Mapping Power

The Political Economy of Electricity in Indian States

Based on joint work by Navroz Dubash, Sunila Kale, and Ranjit Bharvirkar with twelve case study authors

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Outline

• Why ‘Map Power’? The importance of politics to electricity outcomes

• How politics matters: methodology, cases and analytical framework

• The results of mapping power: from vicious to virtuous cycles in state electricity outcomes

• The future of Indian electricity: 21st century electricity while grappling with 20th century problems
Indian Electricity in a Nutshell

• Concurrent subject: centre and state control

• Uncertainty about demand growth

• Coal now, renewables later?
Why "Map" Power?

Persistent Pathologies of Indian Electricity Distribution
Discom Debt

Source: PFC, PFC. Reports on Performance of State Power Utilities
T&D Losses

Source: http://indiaenergy.gov.in/edm
Poor Access Outcomes

Household Electrification Rates - Census
Source: http://indiaenergy.gov.in/edm
Repeated Unsuccessful Efforts to Fix the Problem

• State reforms over two decades
  • Odisha 1995 – “a bankruptcy workout”
  • Introduction of state electricity regulators
  • Commercial principles: Unbundling, corporatization, and (maybe) privatization
  • Important role of the World Bank

• Central government interventions
  • Repeated central government bail-outs but underlying financial conditions don’t change – latest UDAY
  • Electricity Act 2003 – some key provisions are not implemented
The Case for Attention to Political Economy

• Failure to reform often attributed to “lack of political will”

• Is insulation from politics possible? Is it desirable?
  • Regulator’s role is “… to insulate Orissa’s power sector from the government and ensure its … autonomy” - 1996 (World Bank, ‘SAR: Orissa Power Sector Restructuring Project’, Annex 5.3, p. 2.)
  • “Insulate utilities from state government to prevent interference with internal operations” - 2014 (World Bank, “More Power to India: The Challenge of Electricity Distribution”)

• From insulation to engagement
  • How can improved power and political rewards go together?
  • Need to Map Power
Analyses
State Case Studies

- Fifteen states
  - 87% of population
  - 77% of elec. gen. capacity
  - 93% of RE capacity
- Diversity of circumstance, geography
- Historical perspective
  - Electoral politics + electricity politics
Methods

• Researchers: PhD students/Postdocs with knowledge of the state

• Approach
  • Interviews + document review + key quantitative information
  • Inductive – look for empirical regularities and patterns

• Strong oversight by project leaders
  • Common analytical framework
  • Review of interview notes
  • Two workshops: training + course correction
  • Common structure for write up
Analytical Framework

Centre’s Interventions
- Environment & Geopolitics
- Centre-state politics
- Central schemes
- Reform ideas
- Non-power sector interventions

Broader State Political Economy
- Electoral politics
- State finances
- Structure of economy
- Environmental issues
- Non-power sector interventions in agriculture, transport etc.

State Political Economy of Power

- Demand for Service Quality
- Demand for Electricity Subsidies
- Cost of Electricity Supply
- Available Financial Space

Reforms
- Regulators
- Privatization
- Managerial
- Feeder separation
- Rural Elec.
- Bailouts
- Renewable Portfolio Obligations

Outcomes
- 24*7 Service
- Financial Health
- Environmenta l Quality

Analytical Framework
# State Political Economy of Power

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Political Demands

• Access to electricity
  • An “S” curve on political returns
    • Bihar: political gains from promising electricity
  • Why don’t more states seek political returns from electrification? (e.g. Odisha, Jharkhand, MP)

• Demand for Subsidies
  • Explicit subsidies – farmers... but not only farmers
    • Karnataka – a regional accommodation
    • Tamil Nadu – rampant subsidies
  • Implicit subsidies
    • UP – Blind eye to theft
    • Jharkhand – Procurement politics

• Political demands cannot be wished away. But they can be addressed in alternative ways
Space to Manage Political Demand

• Cost of supply
  • High cost supply cramps ability to adjust - (re-)emerging trend
    • Uttarakhand – squandered cheap hydro opportunity
  • Low cost supply provides space to explore political solutions
    • Bihar – rural access enabled by low cost supply

• Financial space
  • Load profile + open access
    • Large industrial sectors provide cross-subsidy ability – Maharashtra, AP etc. vs. Punjab
  • ‘Subventions’ from state and transfers from centre
    • Wealthier states can absorb more political demands through subventions
    • Periodic central bail-outs provide breathing room, but how used?

• Do reforms increase or cramp the space and ability to creatively address political demands?
Framework in Action
State-Specific Analytic Narratives

• Uttarkhand
  • Low cost hydro
  • Increasing industrial loan
  • Failure to address loss levels in plains

• Maharashtra
  • Demands from key constituencies – sugar coops
  • Shifting constituencies – industry
  • Supply cost shocks repeatedly

• Approach to cases: multi-causal and path dependent
Comparative Case Analysis: From Vicious to Virtuous Cycles

**Virtuous Cycle**
- Access solution
  - West Bengal (2005-10)
  - Bihar (2013-17)

**Accommodation and Equilibrium**
- Low level equilibrium
  - Odisha
  - Bihar (2005-2012)
  - Jharkhand
  - West Bengal (1977-2004)
  - West Bengal (2011-16)

**Politically informed reform**
- Gujarat (2002-16)
- Delhi (2006-13)
- Andhra Pradesh (1996-2004)

**Functional equilibrium**
- Maharashtra
- Uttarakhand
- Gujarat (1990-2001)
- Delhi (2014-17)
- Andhra Pradesh (2014-17)

**Vicious cycle – low starting point**
- Bihar (1990-2004)
- Uttar Pradesh
- Rajasthan
- Madhya Pradesh

**Vicious cycle – high starting point**
- Punjab
- Tamil Nadu
- Andhra Pradesh (1982-95)
- Andhra Pradesh (2005-13)
- Delhi (1993-2005)
- Karnataka (1970-99)

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How to use this?
Theme I: Development and Credible Promises

- Social welfare concerns continue to dominate but industrial interests growing
  - Counter-argument: poor willing to pay for reliable supply
- Recent history of dis-embedding social objectives from electricity policy-making => social objectives are addressed separately
- Credibility of promises to address social issues elsewhere?
  - Credibility of promise to provide better quality power for full tariff?
- Recover idea of electricity as engine of development?
Theme 2: Depoliticization vs. Engaging Politics

- Context of competitive populism
  - Pressure to buy votes through sops Vs long term improvement
  - De-politicization not a viable option
  - Delivering on long term gains requires managing short term costs
- Long incumbency *not* sufficient for successful electricity reform
  - Odisha, West Bengal
  - Delhi, Andhra Pradesh
- Political entrepreneurship using fortuitous conditions
  - Gujarat
  - Bihar
Theme 3: Is Reform Framed Correctly?

- Big bang reforms have not been politically sustainable
  - Odisha and Delhi

- Managerial reforms have created space for political entrepreneurialism
  - Gujarat and feeder separation
  - West Bengal and incentive changes
  - Bihar and leadership incentives
  - Andhra Pradesh and utility incentives

- Reluctant reformers
  - Madhya Pradesh, Punjab, Tamil Nadu

- Reform framing
  - Political insulation vs. Sustainably addressing political demands and creating space to manage demands
21st Century Electricity while Managing 20th Century Problems

- Indian utility death spiral?
  - Commercial/industrial users => RE
  - Shrinking cross subsidy potential
- Exacerbate supply cost squeeze?
  - Ever cheaper RE => more risk of stranded fossil capacity
- Potential to reduce pressure on tariff through EE and RE
  - Only if targeted adoption by key subsidy demand constituencies
- Grid as a way of bridging islands of electricity affluence
  - Latecomer states face greater disadvantage
Toward a conclusion

- Multi-causal and historically contingent explanations for state outcomes (e.g. Uttarakhand)
- Understand electricity sector as it is embedded in broader political economy (e.g. Gujarat vs. W Bengal)
- Electricity in India cannot operate independently of social welfare considerations
- State reforms have brought transparency but not depoliticization
- Pathways through competitive populism are narrow but they do exist
  - Stable electoral politics is important, but not determinative
About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

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