Competition in the Electricity Industry?
The Experience in 5 Developing Countries

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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 restructure markets then privatize distribution; independent regulator.
Mexico	Reform at the margins (IPPs); reforms stalled due to political and constitutional barriers; independent regulator
South Africa	Aggressive electrification; reform of distributors; corporatization of utility; independent regulator

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)
  - <u>Not</u> a transient outcome, but stable equilibrium
- Unsolved Problem of Regulatory Credibility
  - Regulation rooted in weak institutions
  - No simple fixes
  - SOE reform more important than merchant competition

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: 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