Roundtable on Silk Road Infrastructure Development

Public Private Partnership (PPP or P3) and Silk Road Infrastructure Development

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Presentation Outline

- Infrastructure and economic development
- PPP – an option for further Silk Road infrastructure development
- Toolkit for PPP in Roads and Highways
- Debunking the myth of financial assessment of PPP projects
- How do you know whether a PPP project can attract private investors?
- Forms of private sector participation
- Risk sharing between the public and private sectors
- Discussions

Infrastructure

- “The built environment in which we live” (Herman and Ausubel)
- The physical framework upon which the economy operates and our standard of living depends (ASCE)

Infrastructure comprises

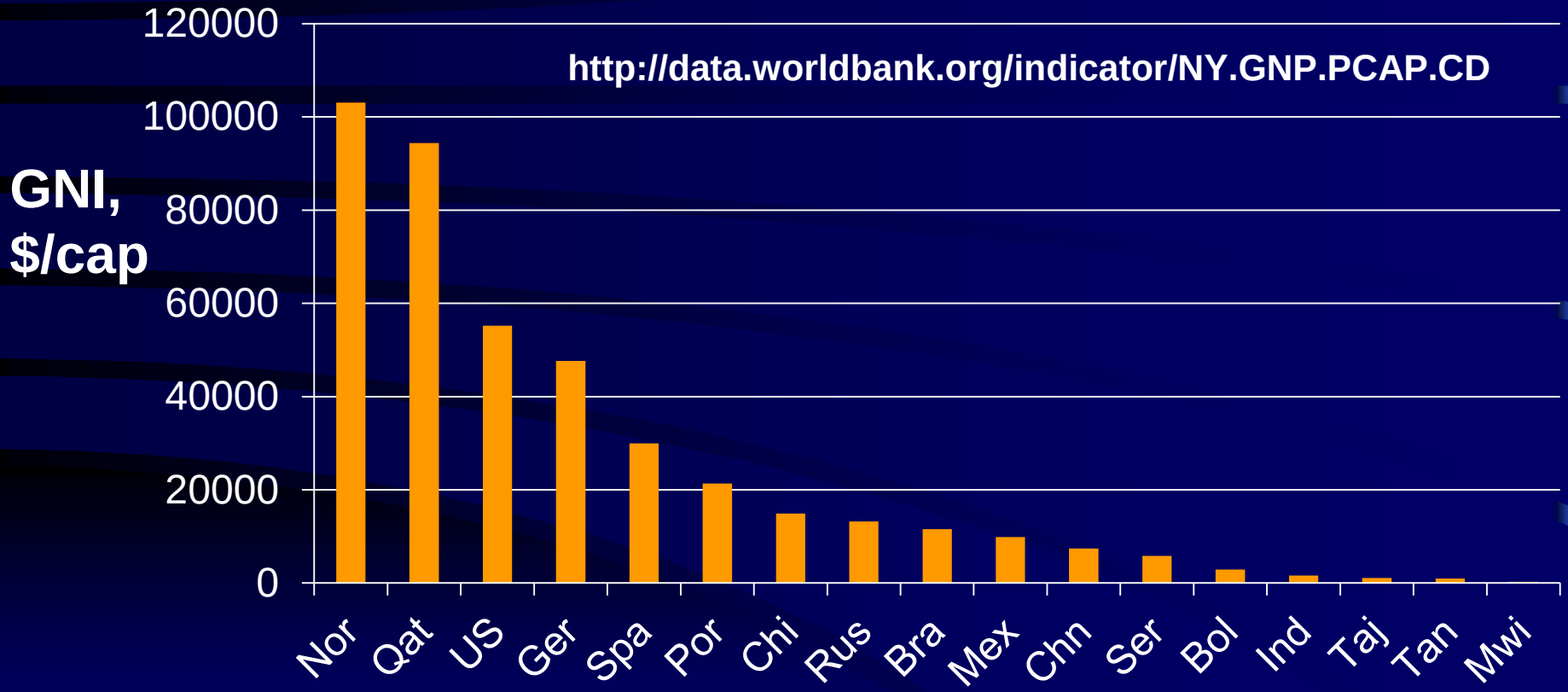
- ***Public utilities:*** **power, telecommunications, piped water supply, sanitation and sewerage, solid waste collection and disposal, piped gas**
- ***Public works:*** **roads, dams, canals, railways, ports, waterways, airports, buildings**

Classification of Economies

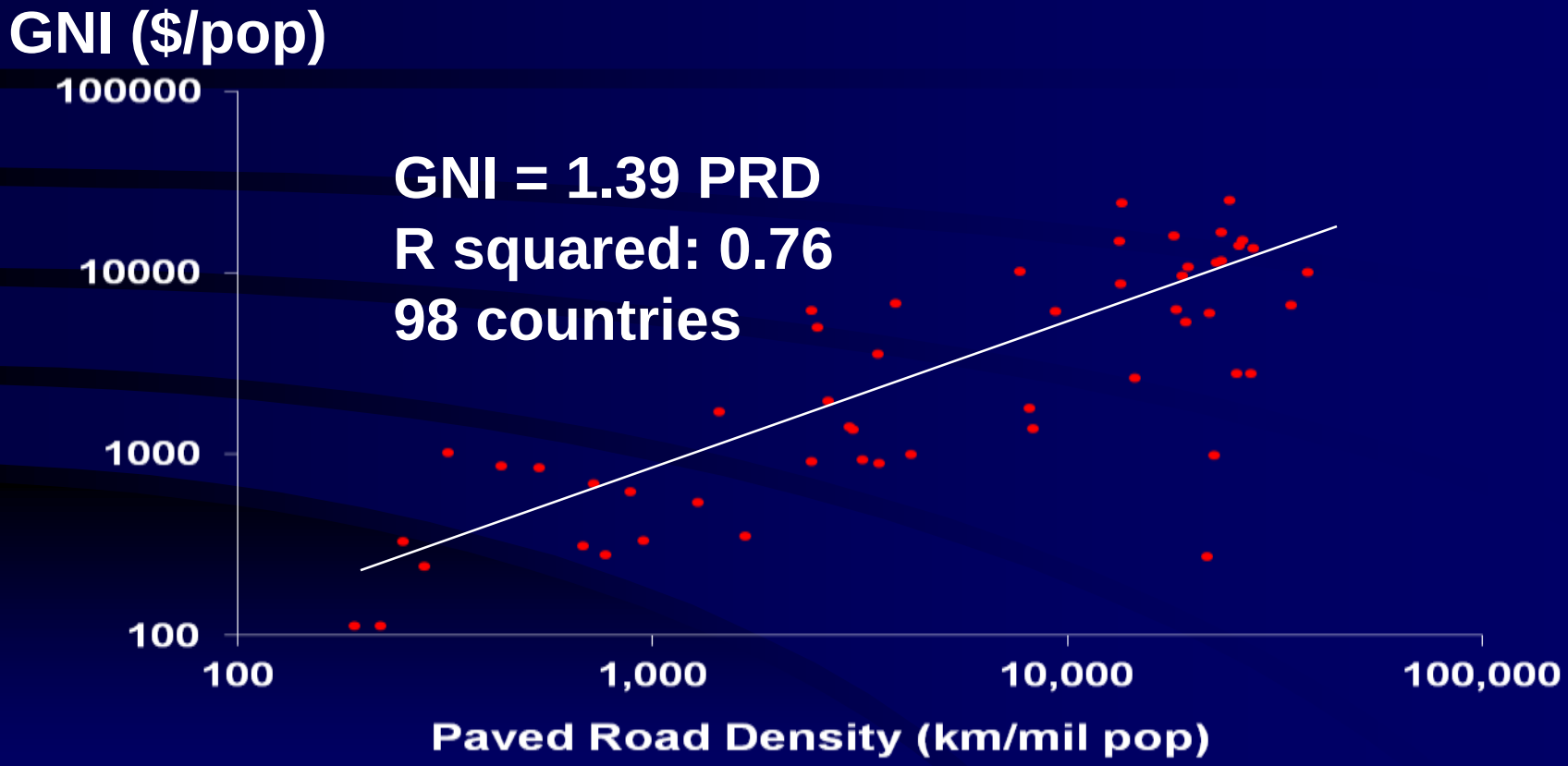
Economies	2014 GNI per capita
Low-income	$1,045 or less
Middle-Income	$1,046 to $12,745
Lower	$1,046 to $4,125
Upper	$4,126 to $12,735
High-income	$12,736 or more

Source: http://data.worldbank.org/about/country-and-lending-groups

Gross National Income Per Capita 2014



Economic Development and Infrastructure



Source: Queiroz and Gautam

PPP & Land and Maritime Silk Roads

- Many governments have recognized that more (and better quality) infrastructure is needed
- They also know the limitations of their budgets and public debts (“fiscal space”)
- PPP, if appropriately implemented, can help countries alongside the historic Land and Maritime Silk Roads to improve infrastructure without overburdening their public budgets

Public-Private Partnerships (PPP or P3)

- **PPP refers to arrangements between the public and private sectors whereby part of the services or works that fall under the responsibility of the public sector are provided by the private sector**
- **PPP in infrastructure can help develop or improve sectors such as transport and urban mobility, telecommunications, information technology, buildings**
- **Through PPP, governments can focus on policy, planning and regulation**

Source: PPP in Infrastructure Resource Center http://ppp.worldbank.org/public-private-partnership/

Toll motorway in the UK

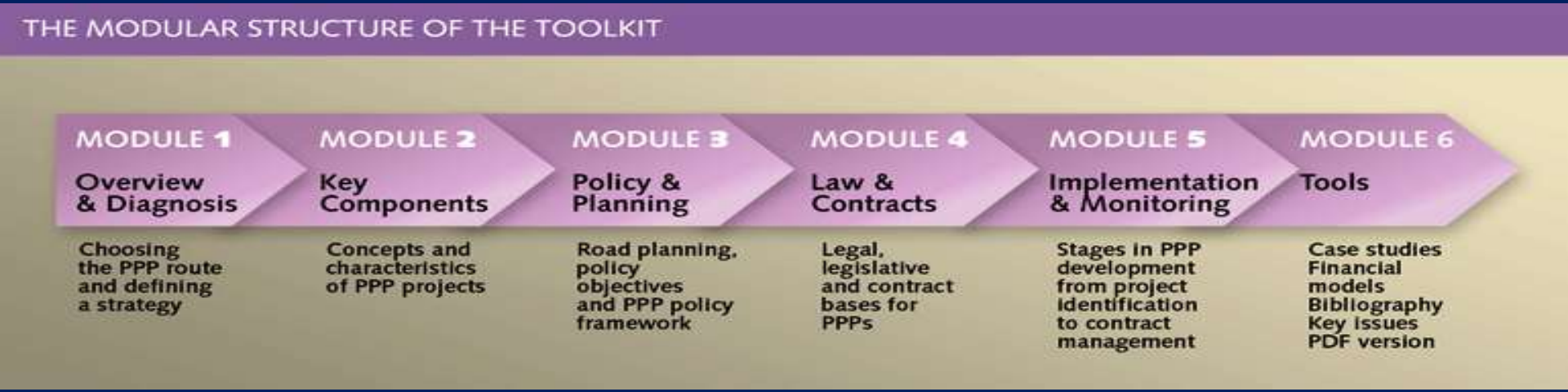
- **First tolled motorway in the UK: M6 near Birmingham, operated by Midland Expressway Limited**
- **More info: *http://www.m6toll.co.uk/***


M6 Toll
The N. WEST
Brownhills 7
Cannock 10
Stafford 21

Toolkit for PPP in Roads and Highways

- Developed by the World Bank/PPIAF
- To assist transport sector policy makers to implement procedures to promote private sector participation and financing of roads
- Available, in English and Russian, free of charge at: *http://go.worldbank.org/P2XMGNYLD0*

The Six Modules of the Toolkit



Additional Tools: Glossary, Site Map

Link to the Toolkit: Toolkit

Highway Toolkit Financial Models

- Availability: Module 6 of the Toolkit
- Purpose
  - Familiarization of non-financial specialists with the basics of project finance and financial simulations for a highway PPP toll project
  - Better understanding of key parameters which affect the financial viability of a PPP project
  - Facilitating the computation of such parameters, for example to scrutinize PPP projects
- Unexpected benefit
  - Despite being simplified financial models, they can help audit specific project assessment financial models

Financial Indicator Targets

Example of targets (or constraints) used to check whether the project can attract private sponsors:

- Project Financial Internal Rate of Return: FIRR ≥ 10%
- Equity Internal Rate of Return (or Return on Equity): ROE ≥ 14%
- Annual Debt Service Cover Ratio: ADSCR ≥ 1.2
- Actual values depend on many factors, including the perception of risks in the country and project

Debunking the myth of financial assessment of PPP projects

- Let us open the Toolkit Graphical Financial Model
- Input data, e.g. concession life, construction cost (capex), maintenance and operation cost (M&O), debt maturity, interest rate
- Output, e.g., FIRR, ROE, ADSCR
- You may download the model from the PPIAF website at:
  http://www.ppiaf.org/sites/ppiaf.org/files/documents/toolkits/highwaystoolkit/6/financial_models/index.html

What ROE is expected by investors?

- "Whether investors are willing to put up with delays, bureaucracy and other costs ultimately depends on what sort of returns they expect to achieve. Most infrastructure funds in Brazil say they target nominal returns of around 20%."
- Source: The Economist, August 11, 2012, "Investing in Brazil's infrastructure," p. 66 *http://www.economist.com/*

The queue of lorries waiting to enter the port of Santos (Brazil) sometimes stretches to 40 km

Source: The Economist, 28 Sep 2013

How can the goals of a complex PPP project be achieved?

- Careful selection of the project
- Due consideration of economic, financial, social, and environment aspects
- Realistic expectations, including deadlines
- A dedicated and well prepared team
- PPP agreement satisfactory to stakeholders, including a fair distribution of risks
- Transparent, competitive selection of the concessionaire

Un cuento…

- **“Cuando despertó, el dinosaurio todavía estaba allí.” [When s/he awoke, the dinosaur was still there.]**
- **Augusto Monterroso (1921 – 2003), Guatemalan writer**

Three categories of PPP

- Depending on the source of revenue to the concessionaire, there are three broad categories of PPP (different risk sharing):
  - Those where revenues come from user fees (e.g., tolls)
  - Those involving payment flows from the government to the concessionaire: (i) shadow toll if payment is based on demand; (ii) availability fee or annuity if payment is based on the available capacity
  - Both from government and users. Examples: Sponsored concessions in Brazil; Co-financed concessions in Peru; PF2 in the UK

Distribution of risks between the public and private sectors

- Varies with the form of public support
- For both actual tolls and shadow tolls, the private investors assume demand (traffic volume) risk, but this risk is smaller under shadow tolls because traffic volumes are not subject to the effect of toll rates (“elasticity”)
- For availability payments, demand risks remain with the public sector, while the main risks assumed by the private partner are construction risk and those associated with road performance during implementation of the contract
- Minimum traffic or revenue guarantee helps to mitigate the demand risk

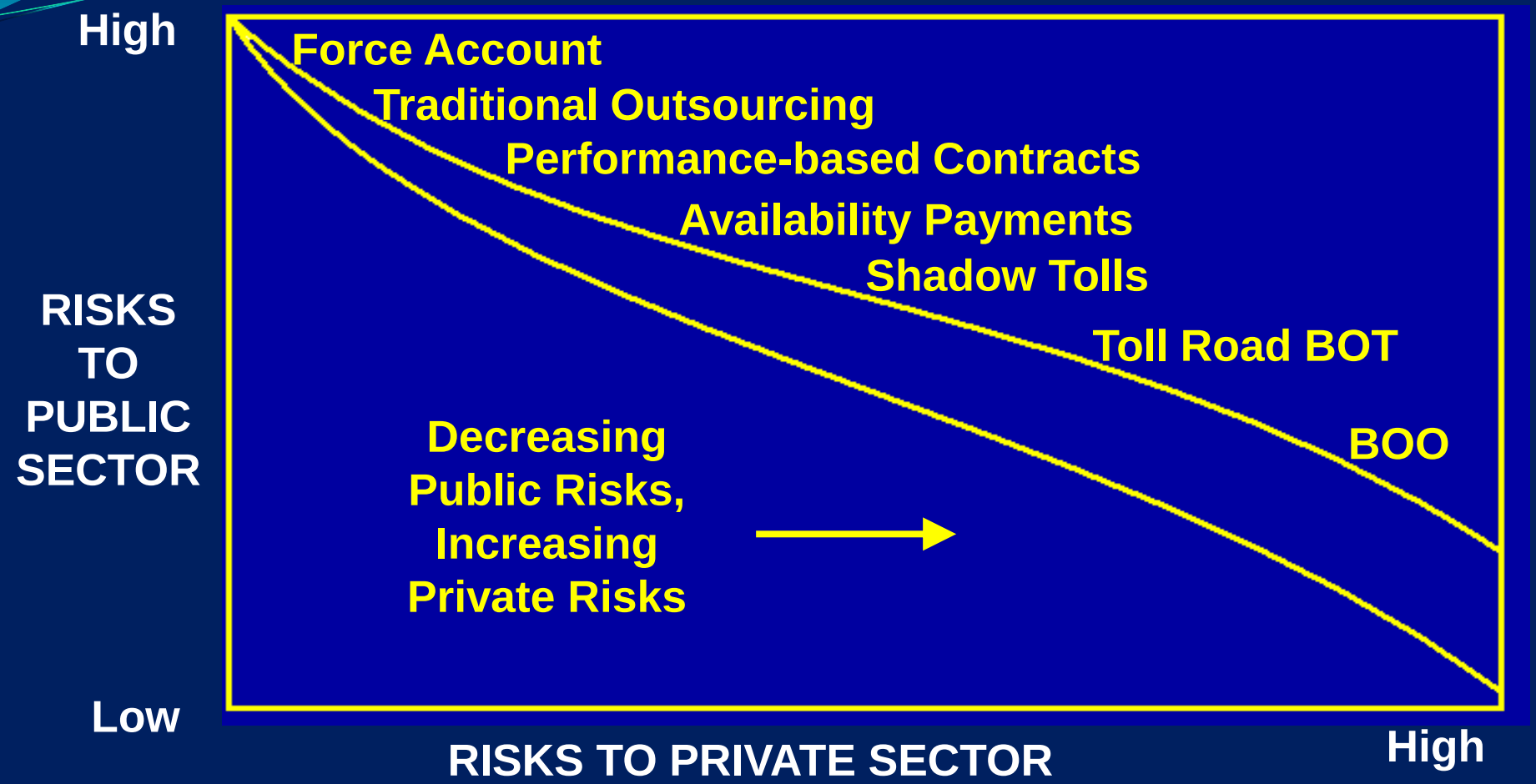
Risk mitigation instruments

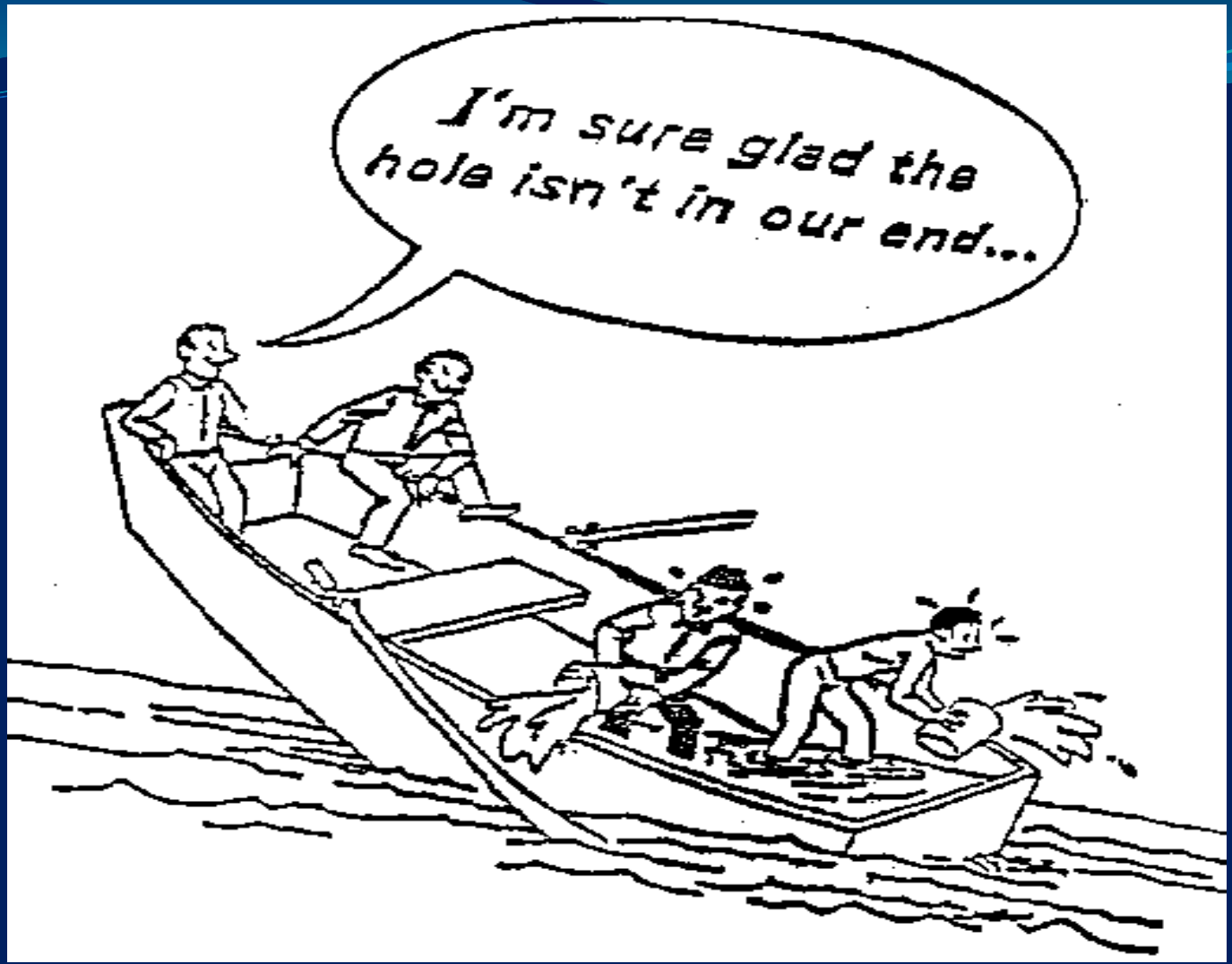
- Financial instruments that transfer certain risks from project financiers (lenders and equity investors) to creditworthy third parties (guarantors and insurers)
- Examples: Credit Guarantees, Political Risk Guarantees or Insurance (e.g., Partial Risk Guarantees, offered by IFIs)

PPP Options and the Distribution of Risks

Option	*Construction*	*Demand*	*Performance*
- Traditional Outsourcing	Public	Public	Public
- PBC	Public	Public	Private
- Tolls	Private	Private	Private
- Shadow Tolls	Private	Private	Private
- Availability Fees	Private	Public	Private
- Hybrid	Private	Pri/Pub	Private

Allocation of risks




I'm sure glad the hole isn't in our end...

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Cesar Queiroz, Senior Advisor, Claret Consulting, former World Bank Highways Adviser, has worked internationally on roads and transport infrastructure. His main expertise is in public-private partnerships, road management and development, performance-based contracts, port reform and rehabilitation, improving governance, quality assurance and evaluation, research, teaching and training. Between 1986 and 2006, he held several positions with the World Bank, including Lead Highway Engineer and Principal Highway Engineer. Prior to joining the World Bank, Cesar was the deputy director of the Brazilian Road Research Institute in Rio de Janeiro. He holds a Ph.D. in civil engineering from the University of Texas at Austin, a M.Sc. in production engineering from the Federal University of Rio de Janeiro, and a B.Sc. in civil engineering from the Federal University of Juiz de Fora, Brazil. Cesar has published two books and more than 140 papers and articles. His assignments have included infrastructure advisory services to Russia, Brazil, Latvia, Lithuania, Poland, Ukraine, Armenia, Georgia, Azerbaijan, Philippines, Uganda, Sri Lanka, India, China, Egypt, Colombia, Laos, Mozambique, Saudi Arabia, Tunisia, Sweden and Norway. He is currently a visiting professor at the University of Belgrade, Serbia, and has lectured at George Washington University since 1996 on private participation in infrastructure. He has served as course advisor and lecturer at the International Law Institute.