

Electricity market reform in 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)
 - Not 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