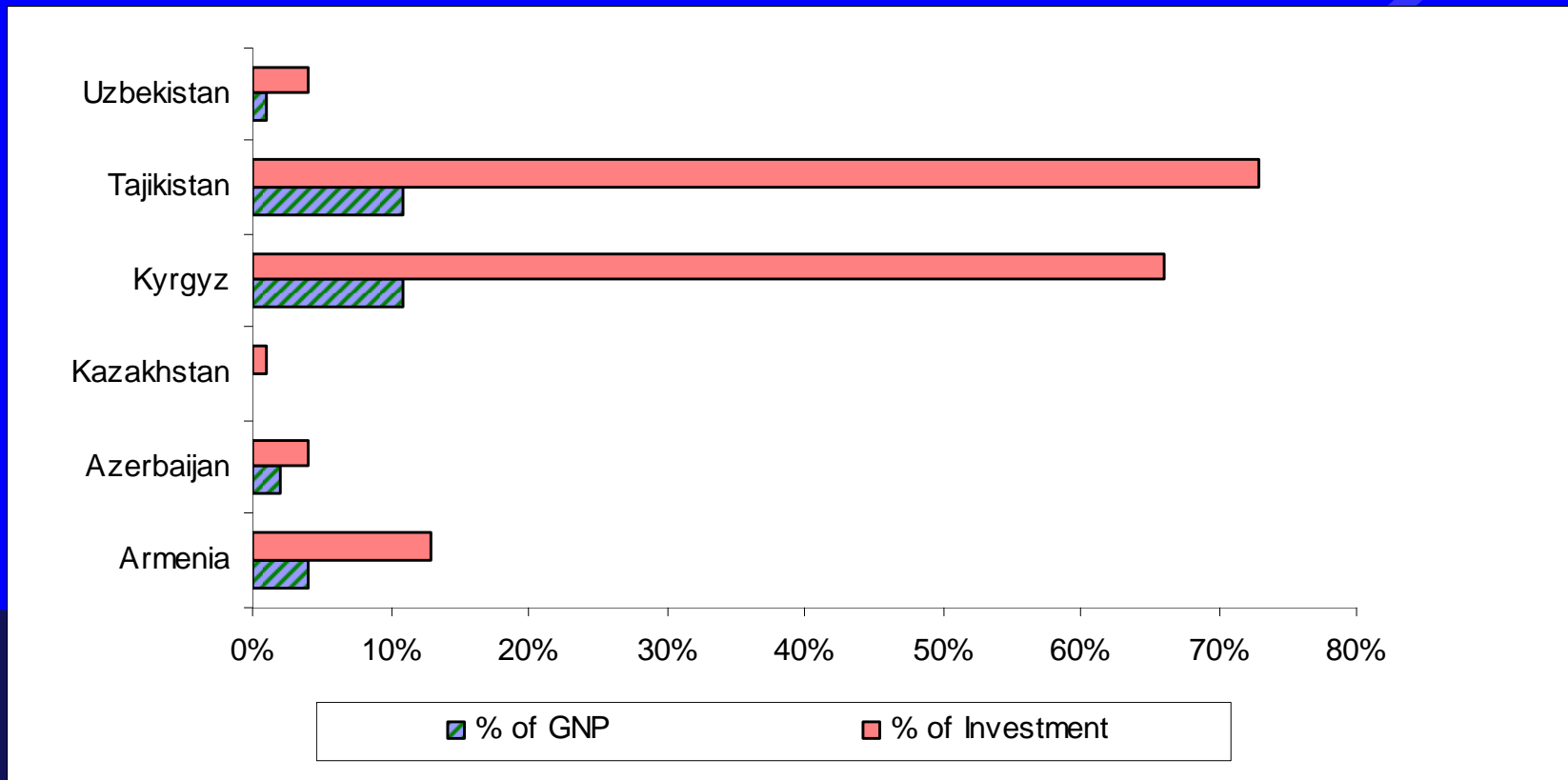
Country	Gross Reserves	Current a/c Balance	Gross Domestic Savings
Armenia	1.1	-0.2	1.1
Azerbaijan	2.5	0.2*	12.2
Kazakhstan	19.1	...	29.3
Kyrgyz	0.8	1.8	-0.5
Tajikistan	0.2	-0.2*	0.1
Uzbekistan	...	-0.02	6.4

Source: World Development Indicators 2006

* 2005 figures

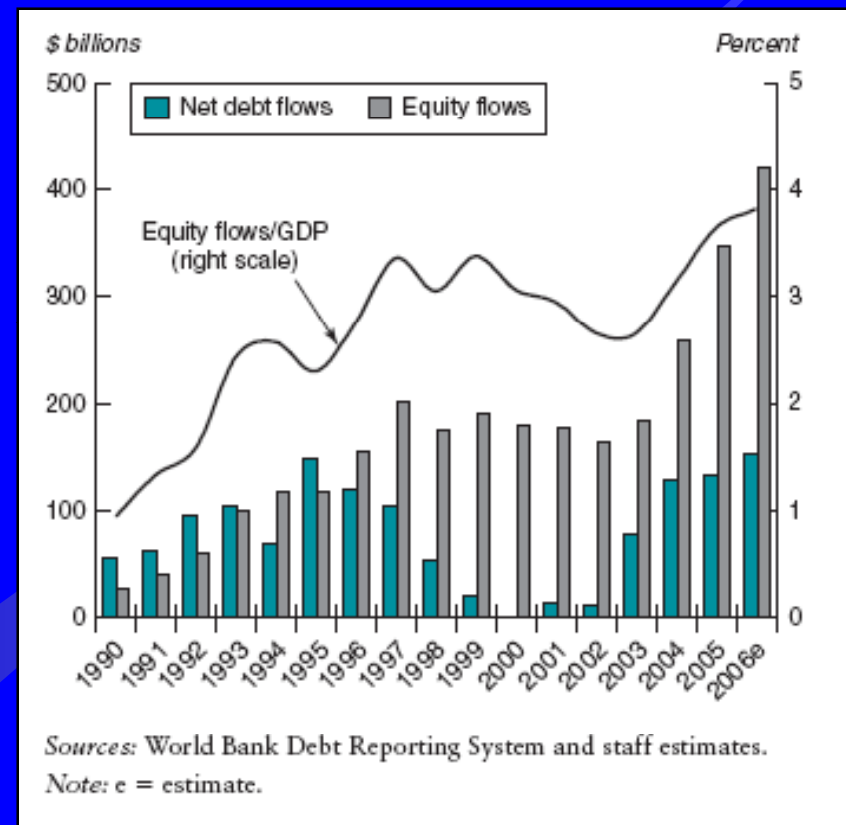
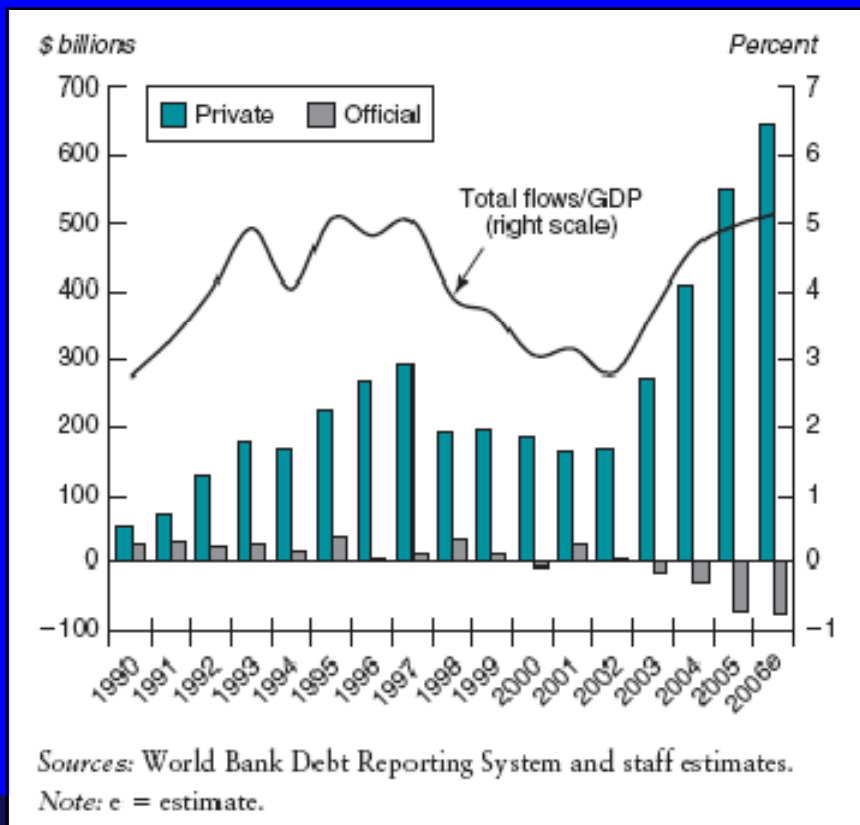
CAREC Infrastructure Financing - the International Community

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

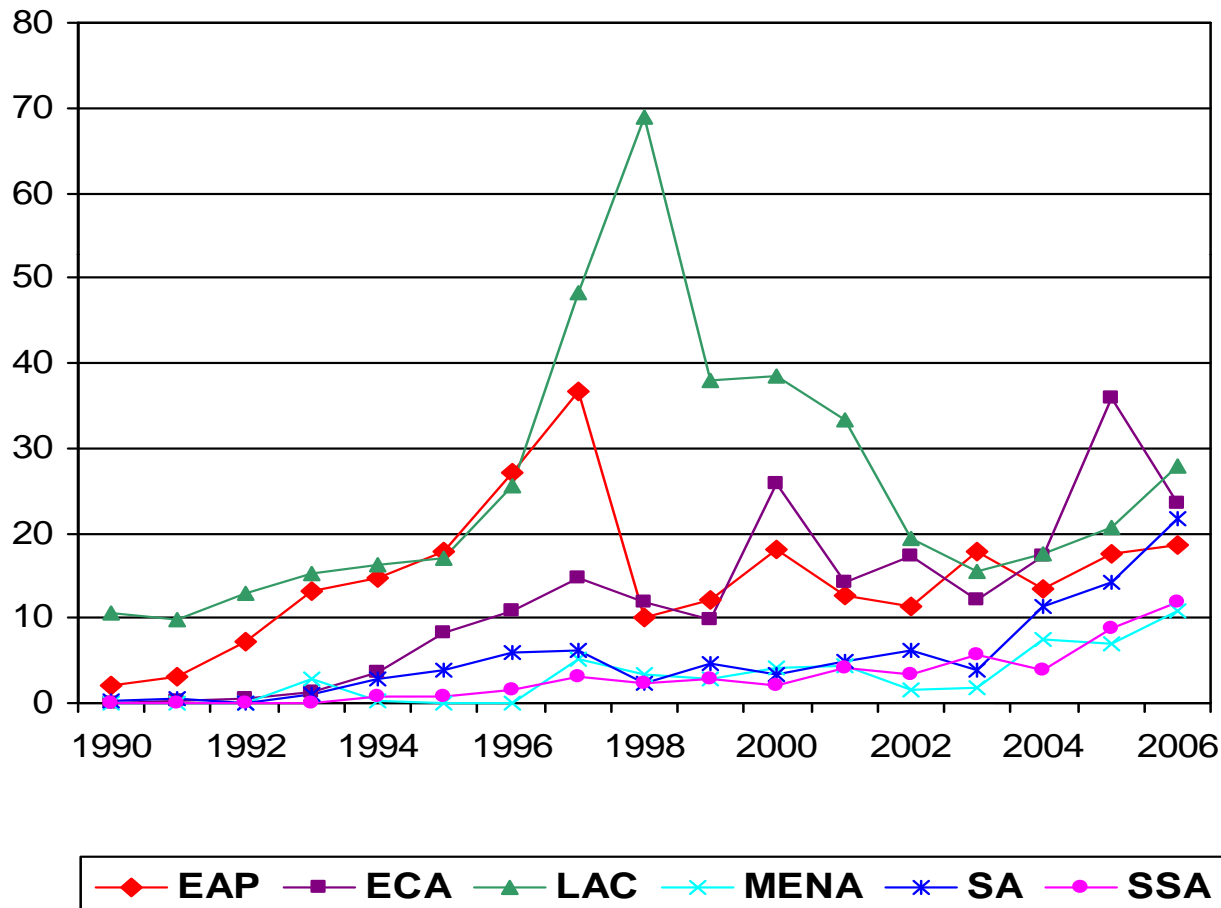


Source: Global Development Finance, 2007

Increasingly, these funds are being directed towards private infrastructure investment

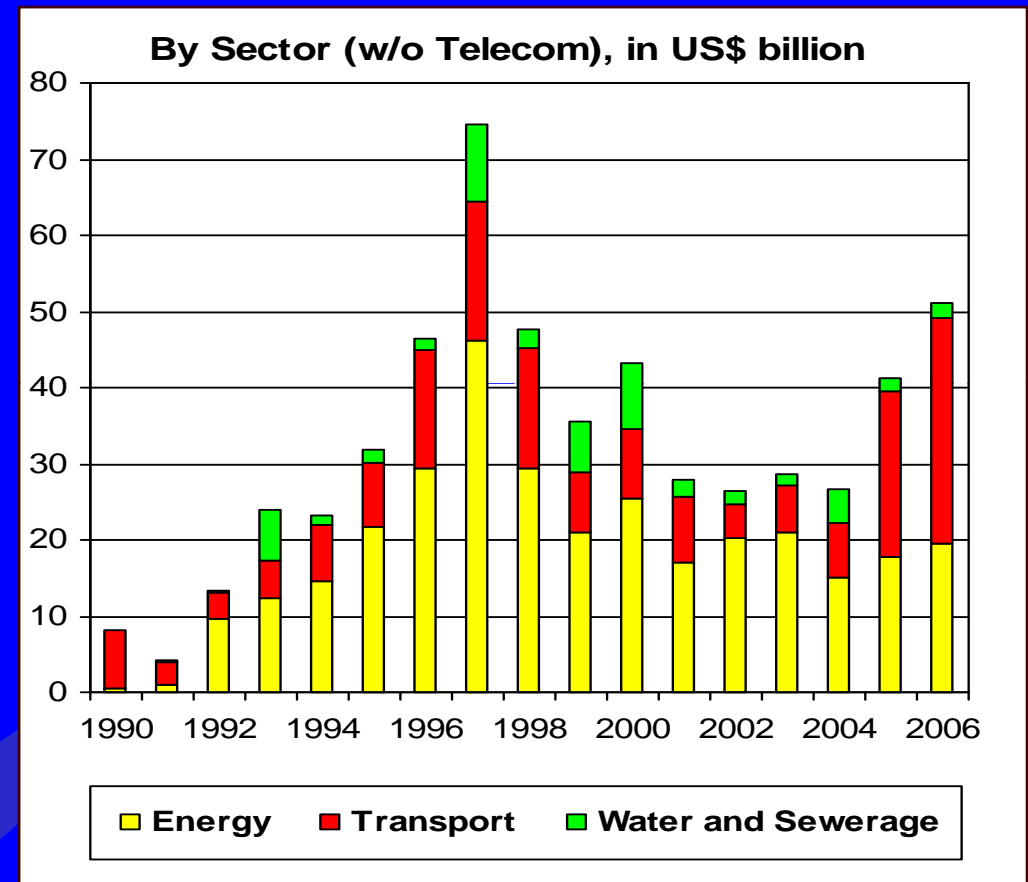
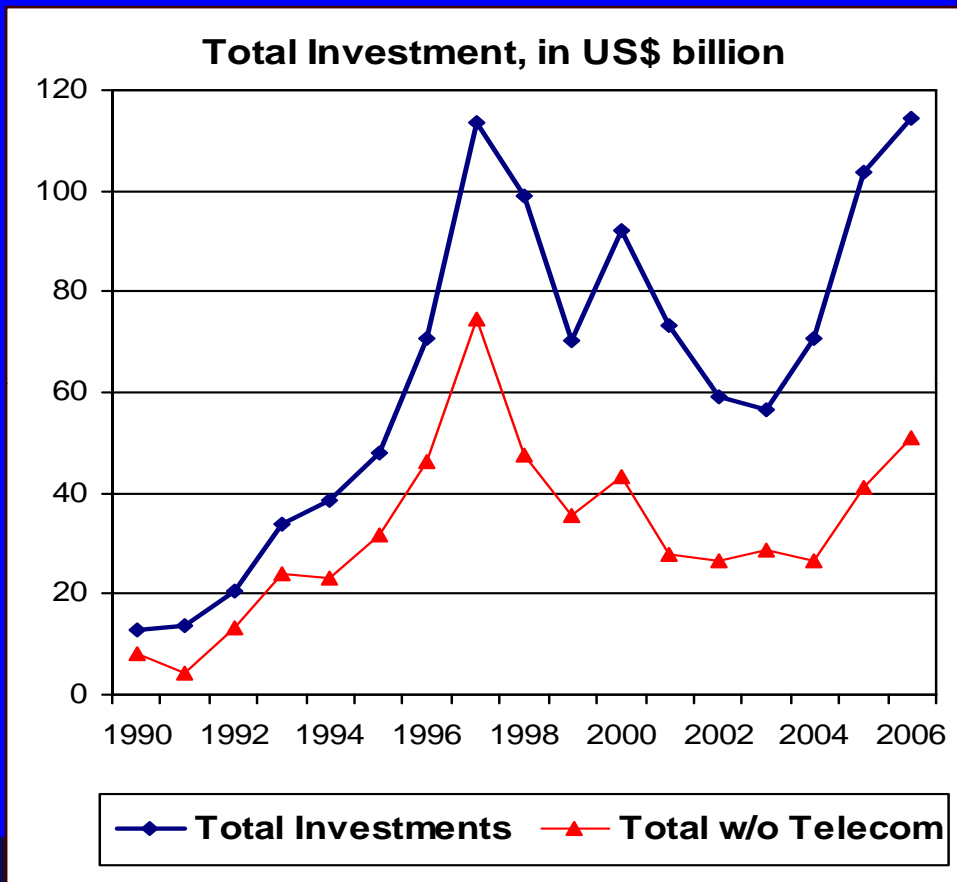
Private Infrastructure Investment Commitments in Developing Countries, 1990-2006

By Region, in US\$ billion



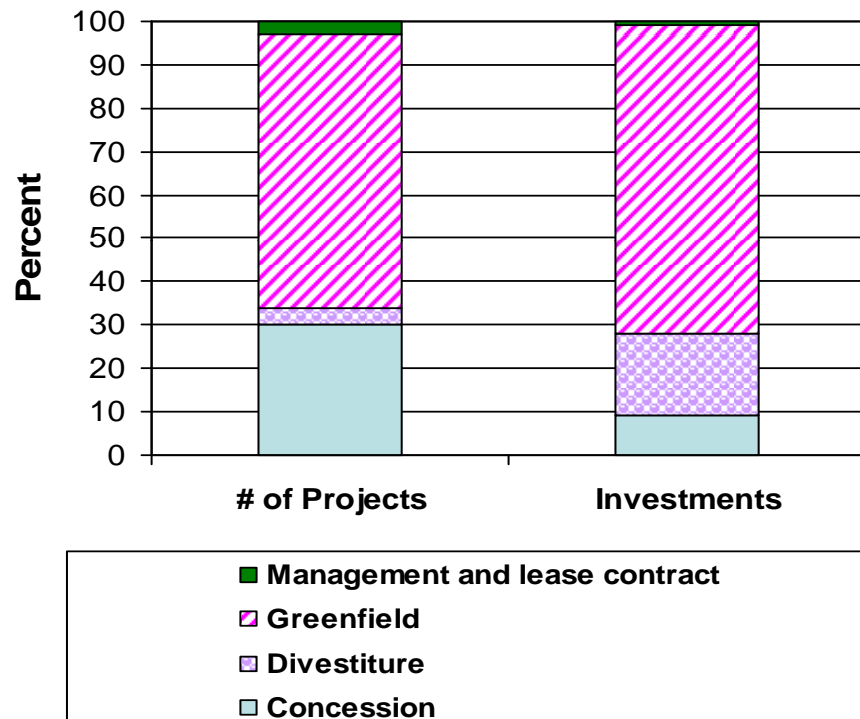
- Over the 1990-2000 period, LAC had highest levels of private investment followed by EAP
- Investment levels plummeted post events of 1997-98
- Private activity now recovering
 - somewhat less concentrated in specific countries

Private Infrastructure Investment Commitments: 1990-2006 Global – with Telecoms in the Lead

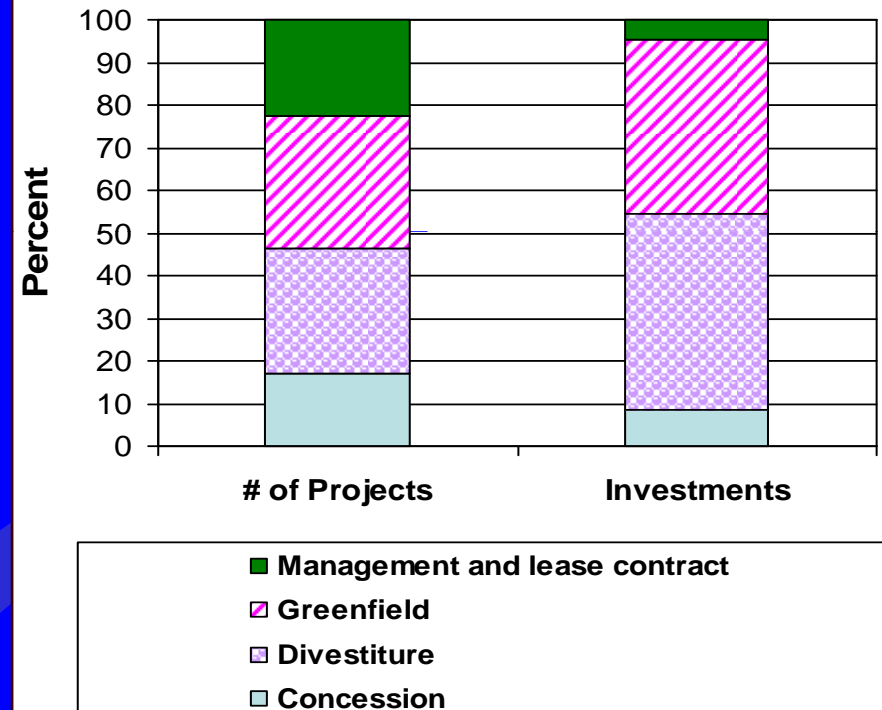


Private Infrastructure Investment Commitments: 2005-2006

**GLOBAL: By Contract Type
2005-2006**

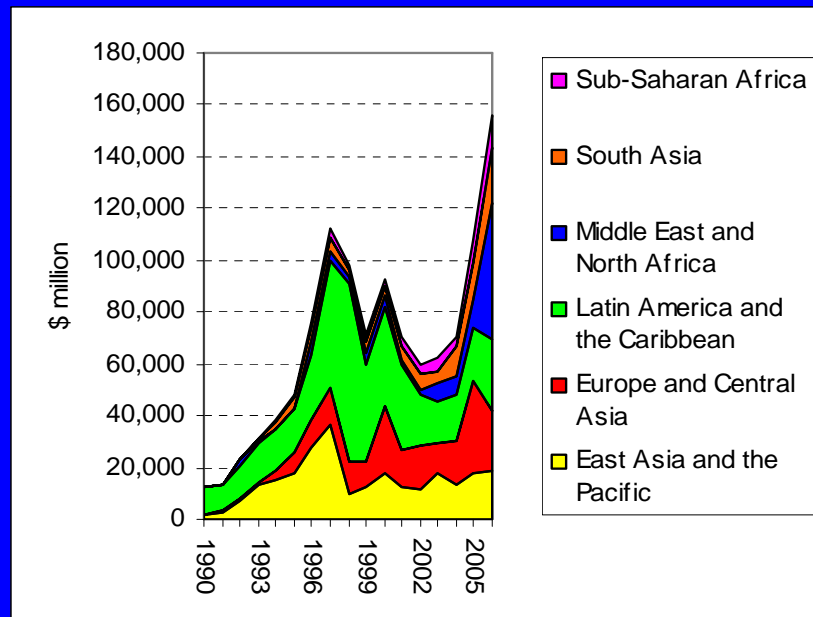


**ECA: By Contract Type
2005-2006**

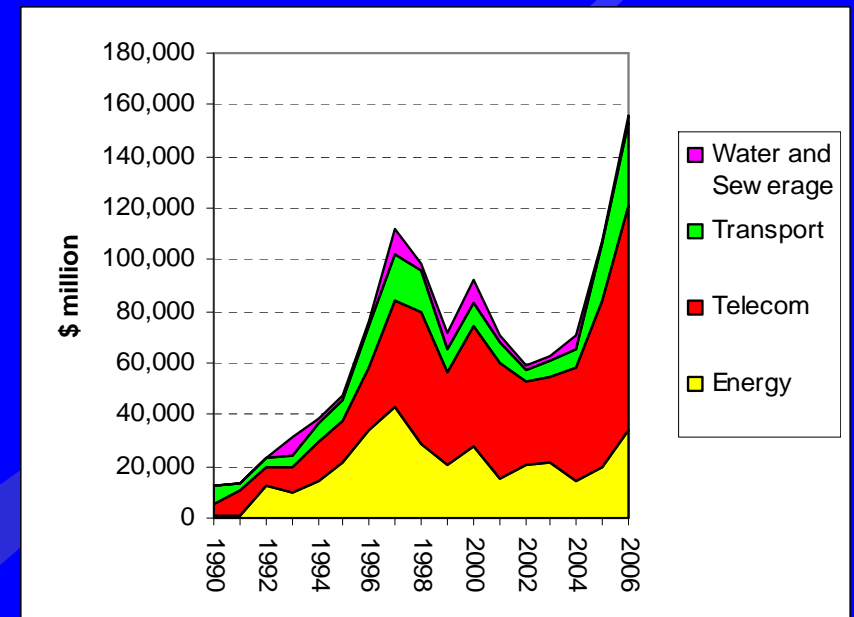


- Greenfield (concessions) continues to be dominant form of contract
- (Brownfield) concessions second most popular (in terms of number of projects) but relatively small deal size
- In ECA – divestiture still important source of private capital

PPPs being increasingly Advantaged in Asia - With Telecoms and Energy in the Lead



World Bank, PPI database



World Bank, PPI database

India is now in process of implementing one of the largest PPP Road Programs in the World

Diversification of Private Sponsors

- 2001-05: 30% of investment in Top 10 sponsors (similar to 1990-2001)
- Top 10 investor lists 1990-2001 & 2001-05: EdF and Telecom Italia only European firms on both lists
- 4 emerging market firms in 2001-05 Top 10, only 2 in 1990-2001

Top 10 Sponsors of PPI Projects

1990-2001

Sponsor	Investment (2001 US\$ billions) No. Projects
Telefonica (ESP)	35.2 (12)
Carso Global Telecom (MEX)	34.8 (5)
SUEZ (FRA)	32.6 (79)
Telecom Italia (ITA)	30.7 (16)
France Telecom (FRA)	26.6 (26)
AES Corporation (USA)	21.6 (58)
Deutsche Telekom (GER)	18.4 (18)
Enron Corporation	16.9 (48)
Electricité de France	15.5 (28)
Andrade Gutierrez	14.7 (9)

2001-2005*

Sponsor	Investment (US\$ billions) No. Projects
Reliance ADA Group (INDIA)	8.1 (3)
Saudi Oger Ltd	7.5 (2)
RWE (GER)	5.1 (9)
America Movil (MEX)	4.9 (5)
Telecom Italia	4.0 (1)
Electricité de France	3.8 (10)
Malakoff Bhd (MALAYSIA)	3.9 (4)
E.ON (GER)	3.7 (6)
Akfen Construction (TKY)	3.7 (4)
Orascom (EGYPT)	3.4 (2)

* Includes investment in projects that reached financial closure in 2001-2005, investment data in 2005 US\$

PPI Global Trends ... in Summary

- Global markets recovering – different risk-sharing arrangements evolving
- Greater regional diversification of private sponsors with new non-traditional players
- Retreat by foreign investors creating opportunities for regional/local sources

PPI Global Trends ... in Summary

- Investment flows increasing rapidly in certain infrastructure sectors and countries in regions such as China and parts of Africa
- Increase in number of greenfield projects rather than privatization of existing assets

PPI Global Trends ... in Summary

- Activity in telecom, energy & transport sectors continues to expand, average project size increased
 - a few large deals accounted for a large share of total investments
- In water sector, focus on smaller projects, a few countries and bulk facilities – private sector interest continues

All This in the Context of...

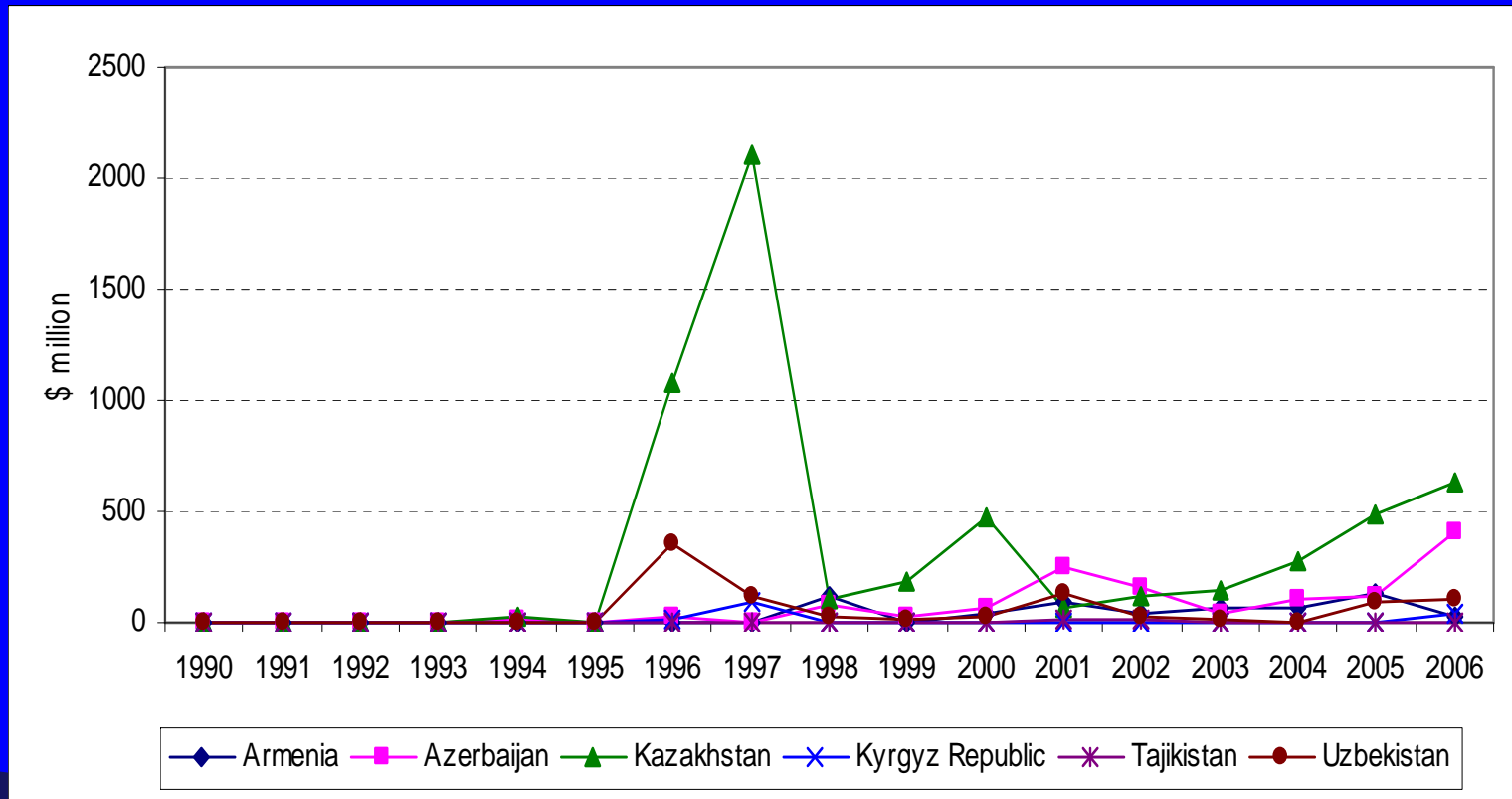
- **Impact of PPI performance** – largely positive but did not meet expectations
- **Negative public opinion** – high expectations, perceptions of corruption, inter-distributional transfers
- **A few high profile failures over 1990-2006**
 - *SA: 5 projects cancelled/under distress, 3% of investment*
 - *EAP: 65 projects cancelled/under distress, 11% of investment*
 - *LAC: 110 projects cancelled/under distress, 11% of investment*
 - *SSA: 29 projects cancelled/under distress, 4% of investment*

... with these challenges

... recognized PPP advantages
continue to drive new growth in
PPI

CAREC PPI

- Starting to Increase from a Low Base

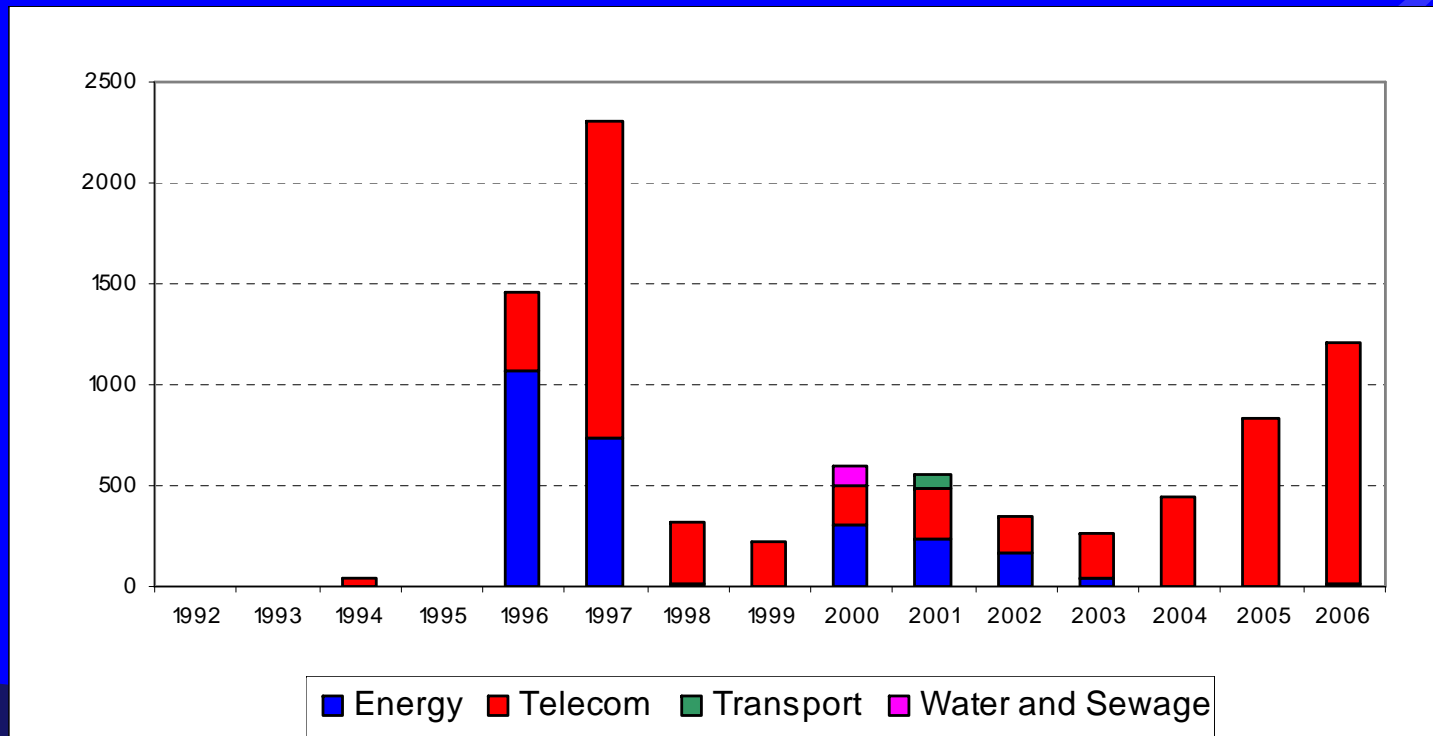


Source: PPI Database, 2006

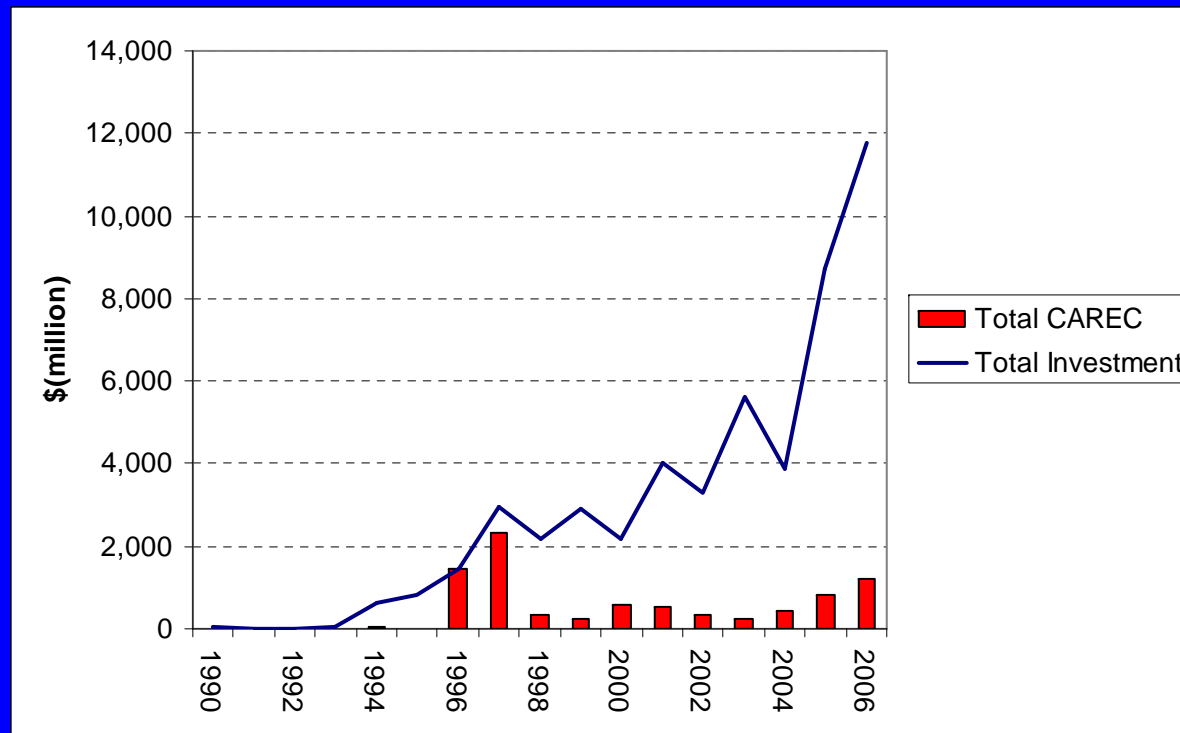
CAREC PPI

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

US \$ million



CAREC PPI ... Global Opportunities



Source: World Bank, PPI database

Key Lessons for Success & Sustainability

Political economy dimensions are critical –

Need to ensure

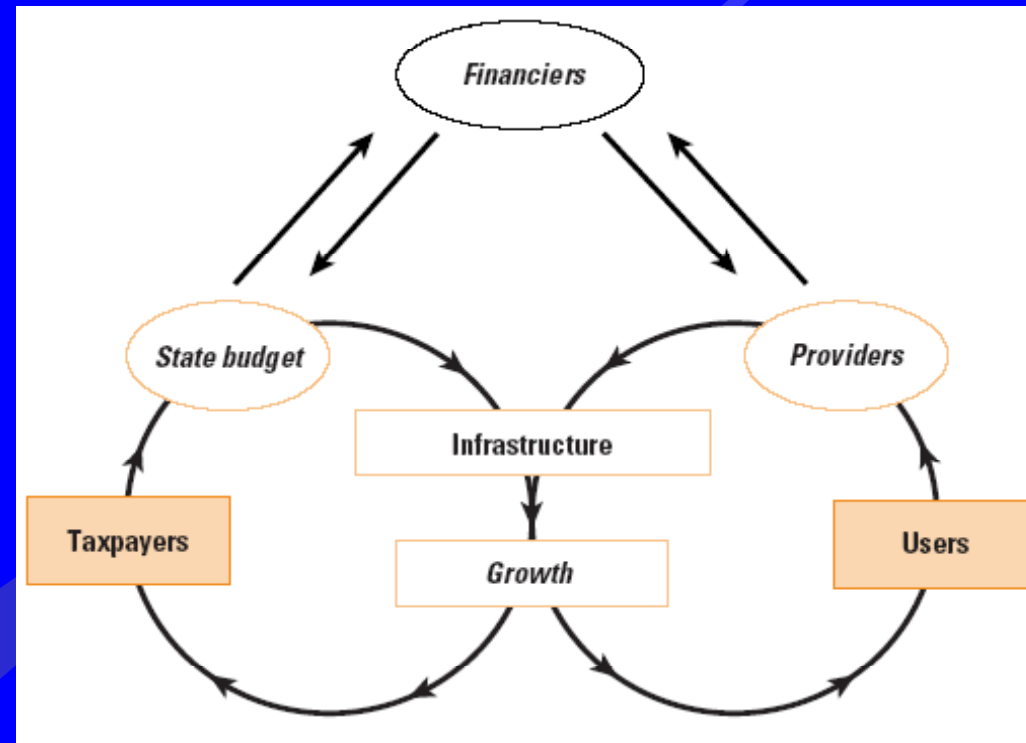
- Regulatory independence and stable & credible contractual and regulatory frameworks
- Capital market development and local currency funding needed for large-scale infrastructure
- Improved risk solutions and mitigation products to address financing and exchange rate risks
- Government commitment to cost-recovery tariffs or targeted subsidies

Key Lessons for Success & Sustainability

and ...

Getting the Infrastructure Basics and Service Priorities Right

- Financial engineering never substitutes for sound project design
- In the end, it is always the taxpayers and users who pay



Source: Connecting East Asia: A New Framework for Infrastructure, The World Bank