Regulatory Risk

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Eighth ACCC Regulatory Conference
The evolution of regulation
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http://www.electricitypolicy.org.uk
Outline

• Why (and where) worry?
• Lessons from elsewhere:
  – Successes and failures
    • electricity vs rail
  – Evolution of British regulation
  – Boundary cases
    • airports, interconnectors, gas pipelines
  – Withdrawing from regulation
    • EU Communications Directive
    • mobile call termination
Why worry?

Perceived risk from
  – future access regulation, or
  – tightening existing regulation
could
  – deter infrastructure investment
  – deter innovation
  – deter facilities-based competition
Possible responses

• Regulatory protection could entrench incumbent lock-in
  – remove downside of first-mover advantage
  – shift cost to other consumers

• Regulatory protection if utility unbundles
  – works well for pipes and wires, less so for ICT?

Gas and electricity differ from rail and ICT
Franchise regulation

• Utility submits investment plan
• Regulator assesses, approves
  – possible test of consumer WTP
• Allows WACC on efficient investment cost
  – subject to dispute resolution
• Customers have to pay

*Risk: deters innovative investments (AT&T cell phones)*
Liberalised networks

• No franchise: no captive market to recover unprofitable investments

• Merchant investments:
  – able to take risks for rewards
  – to challenge sleepy incumbents

*Risks: threat of future access regulation, predatory competition from incumbents => under-investment by entrants*
Part IIA of Trade Practices Act (National Access Regime) 2006

- Provides for regulated access to essential facility of national importance where necessary to permit material increase in competition in at least one other market (whether or not in Australia)
- 44AA Objects are to (a) promote the economically efficient operation of, use of and investment in the infrastructure by which services are provided, thereby promoting effective competition in upstream and downstream markets;
Pricing principles for access

(a) that regulated access prices should:
   (i) be set so as to generate expected revenue for a regulated service or services that is at least sufficient to meet the efficient costs of providing access to the regulated service or services; and
   (ii) include a return on investment commensurate with the regulatory and commercial risks involved;
Efficient infrastructure investment

- ‘Easy’: upgrade mature regulated networks
- Hard: major regulated network development
- Problematic: unregulated essential facilities

Problem: asymmetric information + abuse of market power vs regulatory inefficiency
Solution: legal predictability and sanity
Successes: liberalising access

• US, UK generation investment
  – huge boom after liberalisation
    • US: 200 GW 1997-2003; from 776 -980 GW ’96-’05
  – over-investment, price collapse bankrupted companies, consumers protected

• US gas network after unbundling
  – investment OK, resilient to shocks

• Dot-com boom, ICT investment, 3G auctions
  – innovation encouraged, consumers benefit
Entry of IPPs into the GB Electricity Pool

Source: Siemens Power Generation (2003 is estimated).

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 Failures?

• IPPs in developing countries?
  – Enron’s Dabhol: contract terminated, plant shut, Maharashtra short of 2,100 MW for 6 years
  – 47% of African distribution projects now not operational

• NETA changed the GB wholesale electricity market
  – prices collapsed, companies bankrupted
  – caused by interventions or delayed competition?
  – Risky to rely on sustained imperfect competition?

• Railtrack: forced into administration?
Collapse of East Asian investment

Number of privately financed greenfield generation projects

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Did NETA cause GB price collapse or was competition the cause?

- Restraint
- Price control
- Profit maximising
- Tacit Collusion
- NETA
- plant withdrawal

£(2001)/MWh

- Electricity
- coal cost
- gas cost
- Coal HHI

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Data from J Bower and C Humphries
Railtrack - opportunism?

- Hatfield crash - 4 dead
  ⇒ network replacement - massive disruption
- track costs underestimated
- recent price control inadequate
- put into administration by Govt.
- Network Rail emerges as a PPP
  - Re-nationalisation without public control?
Regulatory or political risk?

• Regulator was willing to increase revenue to cover higher revealed costs
• Political pressure forced Railtrack CEO to accept administration without asking regulator
  – concerns over corporate manslaughter?
  – illegal to trade insolvently
• But investment continues apace
  – Government pays but cannot control!
Rail Industry Cash Costs per Train Kilometre

Unit cost average (1963 to 2001/02) = 15.0

Previous peak = 16.5

Hatfield accident

Post-privatisation

(a) Note: preliminary estimates for 2002/03 and 2003/04 are based on rises in Network Rail costs since 2001/02. Other industry costs are assumed constant in real terms, as data is not yet fully available beyond 2001/02. See Smith (2004), Institute for Transport Studies Working Paper, no. 585; also forthcoming in the Journal of Transport Economics and Policy.

Source: A Smith
RPI-X regulation

- intended to mimic competitive market
- originally designed for BT to provide better incentives than RoR (Littlechild)
- high powered incentives if price delinked from future cost

Problems with quality and credibility - would it deliver investment?
British experience

- Gas, electricity, water: early investments readily financed
  - issue was predicting efficient cost to allow
- Telecoms: easy to finance investments
  - hard to determine access prices
- Mobile - competitive, initially unregulated
  - CPP supports excessive access charges
- Rail: large increase in investment
  - hard to judge value of track investment
Evolving regulatory certainty

- Networks subject to RPI-X & quality standards
- Well defined methodology for setting $P_o, X$:
  - RAB, WACC, financial adequacy, benchmarking
  - works well when investments obviously needed
  - problematic for speculative investments
  => remove from cap (but for how long?)
- Regulatory commitment + appeals process
  - Control changed by agreement, agreement overruled only if in the public interest
British Electricity Distribution Investment

- Company forecast
- Regulator's allowance
- Actual investment

Source: Green
T & D Reliability

**Average Transmission System Availability (%)**
Source: National Grid

**DNOs supply interruptions (min/year)**
Source: OFGEM

### Average Transmission System Availability (%)

- 1992/93: 93%
- 1993/94: 93.5%
- 1994/95: 94%
- 1995/96: 94.5%
- 1996/97: 95%
- 1997/98: 95.5%
- 1998/99: 96%
- 1999/00: 96.5%
- 2000/01: 96.5%
- 2001/02: 96.5%
- 2002/03: 96.5%

### DNOs supply interruptions (min/year)

- 1990: 260
- 1991: 210
- 1992: 160
- 1993: 110
- 1994: 60
- 1995: 60
- 1996: 60
- 1997: 60
- 1998: 60
- 1999: 60
- 2000: 60

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Airports - not all regulated

- Each airport faces varying competition
- Regulator ill-equipped to forecast demand
- How to set charges and assess efficient plan when expansion exceeds control period?
  - Pre-funding aligns with scarcity pricing
  - “constructive engagement” with users
  - separate price control for each London airport
  - consider removing price control from Stansted: competes with unregulated Luton
User engagement

• encourage private agreements with well-informed users?
  – Can work (e.g. airports)
  – harder if users benefit differently
    • and if objectives differ (e.g. low cost airlines vs incumbent airlines)
  – What about refusal to negotiate?
  – Or if agreements facilitate tacit collusion?

Competition policy needed to prevent abuse
Merchant transmission investment

• Hard to get regulators to think cross-border
  – US fails to invest in transmission
• Project may be risky
  – hard to justify charging other consumers
  – risky to investor if high profits clawed back by regulation, but losses not compensated

=> exempt from regulation for period
Increasing EU cross-border capacity

- New investment can be exempted from rTPA
  - if investment enhances competition
  - for maximum of 15 years? (up to NRAs)
  - **but** not exempt from Art 6.3 (must offer), 6.4 (UIOLI)

⇒ UIOLI could reduce profitability of IC
  withholding can enhance price differences, profits
⇒ Could adversely affect whether built or what size
Gas pipelines

• Typically built with long-term ToP contracts
• Investment financed on guaranteed revenues
• Maturity and liberalisation shift balance from securing investment to efficient use
• evolution via nTPA to rTPA resisted
  – US demonstrates gains from unbundling
  – EU Energy Sector Inquiry finds refusal to supply
Transit pipelines deny access

Refusals of capacity left the pipeline under-used

Source: Energy Sector Inquiry 2005/2006 fig 27
Withdrawing from regulation

• where promoting competition feasible
  – objective is to replace regulation if possible
  – but regulators/politicians wary of downside risks
• Oftel advocated facilities-based competition
  – even if it raised costs by 20%
  => local loop unbundling costly, penetration rose
• withdrew from regulating fixed line
• EU moving to competition remedies
EC Communications Directives

• markets effectively competitive where no operator has Significant Market Power (SMP)
• NRAs can only impose *ex ante* regulation if
  – market review finds SMP that is likely to persist
• regulation must be
  – *justified* in relation to Directive’s objectives
  – *appropriate, necessary, proportionate*
=> regulation to mimic competition?
  – *But benefits must exceed regulatory costs*
Mobile call termination

• Initially unregulated:
  – dynamic market, MNOs not making profits
  – mark-up on termination subsidises handsets

• under Calling Party Pays no competition in market for termination => SMP => regulate!

=> Lengthy dispute on how to set the mark-up

Receiving Party Pays or bill-and-keep removes need for regulation
Conclusions on Regulatory Risk

• Inevitable for essential facilities
• Vexatious claims to bolster dominance or to seek better negotiating position?
• Objective: restrain abusive market power and regulatory inefficiency/opportunism
  – encourage user agreements, regulatory holidays
  – clarity, case law, precedent, guidelines and benchmarking to reduce opportunism
  – trusted dispute resolution procedures
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Private investment in electricity in developing countries

US$ millions

- divested D + G and/or T
- divested distribution only
- divested generation
- greenfield generation


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