TOO BIG TO FAIL IN THE ELECTRICITY SECTOR

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Outline

- Scope of the research
- Motivation: outside the electricity sector
- The electricity sector
  - Company failures
  - Evolution of electricity markets
  - When is a company too big to fail?
- Conclusion
Scope

- Collapse of a few firms can potentially take down a sector
- Financial crisis 2008
  - Weak regulation
  - Herd behaviour
  - Global greed
- Cost of the crisis? Who paid?
Motivation

- Deregulation and drive for competition in critical sectors
- If risk of bankruptcy for key players -> Consequences of service disruption?
  - Financial crisis 2008
  - Ambulances in Denmark
  - Rail industry in the UK
- Identification of critical institutions
Electricity sector: Company failures

- California (2001)
  - Increased wholesale prices while regulated retail tariffs
  - California state intervention (bonds issuing)
- Nuclear power in UK (2002)
  - Low electricity price, problems with long-term contract and technical problems
  - Taken over by bondholders
- Electricaribe in Colombia (2016)
  - Liquidity problems
  - Not allowed to participate in the wholesale market
Common elements of these failures

- Regulatory problems
- Critical companies not allowed to go bankrupt
- Political constraints
- Expensive interventions
Evolution of electricity markets: From local to global players

- Examples of global companies:
  - Vatenfall, E.On, Endesa, Enel, EDF
- No supra-national regulator
- Lack of coordination between national (or local) regulators
- Focus on market conditions and environmental regulation
Evolution of electricity markets: transition to renewables

- Soaring shares of variable renewable energies (VREs)
- Companies with conventional plants-based portfolios increasingly less profitable
- Re-emergence of capacity remuneration mechanisms
When is a company too big to fail?

- Generator with market share close to reserve margin
  - Availability of imports?
  - Weather particularities
  - Congestion
- Low profitability
  - Excessive capacity margin
  - VREs
  - Substitutes’ prices
- Internationalization of electricity companies
Conclusion

- Preventive actions:
  - Avoiding moral hazard situations
  - Strict regulation of merges and acquisitions
  - Other measures, e.g., capital requirements

- Previous failures remain relevant today
  - Warning signs:
    - Closure of gas plants
    - Unprofitable hydropower and nuclear plants
References
