The Single Market in Electricity (and Gas): Success and Failures

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Outline

- Theory and practice of reform
- Evidence on reform impacts
- Lessons so far
- Future policy
The Objectives of Energy Policy

• The impossible trinity:
  – Competitiveness  
  – Energy Security  
  – Decarbonisation

• The other ones:
  – Elimination of (energy) poverty  
  – Renewables??  
  – Green jobs/economy/technology???
Lessons from economic theory

- Number of firms (+) and market shares (-)
  - Competitive generation and retail markets
- Entry barriers (-)
  - Freer entry to generation and supply
- Market size (+)
  - Increased and local market rules harmonised
- Regulation of natural monopoly networks
  - Incentive based and independent
Experience of Electricity Markets

- Vertical integration a problem (e.g. Chile)
- Ineffective Regulation a problem (e.g. NZ)
- Collusion (or gaming) a problem (e.g. UK, California)
- Entry barriers a problem (e.g. France, Germany)
- Security of supply an issue (e.g. NY, Italy etc.)
## EU Liberalisation Timeline

<table>
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<tr>
<th>Year</th>
<th>National Legislation</th>
<th>National Regulation</th>
<th>EU Directive etc.</th>
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<td>1988</td>
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Source: CEER (2004) and own data
Regional Markets within EU

Measuring Performance

• At the sector level a good performance if:
  
  – Prices fall on average and converge across Europe.
  – However may need to be some rebalancing of individual prices.
  – Tariffs should be more reflective to market conditions.
  – Network tariffs should fall as regulation toughens and efficiency improves.
  – More efficient use should be made of reserve capacity.
• At the firm level good performance *(for society)* if:

  – Market structure in generation and retail should begin to look more competitive.
  – Productivity should rise.
  – Merger activity should increase to realise efficiency gains but these should be pro-competitive not anti-competitive.
  – Investment should be adequate and rates of return sufficient but not excessive.
Estimated electricity price breakdown

Electricity Transmission Tariffs

Electricity Liberalisation in context 2008

(0-6, 0=least restrictive)

Panel B: by sector

Labour Productivity
Electricity, Gas and Water 95-05

Source: EU KLEMS database: Output per hour worked (LP_I).
Electricity stock (Light) vs General stocks (Dark)

Source: http://www.stoxx.com/indices/benchmarking.html
Evidence on Performance Effects
(see Pollitt, 2009a)

  – Strong evidence of productivity improvements
  – Weaker evidence of price benefits
  – Some evidence of price convergence

• These cross-country econometric studies suffer from inability to satisfactorily measure reform as a package.

• Other evidence (e.g. Copenhagen Economics, 2005) shows stronger improvements in leading reform countries at the micro and macro-economic level.

• Comparison to other sectors, esp. telecoms, implies some way to go (Wölfl et al., 2009).
Successes

- Impressive forcing effect due to Directives
  - Opening proceeding rapidly
  - Standardisation of structures and rules
  - Strong support from European Commission via directives and sector enquiry (2007)

- Market benefits:
  - Increased trading
  - Improvements in quality of regulation
  - Impressive labour productivity gains
  - Some price falls and convergence to 2003

- Consistency of belief in (energy) markets rewarded
Challenges to reform

• Market challenges:
  – Price divergence since 2003
  – Continuing (and increasing) market power

• Social Cost Benefit of Reforms still difficult
  – Consumers were seeing lower prices and convergence
  – Profits of EU electricity firms, not suffering unduly
  – Impact on government unclear but not significantly –ve

• Significant issues remain
  – Retail competition per se
  – Competition in the market for gas
  – Security of supply agenda
  – Climate change policy impact: 20-20-20 targets=?
  – Vulnerable customers
What should be next?

- **Policy towards natural gas** (Findlater and Noel, 2010)
  - Gas improves security (especially in short run), affordability and decarbonisation
  - A single European gas market improves all three
- **Competition on supply side** (e.g. Parail, 10)
  - Competition enforcement action by Commission and nation regulators significant
  - Stricter policy on mergers
  - Extension to networks especially for offshore and interconnectors
- **Policy towards carbon** (e.g. Noel and Pollitt, 2010)
  - Toughening EUETS has to be at the centre of decarbonisation policy
  - Use it properly or lose it!
What should be next? 2

- **Renewables** (see Pollitt, 10, Lange, 10)
  - Renewables directive not credible
  - Interferes with both EUETS and energy markets and must be made compatible with both
  - Are currently disgraceful con trick as climate policy
  - Need optimal subsidies for renewables
- **Role of EU Commission** (see Pollitt, 09a, 09b)
  - Very important so far
  - Needs to sort out competing directives and focus on competitiveness and carbon
  - 4th Energy Package?
UK electricity market reform? (see Pollitt, 11)

- Capacity Markets ?
- Emissions Performance Standard ???
- Carbon Price Support YYY
- Low Carbon CFDs Y??

Bill impacts:
- Households: +33% by 2030
- Businesses: +62% by 2030
- Wholesale prices: +80% by 2024
Remarks on Energy Policy

• The size of the current energy ‘policy mess’ is substantial at the national and at the EU level.
• The EU Single Market Project is a great one – it still applies to the electricity market and is key to progress.
• In electricity the project has been high-jacked by investment interests in renewables and energy security.
• Only policies with clear theoretical/empirical support and overall consistency are worthy of EU-wide agreement.
• The market discovery process (accompanied by anti-monopoly policies) is the only one capable of delivering decarbonisation of electricity with efficient costs and prices.
Discussion questions

• *Is there a need for 4th Energy Package and if so, what should be in it?*

• *What lessons and challenges are there in the UK’s proposed electricity market reforms?*
References


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www.eprg.group.cam.ac.uk