# Making the Latin American rail sector more "investor friendly"

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#### **Reviewing the Motives for PPP Investments**

The Government wishes to integrate the private sector in areas where public operation has been ineffective by:

 leveraging Private sector methods and innovations;

• the government can use its financial power as sovereign credit to assist in financings;

• the government can ensure a "level playing field"

The Private sector is incented to participate by expectations of:

• financial profits on its investment;

improved transport costs;

•improved efficiency of asset utilization;

•fair compensation for services offered;

•fair regulations.



# Historic Tendencies of Rail PPP

- Structure is oriented to circumstances; two organizational models prevailed for existing Railways:
  - Vertical control model integrates Operations and Infrastructure
  - Vertical Separation or Horizontal segmentation models separate Infrastructure from Operations
  - Each model can permit regional and business (e.g. cargo versus passenger) segmentation

#### A tree diagram to illustrate the structures



#### History of Rail PPP in Hemisphere, result favors Vertical

Successful			Mixed success		
Nation	Vertical	Horizontal	Vertical	Horizontal	Comment
Canada	CN				Sale of Company
US	Conrail		Alaska RR		Sale of Company
Mexico	Ferromex KCS de M	Dist. Federal			Regional Conc. 50 years
Panama	Panama RR				Concession
Colombia		Drummond		FENOCO Occidental	FC Central Concessioning
Brazil	ALL MRS CA			FEPASA	Regional Conc.
Chile		Passenger		Cargo	Met expectations
Argentina			ALL NC FCR	Metro Suburban	Regional Conc. Infra. problems
Peru	FCCA, FCS				Regional Conc.

## What are the key factors for PPP investors?

- "Bite Size", what they can chew
- Investment Return vs. Risk
  - Cost of debt = Base + Country premium + Project premium
  - Price of Equity = Risk Free + Risk premium+ Market Beta
  - Fair regulations
- Competing Investments
  - Energy, Roads, Ports, Timber
- Exit strategy = Construction profit, dividends, public sale

# Capital Structure Pyramid and "Bite Size"



# Supply of Internal Equity

• Who is your "audience" for these investments?



## Supply of External Equity to Capital Structure



## **Competition for Latin America PPP Dollars**

Source: Private Participation in Infrastructure – World Bank 2012

#### • Energy and Water

	No. Projects	Туре	Aggregate Dollars Million	Average Dollars Million	Hi/Low Dollars Million
Transmission	2	BOT	366	122	230-46
Generation	7	BOT/BROT	3,313	473 253 ex Teles	1,760*-82
	7	BOO	1,591	227	696-17
Wind	12	BOO	2,240	187	444-76
Water	4	BOT	492	123	214-23

\* Teles-Pires Project, Brazil

## Competition for Latin America PPP Dollars

Source: Private Participation in Infrastructure – World Bank 2012

#### • Transport

	No. Projects	Туре	Aggregate Dollars Million	Average Dollars Million	Hi/Low Dollars Million
Roads	6	BROT	3,846	641 325 ex Rodo	2,221* - 6
Seaports	1	BLeaseT	845	845	Maersk
	3	BOT	1,117	372	800 - 4.1
Airports	3	BROT	319	106	299 - 28
Rail	1	BOT	290	290	Lima Tram

\* SP Rodoanel Sul, Leste

## Cash Flow Profile Toll Road



## **Cash Flow Profile Energy Generator**



# Risk Profile of Rail = important differences

Demand Risk is higher....

Large fixed investment = High fixed infrastructure cost = Break even issues Much higher for new lines Significant for established lines = business cycle

Dynamic Network business, not a fixed output module Capacity dynamic, track extension, doubling, etc. Track investments could not be reclaimed in typical **existing** fixed concession

#### **Financing Risk**

Participants

Few External Equity participants due to specialized business analysis Internal participants most likely to be **clients** 

Economic Returns are usually high for public

#### Actual and Projected Results Guizhou – Shuibai Ry. Holding Ltd. (Infrastructure Owner and Local Operator)



# Guizhou – Shuibai Railway Holding Ltd.

Sums in US Dollars

Physical / Costs	Financial / Return
Length = 119 km	Construction Inter = \$30 m
Civil works = \$239 m	Maturity 20 yrs.
Trackwork = \$46 m	Debt/Equity = 45/55%
Structure, Sig.,Comms= \$49m	FIRR = 3.5%
Overhead + Profit = \$28 m	EIRR = 17.5%

Source: ADB performance evaluation

# Techniques for sharing Risk

Model>>> Risk element	BOT Concession	Vert. Control Infra. + Rolling Stock w. Track Payment	Horizontal Infra. Manager Conc. Operator Track Payment	Availability Model IM Sells Access Separate IM Separate Operator(s)
Infra. Financing	Conc.	Gov.	Gov. / IM	Gov. > IM
Infra. Construction	Conc.	Gov. / Conc.	Gov. / IM	Gov. > IM
Demand	Conc.	Conc.	Conc. + Gov. if variable fee	Conc./Gov. Buy Access as need
Operations	Conc.	Conc.	Conc.	Conc.
Maintenance	Conc.	Conc.	Gov. = IM	Gov. > IM

## Logic for shifting risk to > or < from Government

- Infrastructure Finance
- Construction risk
- Demand risk new lines

- Operations risk
- Maintenance risk

- Sovereign debt accessible, public benefit justifies
- Construction risk is delay risk = cost of money issue
- New lines = no demand history
  - State underwrites infrastructure part or all of cost
  - Operator can justify on his own traffic if he can haul it.
  - Take or pay contracts for service
  - Minor except break-even demand
  - Minor, two organizations add costs

## Dynamic Tension of paying for Infrastructure is key to PPP negotiation



# Conclusions

- For large "greenfield" rail projects PPP plays support role...
- Consideration should be given to a separate BOT format Infrastructure Manager, supported by government as needed
  - Advantages:
    - "Bite Size" of Infrastructure matches sovereign / multilateral debt markets
    - PPP BOT structure strengthens construction / maintenance
    - Government guarantees shortfall until full utilization is reached
- Operations (possibly routine Infra. Maintenance) could be vested in PPP "host" Operator paying volume related Track Fee to IM.
- Strong but fair regulation should be focused on preventing monopoly abuses where new lines are the only competitive mode.