



# Comments on Frank Wolak's Paper: “Designing Competitive Wholesale Electricity Markets for LAC Countries”

by

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# Presentation

- Objectives
- A tale of two cities
- Lessons from OECD
- Competition in LAC electricity markets
  - In theory
  - In practice
- On the challenges
- Conclusions

# Objectives

- Apply up to date economic theory and empirical methods to the analysis of competition in selected electricity markets in LAC, to identify:
  - (I) main distortions of competition in the wholesale market that remain in selected countries in LAC;
  - (Ii) best practices for addressing those distortions and introducing competition, and the major constraints to their successful implementation; And
  - (Iii) policy options for governments of countries facing difficulties in attaining the welfare benefits associated with the introduction of competition.

# A Tale of Two Cities

- Main motivation was efficiency gains in mature markets with slow growth
- Over-installed and over-reliable
- Institutions of market economy
- Main motivation attract private resources to invest in a fast growing market
- Limited coverage and under-installed
- Weak institutions
- Many countries with small markets

# The Lessons From OECD Markets

- Market Power exist and institutions matter
- Market Design = Limiting Market Power of Firms
  - Make residual demand curves perceived by all unit owners as elastic as possible
  - Implies restructuring
- Regulatory Institutions
  - For completing design and monitoring transition

# Limiting Market Power of Firm

- Divestiture of generation capacity
- Forward financial commitments make firm bid more aggressively in spot market
- Transmission upgrades to face all unit owners with more elastic residual demand curves
- Price responsive demand makes residual demand curves perceived by all unit owners more elastic

# Competition in Electricity & Competition in Other Sectors

- Privatization
  - Liberalization
  - Defense of competition
- Privatization
  - Liberalization
  - Defense of competition
  - Restructuring
  - Regulation
  - Transition

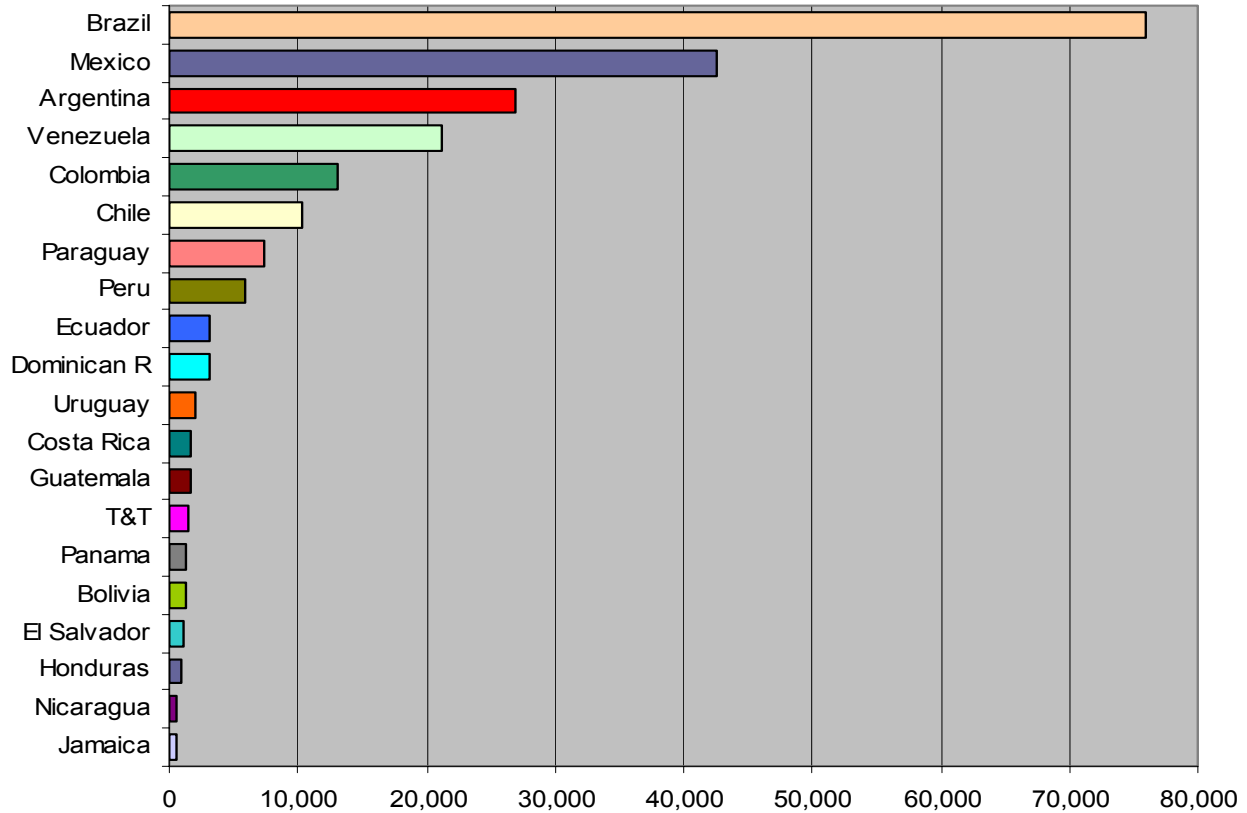
# Challenges in LAC

- Weak institutions
- Growing demand
- Hydro dominated systems
- Government still important player
- Small markets
- Poor or none regulatory & competition experience

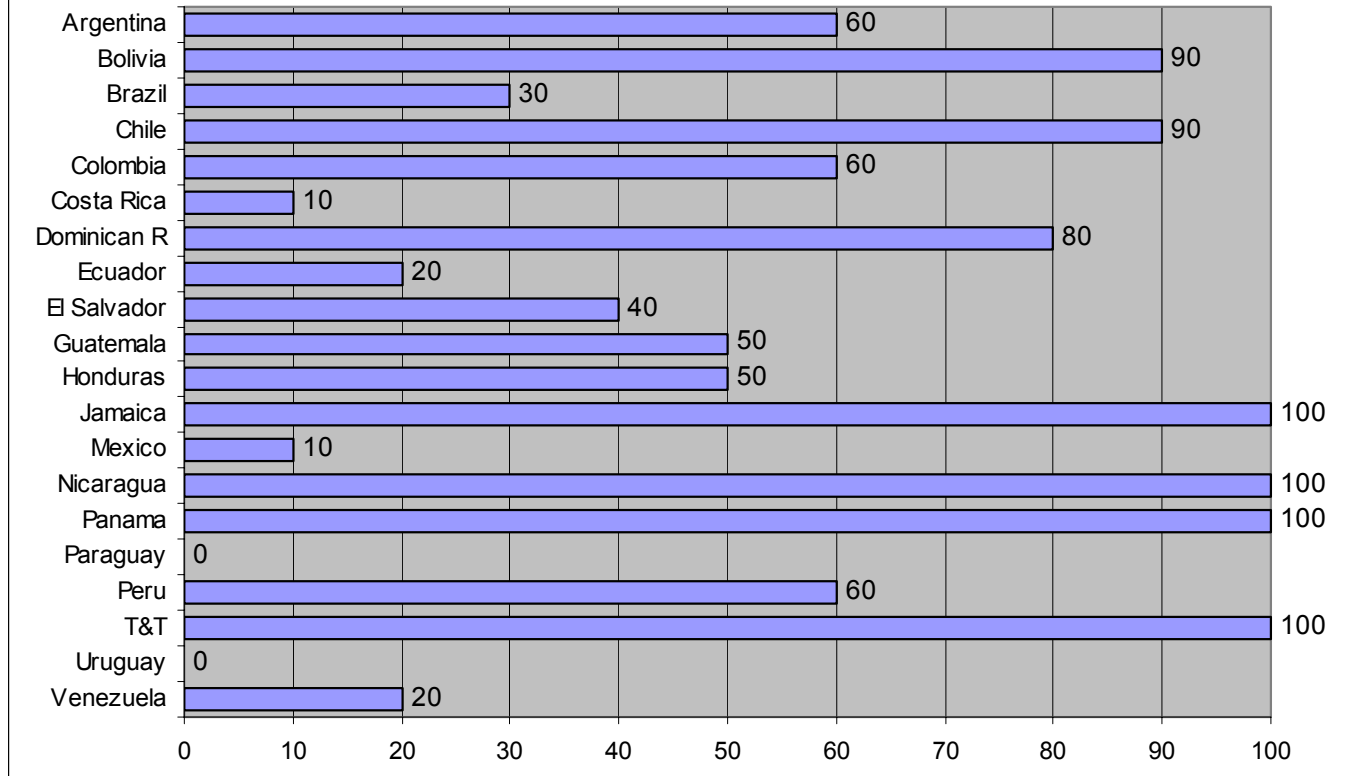
# Electricity Markets in LAC



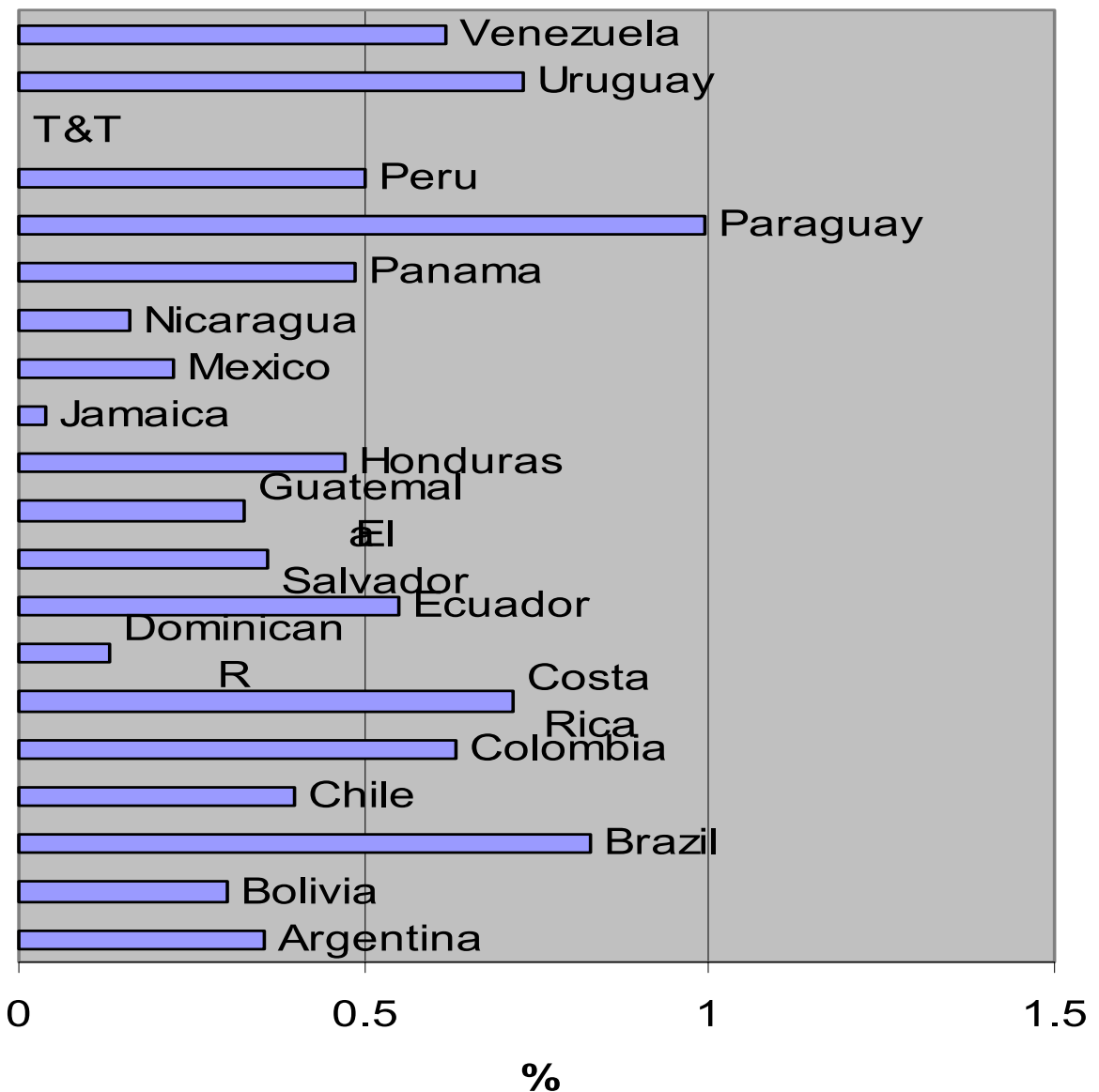
## LAC Installed Capacity in MW



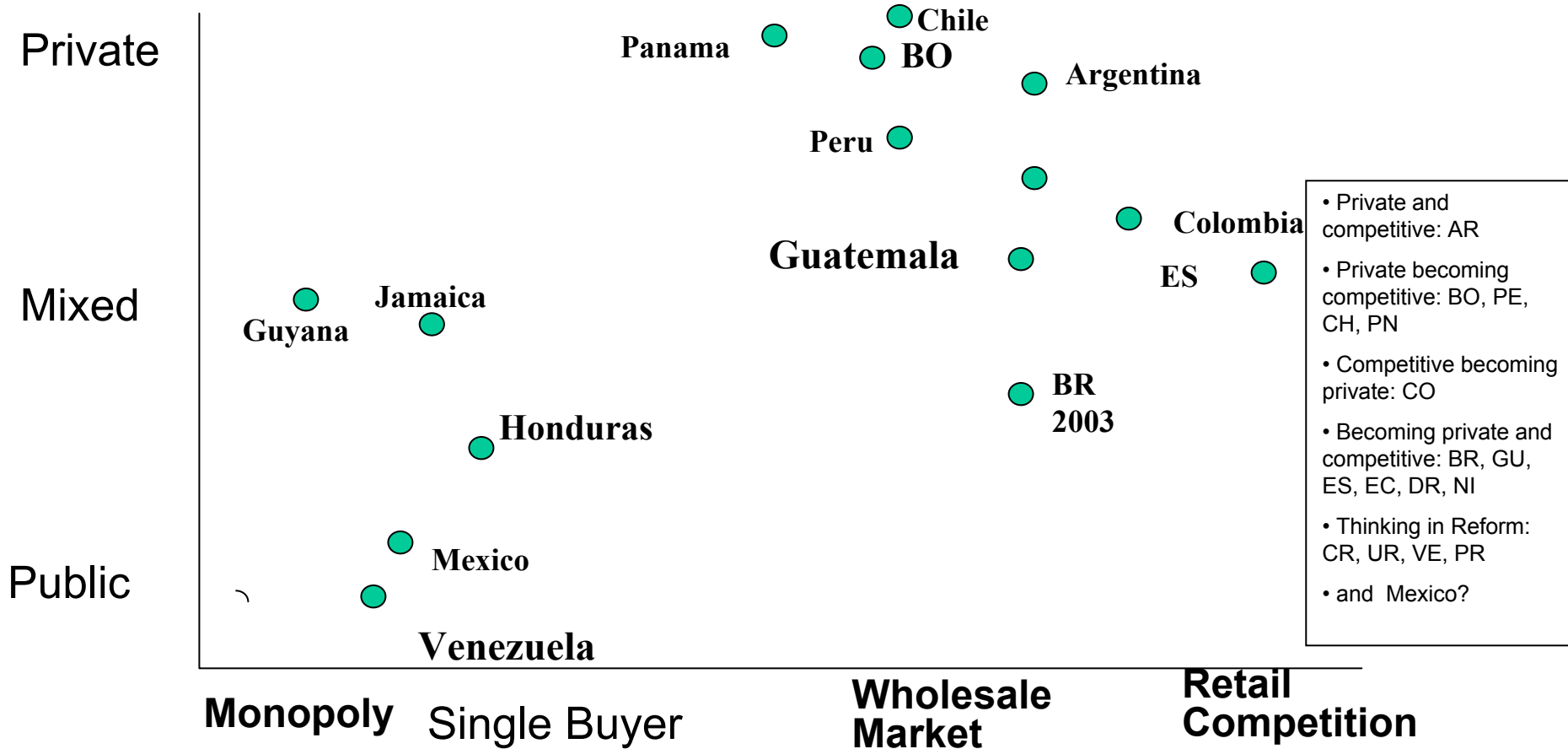
## Private Sector Share %



# Hydro Share



# Competition in Theory...



# ...And in Practice

- Some countries never made it
  - El Salvador and Brazil
- Others have problems in market design
  - Colombia and the transmissions constraints
  - Chile the drought and the governance of the market
  - Forward markets in panama & Dominican republic
- Many ignored market structure issues
  - El Salvador, Guatemala
- Others may have fared well under current conditions but may require further adjustments
  - Argentina
- And most failed to develop credible regulatory institutions

# LAC Wholesale Markets

Country	Model	Hydro %	Private	Forward Markets	Concentration	Unbundled
Argentina	Cost	39	75	17%	C5=43	Yes
Brazil	Cost	90	30	85 M	C1=70	Partial
Chile	Cost	40	100	Reg. Price	C2=80	Partial
Colombia	Bids	63	60	Variable	C4=70	Partial
Peru	Cost	50	60	Regulated Price		Partial
D.R.	Cost	13	80	85 M	C3=80	Partial
Guate.	Cost	33	50	100 M	C2=60	No
Panama	Cost	49	100	100 M	C4=83	yes
Salvador	Bids	36	40	Tie to Spot	C2=100	No

# Gaming With the Weather and Security of Supply

- Long-term price signals to investors are weak because low rationing cost but also because extreme volatility and price caps
- Using both pricing and higher cost
  - pricing consumers  $\Rightarrow$   $\uparrow$  volatility for them and  $\downarrow$  seasonal demand from generators: good for existing hydro
  - $\uparrow$  rationing cost  $\Rightarrow$   $\uparrow$  demands from thermal reallocating rents among generators, &  $\uparrow$  overall consumers prices
- Do we need additional instruments?
  - capacity charges, markets for capacity
  - emergency purchases to deal with residual hydrologic risk
  - long-term contracts

# Countries Have Underestimated Competitive Forward Contracts

- Some have obligations to buy but
  - Have failed in the design: Brazil, Dominican Republic, Panamá
  - Or have not yet tested the procedure: Guatemala
- Some don't have any obligation
  - Trusted agents to arrange among themselves, Colombia, Argentina, El Salvador
- Some have regulated long-term pass-through
  - The Chilean first generation

# The Hidden Cost of Cost-based Markets

- **The belief that a cost-based market design is sufficient to control market abuse or gaming proved to be wrong**
  - **When there is market power it is always possible to abuse, regardless of the chosen market design**
- **A cost based market involves several interacting features that can create distortions, inefficient outcomes or allow gaming**
- **Monitoring efficiency and transparency of implementation and market development requires outside help**
  - **Panamá is a good example of how an external committee of surveillance can help in overcoming initial problems**

# Strong Independent and Credible Regulator

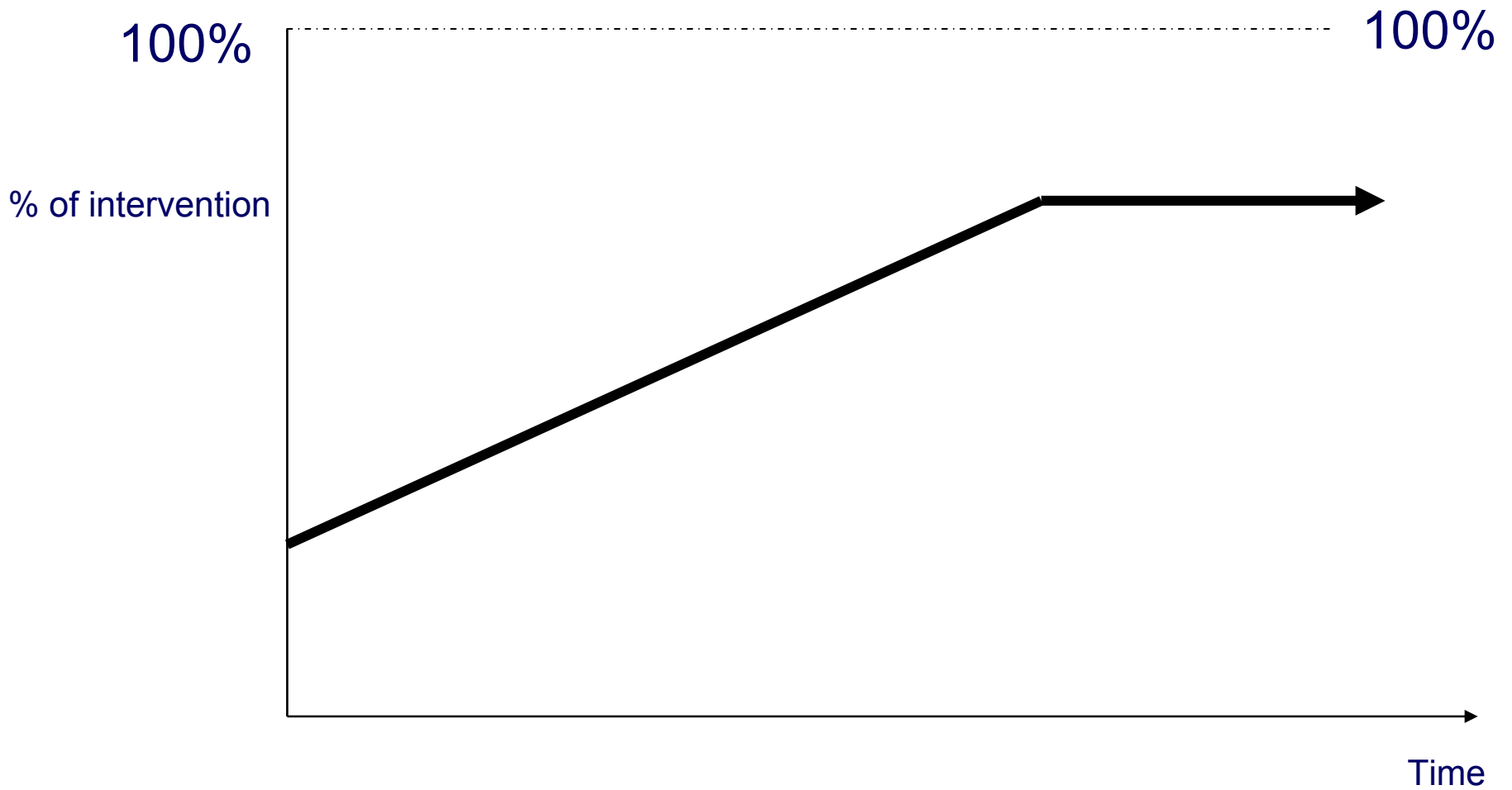
- Culture of independent regulator is foreign
- Some autonomy in theory, but in practice...
  - Argentina, Brazil
- Some pretend to be
  - Nicaragua
- Some don't have any illusions
  - Chile
- And most are underpaid and short of resources

# Enforcement of Competition: Trade Offs

	Government	Sector Agency	General Agency	Judiciary
Sector knowledge	High	High	Low	Very Low
Regulator Capture	High	High	Low	Low
Independence from Government	None	Depends	Depends	Lots
Speed	Reasonable	Reasonable	Little	Very little

After Miguel A. Fernandez Ordoñez,  
2000

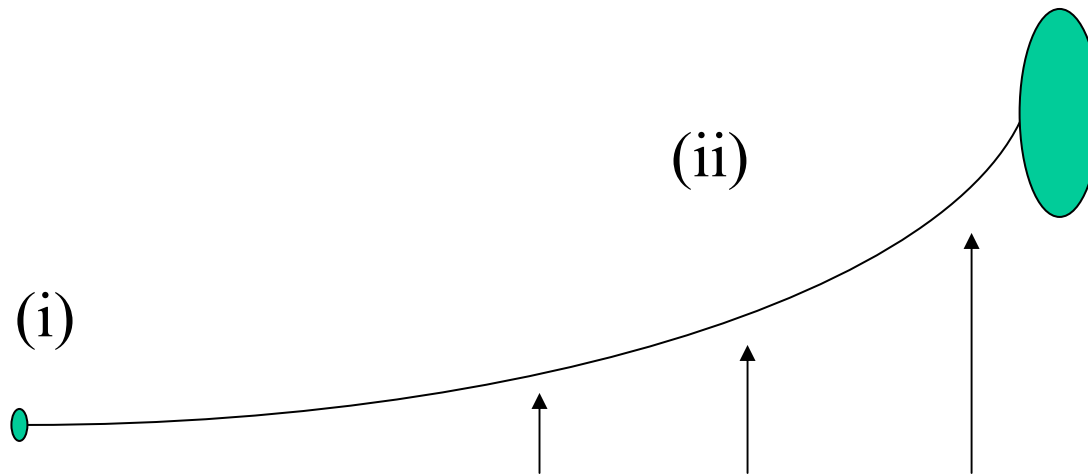
# Intervention of General Agencies



After Miguel A. Fernandez Ordoñez

# Reform As Development of Initial Capacities

- Two different skills: (i) design of reforms that meet Williamson's remediability criterion and keep open the option for improvements in market design; (ii) design of migration strategies to some ‘superior’ equilibrium



# Conclusions

- The document identifies:
  - some key issues in development of competition in wholesale electricity markets both from theoretical and empirical point of view
  - lessons from OECD countries
  - major challenges facing LAC countries
- And provides good advise:
  - creating organized markets for electricity is a gradual endeavor that requires good market design, nurture during the transition and acknowledgment of local conditions
  - reaping full benefits from competition may take a while and require some patience
  - how to strike the balance between regulation and competition remains at the heart of the problem

# Final Version Will Include

- Further reference to particular problems faced by countries visited during the study
- Further develop some proposed solutions
  - continuity of supply
  - surveillance of competition
  - challenges of Cost-Based Markets
- And.....
  - role of different institutions in oversight and vigilance of competition
  - role of international cooperation in helping to increase credibility of regulators
  - role of regional market integration



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# Sector Reform: A Tale of Two Cities

- Deregulation / “Restructuring” (in U.S.)
- Motives:  $\uparrow$  Efficiency  
Arguments:  $\downarrow$  Scale  $\Rightarrow$   $\uparrow$  Contestability  
Markets “get prices (incentives) right”  
Light-handed regulation suffices
- Privatization / “Liberalization” (LAC)
- Motives: State failure &  $\downarrow$  Investment  
Arguments: State out  $\Rightarrow$   $\uparrow$  Efficiency  
Markets “get prices (incentives) right”  
 $\uparrow$  Private sector  $\Rightarrow$   $\uparrow$  investment  
competition  $\uparrow$   $\Rightarrow$   $\downarrow$  Heavy-handed regulation