

# Electricity market reform in Developing Countries Results from a Five Country Study

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David G. Victor  
*Program on Energy and Sustainable Development  
Stanford University*  
<http://pesd.stanford.edu/>

# Program on Energy & Sustainable Development

## **1. Electricity Market reforms**

- Five-country comparison  
(Brazil, China, India, Mexico, South Africa)
- IPPs

## **2. Geopolitics of Natural Gas**

- Looking to 2030

## **3. Rural energy supply**

- Shift from traditional to modern fuels and technologies

## **4. Climate change policy**

- Beyond Kyoto

# Five-Country Study:

## Overview of my Comments

### 1. Causes of Reform

- From **state-centered** to **market-oriented** power systems

### 2. Pace and Character of Reform

### 3. Outcomes

# 1. Causes of Reform

- In the advanced industrialized nations
  - Goal: economic efficiency
  - Expected outcome: tariff *reductions*
- In these five developing countries
  - Goal: financial solvency and investment
    - Statist system inefficient; tariffs politicized
  - Realistic outcome: tariff *increases*
  - Need for politically viable coalitions

# Reform Strategies: No Textbook Model

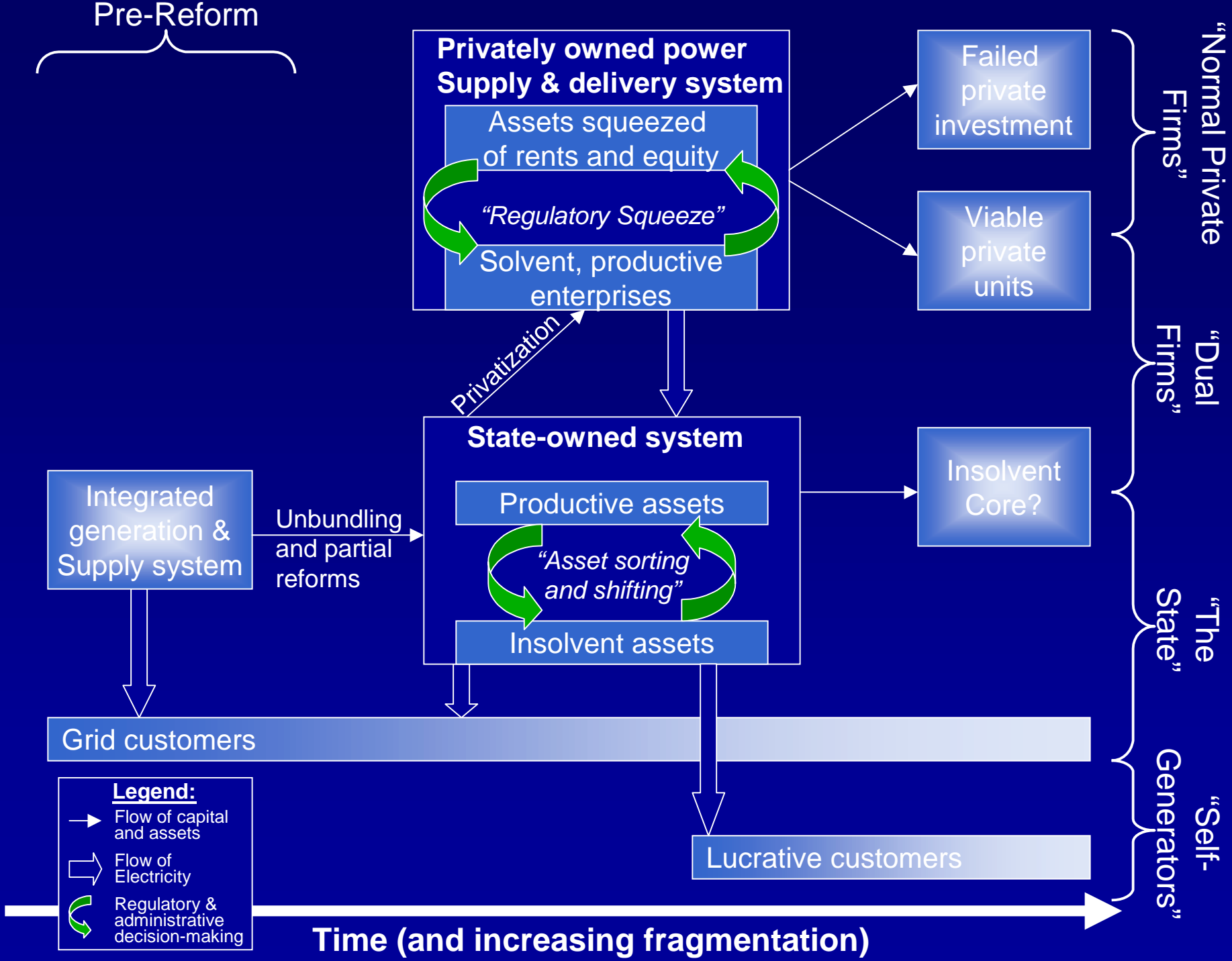
Country	Strategy
Brazil	Privatization of distribution and generation companies to raise money; allowance for IPPs; creation of hydro system operator; independent regulator
China	Reform at the margins (IPPs) and corporatization of state enterprises to raise money; nascent independent regulator
India	Reform at margins (IPPs and guaranteed returns for national power corporation) then seek private management of distribution; independent regulator.
Mexico	Reform at the margins (IPPs); reforms stalled due to political and constitutional barriers; independent regulator
South Africa	Aggressive electrification; redrawing of boundaries for distributors; corporatization of utility; independent regulator; IPPs expected

## 2. Pace and Character of Reforms

- Electricity Reforms depend on other reforms
  - Finance
    - The single most important factor
    - State sector finance; soft budget constraints
  - Factor Markets
    - Labor; fuels
  - Judicial
    - Independent regulators
  - Corporate Governance and accounting
    - Essential for regulatory oversight and private investment
  - Competition Policy
    - No evidence yet—no markets
  - Contrast w/ OECD
    - reform with “rule of law,” market institutions, and independent financial sectors already in place

# 3. Implications for Industrial Organization and Regulation

- Emergence of “dual markets”
  - Partially state-controlled
    - Soft budgets; tariffs
    - Highly political allocation of rents
  - Partially market
    - Project and concession bidding
    - Market experiments
      - E.g., Six provinces in China (1999-2001)
  - Not a transient outcome, but stable equilibrium
- Unsolved Problem of Regulatory Credibility
  - Regulation rooted in weak institutions
  - SOE reform more important than merchant competition
  - Developing country regulators learn more from each other than from OECD “capacity building”



# 3. Implications... (cont)

- **Industrial Organization**

- **Fragmented Ownership and Control**

- Isolated pockets of profitability: listed corporations & FDI
    - Pervasive under-performing: retained by the state

- **Hybrid financing**

- Hard financing; equity squeeze; pervasive state “safety nets”

- **Who has the competitive edge?**

- “dual firms”—combine political assets with modern management
      - Political assets: to assure control over rents and to enforce convenient contracts
      - Modern management: to avoid dysfunction of most SOEs
    - Examples
      - Brazil: Petrobras
      - China: Huaneng, CLP
      - India: Reliance, Tata, NTPC
      - Mexico: ??
      - South Africa: Eskom

# Final Observations

- Central role for “non-electric” reforms
  - Especially financial and judicial reforms
- Importance of building coalitions for reforms
  - E.g., “tunneling through” opposition
    - APDRP in India
- Independent regulators as substitutes for government
  - To create confidence and stability
- Regulators overseeing “dual markets,” not textbook markets
  - Key issues: governance, transparency, IPP tenders
  - Lesser issues: market power, congestion