

Regulation: current issues and challenges

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Outline

Split into three main sections:

- Some background economic principles, based on a long look back (slides 3-8)
- Late twentieth century challenges (slides 9-15)
- Twenty first century challenges (slides 16-26)

In the beginning ... The concept of natural monopoly

- Smith:
 - “Some natural productions require such a singularity of soil and situation, that all the land in a great country ... may not be sufficient to supply the effectual demand ... “
- Malthus:
 - “peculiar products of the earth ... which may be called natural and necessary monopolies”. E.g. Some French vineyards.
- J.S. Mill:
 - Natural monopolies: “those which are created by circumstances, and not by law”
- Smith and Malthus close to essential input in limited supply.
- Mill focuses on causation: creatures of statute, or not? East India Company etc.
- Modern approaches centre on economic efficiency of sole supply

Drawing the line

- Bastiat:
 - “People who class together artificial monopoly and what they call natural monopoly ... are quite blind or quite superficial”.
- A bit harsh! It is not quite as simple as that.
- Boundaries can be blurred and in any case change with technology and demand (the great majority of ‘natural monopolies operate at small scale, for want of demand). No simple dichotomy between monopoly and competition in any case.
- London airport capacity: expansion limited by commercial factors or by statute?
- Electricity and gas meters (an ‘unbundling too far’?)

Regulation is monopolistic too

- Classical economists took a relatively benign view of ‘natural monopoly’ – hence the reference to ‘natural’, consistent with advocacy of systems of ‘natural liberty’.
- Chief targets were monopolies created by government, and other restrictions on trade imposed by government.
- This was based on a well-developed critique of monopoly, the state being the major source of monopoly power in the economic realm, deriving from its monopoly of legitimate coercion.
- Implication: don’t expect too much from regulation. We are just looking for a better form of monopoly.

The perils of monopoly

- Informationally inefficient
- Weak incentives
- Tendencies to abuse of power

- Roughly: stupid, lazy and corrupt

- Compare with modern economic treatments, which again tend to stress economic inefficiency, often in a static framework.

Why regulate utilities?: theory and reality

- To promote efficiency?
 - Modern theory: one supplier to achieve cost efficiency, price control to achieve allocative efficiency – result = maximisation of the sum of the aggregate gains from trade (summed over all market participants, consumers and suppliers alike).
 - Neglect of dynamics.
- To promote the long term interests of consumers in aggregate?
 - Closer to formulations set out in statutes.
- To cross-subsidise (aka influencing voting patterns)?
 - Classically rural/urban issues, but anything goes. Today there is massive cross-subsidy of environmental projects.

Some empirics

- Peltzman (1988): Regulation is to be found where there is a political demand for cross-subsidisation that can be met from monopoly profits within the sector. (The paper is notable for a one-paragraph analysis of bank regulation that more or less nails the causes of the credit crunch that occurred twenty years later.)
- Stigler and Friedland (1963): Early US State regulation had no effect on electric utility prices.
- Jarrell (1978): Early US State regulation had upward effect on prices, stifled competition.
- Lyon and Wilson (2012): Early US State regulation had negative effects on investment.
- Vickers and Yarrow (1988): “Bell’s main patents ran out in 1894, and numerous competitors entered the industry. ... Bell (now AT&T) restored its market dominance by mergers and by the advent of regulation at the state level, *which afforded it welcome protection from competition.*”

UK reforms

- Unlike the US, but closer to Australia and New Zealand, regulatory reform in the UK has been closely associated with privatization or public/private ownership issues.
- Led to a requirement to think about a wider set of issues at the same time: ownership, regulation, competition *and institutional development*.
- Institutional development because state-owned enterprises were themselves instruments of regulation. When privatized, what happens to the regulatory functions? Most entanglement (of commercial and regulatory functions) in the UK probably in water.
- Perceptions of widespread inefficiency in SOEs at the time, and a history of failed attempts at reform.

The policy response, phase 1

- RPI/CPI – X
 - Creates strong incentives for improving operational efficiency.
 - Expected when first used in telecoms (1984) to be temporary – competition would develop and prices would be de-regulated.
- The promotion of competition and liberalisation
 - Compared with US regulatory history, a more surprising development.
 - Part a shift in political views, mostly because technology was shifting the boundaries of ‘natural monopolies’.
- Independent regulation
 - Development of new institutional processes, among other things to reduce the influence of volatile, short-term political preferences on decisions.
 - Bundling of price control and (increasingly pro-active) promotion of competition.
 - Increasing recognition that ‘simple liberalisation’ was not enough.

Inherent tensions: the first challenges

- RPI/CPI-X not temporary when applied to enduringly monopolistic activities. How should price be re-set? How is this different from cost-of-service regulation? Are efficiency incentives undermined by unavoidable linkages between prices and costs?
- Liberalisation and competition reduce the influence of regulatory decisions on market outcomes, so if a desire for 'power and influence' enters into regulatory preferences (always to make the world a better place, of course) it is 'not natural' to promote liberalisation and competition. Regulation is much more associated with restrictions of competition sought in pursuit of other goals (see Peltzman), and restriction of competition might be said to be in the DNA of regulation. Is it wise to bundle the two duties in a single agency?
- The politics never goes away. How, if at all, can independence be sustained?

The policy response, phase 2

- Substantial effort has been put in to the development of ‘incentive regulation’, including in relation to capex incentives (recognising the enduring nature of network price regulation), with mixed results.
- There has been pressure to add to the objectives of regulators, and to broaden them away from consumer protection and the promotion of competition. The UK has been particularly willing to go this route, perhaps reflecting the non-federal nature of the political system and the ease with which the executive arm of government gets its own way.
- Less politicised development of institutional structures (the ‘rules of the game’) for multi-user networks and for new markets has proceeded steadily.

The most fundamental difficulties concern competition, not regulated monopoly

- Extensive cross-subsidisation is not threatened by regulation of networks that are truly monopolistic. Allocative efficiency might be reduced by subsidising rural consumers at the expense of urban consumers, but so what? The economic costs do not appear to be particularly great. Independent regulation can therefore sit easily beside established political preferences.
- But competition *does* threaten cross-subsidies, even if it is not market-wide; and then politics comes back.
- Examples:
 - Electricity tariff structures.
 - Ambivalent approach to competition in water.
 - Broadband in telecoms.

Example 1. Wholesale electricity.

- Retail energy market prices are politically sensitive in general, but if the system load profile is such that household prices are more sensitive to peak prices than are other sources of demand, there can be a reluctance to let go of regulation of peak prices, particularly in electricity.
- There is an underlying problem to be addressed – a vulnerability to market power when systems come under stress due to high demand relative to available capacity (market power increases when system conditions become tight): see the various responses of national regulators – but regulation of peak prices is a poor response, because of side effects (unintended, but not unforeseeable, consequences).
- Specifically, capping of peak prices can be expected to chill investment in generating capacity. Peak prices crucial for remunerating investment.
- The unwanted effects in turn give rise to secondary regulatory interventions, giving rise to further side effects, and so on – a familiar regulatory dynamic.

Example 2. Retail energy pricing.

- The wholesale market issue in Example 1 is derived from political concerns about retail market prices for households (voters).
- The overhang of history: voters are familiar with political intervention in energy markets.
- This leads to a demand for, or at least acceptance of, political intervention in pricing that is greater than in a number of other markets, on a *ceteris paribus* comparison.
- Competitive energy markets are an institutional innovation of the recent historical period, and have faced the task of establishing legitimacy/acceptance. This is a core function of liberalising regulators, but it is one where performance has not been particularly good.

An increasingly challenging policy environment

- Upward pricing pressure in energy, arising from factors such as global demand growth for electricity and gas, and the impact of climate change policy on energy costs.
- Large infrastructure investment requirements. Different factors have differential relative importance in different jurisdictions and sectors: replacement of ageing assets, expansion of demand, reconfiguration of demand (e.g. substitution from thermal to wind generation in electricity), etc.
- Global credit crunch.

So where are we now?

Six big areas of challenge:

- Environmental policy, particularly climate change policy.
- Incentives for innovation.
- Market confidence.
- Big projects.
- Appeals.
- Restoring/maintaining a focus on consumers and competition.

The environmental issues

- Environmental issues have been on the horizon for a while now:
 - *As a result of increasing public policy concern about the effects of atmospheric emissions of waste gases ... environmental regulation can be expected to be the major issue facing the ESI, worldwide, in the 1990s. Since the new regulatory framework in Britain was not developed with environmental problems in mind, there is a danger that, at the international level, it will come to be treated as a mere sideshow to the main (environmental) event. If so, that would be a pity; for, as we hope we have shown, the information the experiment promises to yield will be relevant in many contexts, not least in the context of environmental regulation itself. The reforms may not be widely copied, but they do merit close scrutiny.*
John Vickers and George Yarrow, “The British Electricity Experiment”, Economic Policy, 1991.
- But policy makers have been particularly unwilling to listen to the advice of economists in this area.

Wholesale electricity issues today

- Taken over by politicians to be an *instrument* of an environmental policy based on central planning.
- In the UK, for example, the responsible department now effectively contracts for supplies at different prices for different types of plant (nuclear, offshore wind, onshore wind, etc.)
- This necessarily affects investment in unsupported (uncontracted) technologies, leading to higher regulatory uncertainty and higher capital costs.
- More generally makes the private investment climate difficult because of regulatory/political uncertainty, the kind of uncertainty that markets have most difficulty dealing with.
- Risks security of supply problems.

Way forward?

- Delegated, independent regulation for climate change and related issues.
- Requirements:
 - Clearly specified, delegated policy objectives.
 - Settled political preference as to how burdens are to be shared – either no cross-subsidisation, or a settled decision on cross-subsidisation.
 - Seeing de-carbonisation as a technical challenge, not a quasi-religious mission.

Innovation incentives

- Depending on what the science gradually uncovers about the climate change risks, there may be high pay-offs from much more 'drastic' innovation than in the past in sectors such as energy.
- Current systems of price regulation are not generally well adapted for tackling this type of issue. How are regulated companies to recoup investments in major innovations that may render existing assets obsolescent?
- A strong example of policy credibility / time consistency problems.
- Careful accounting for R&D spend can go so far, but the incentives are not particularly good – returns are not linked to the value of the R&D.

Ways forward?

- *Ex ante* competitions for R&D spend. Familiar: funding for university research works in this way.
- *Ex post* competitions for R&D achievement. (It is easier to pick winners after the race has been run.) Mimics incentive properties of IPRs, and can be viewed as a way of creating new IPRs.
- Historical use:
 - Measuring longitude (1714).
 - Louis XIV prize for a simple, efficient method for producing alkali from sea salt.
- Lots of low level experimentation in this area, but could be scaled up to deal with issues such as innovation associated with climate change pending further development of relevant property rights.

Market confidence and 'consumerism'

- Market confidence is very easily undermined, not least in 'new markets' which replace older ways of providing the relevant economic goods and services.
- Many of the relevant markets are segmented by geography (rural/urban), time (peak/off-peak) and consumer group, and this tends to give rise to transient and 'localised' market power, even when the market overall is relatively deconcentrated. It is easy to get ripped off, and the fear of that has the effect of raising transactions costs, which is bad news for any market.
- The differentiation that exacerbates market power problems also drives political interest and motivates intervention to 'protect' a particular sub-group of consumers.
- Protection of sub-groups of consumers, by undermining the effectiveness of the market, often makes consumers as a whole worse off.

Big projects

- Like drastic innovation, may be beset by policy credibility issues.
- A honey pot for politicians.
- Current examples:
 - The Thames Sewer project
 - HST2
 - Various renewable energy schemes (everywhere)
 - Broadband roll-out (Australia and the UK)
- Problems:
 - Very frequently poor value for money.
 - If funded by higher allowed prices, income distribution consequences can be regressive.

Appeals

- Returning to the beginning, regulation itself is a monopolistic activity. It is, therefore, appropriately subject to checks and balances.
- In those jurisdictions with a history of public ownership, regulation was conducted through SOEs, and subject chiefly to political checks and balances.
- Independent regulation requires something different, hence various versions of merits appeal.
- Recent reviews in Australia and (ongoing) in the UK indicate some dissatisfaction with current arrangements.
- To be continued later in the conference

Consumer focus

- Effective / workable competition is competition that works well for consumers (in aggregate, and consistently over time).
- Effective /workable regulation is competition that works well for consumers (in aggregate, and consistently over time).
- Both should involve finding out what consumers want (discovery).
- Competitive firms do this of necessity, e.g. via market research.
- Discovery failure is not an existential threat to monopolies.
- Question for regulators and regulatees, could you supply a newly arrived economic advisor with a substantial set of ring binders or their electronic equivalent containing documents setting out the results of a sustained and continuing programme of work to find out what consumers want and what they are willing to pay for?

References

Peltzman, *Comment on 'The Control and Performance of State-Owned Enterprises'*, in MacAvoy, Stanbury, Yarrow and Zeckhauser, *Privatization and State-Owned Enterprises: lessons from the United States, Great Britain and Canada*, Kluwer Academic Press, 1988.

Stigler and Friedland, *What can Regulators Regulate? The Case of Electricity*, *Journal of Law and Economics*, 1962.

Jarrell, *The Demand for State Regulation of the Electric Utility Industry*, *Journal of Law and Economics*, 1978.

Lyon and Wilson, *Capture or Contract? The early years of electric utility regulation*, *Journal of Regulatory Economics*, 2012.

Vickers and Yarrow, *Privatization: An Economic Analysis*, MIT Press, 1988.