

The nature of competition and the regulatory process

Stephen Littlechild¹

14 October 2010

If regulation is supposed to replicate (some would say ‘mimic’) or at least reflect the results of competition, then it is necessary to ask what competition is supposed to do. In order to design effective regulation we need to understand the meaning of effective competition.

There are different ways of ways of assessing competition, and hence effective competition. One approach focuses on equilibrium, another on market process. These have different implications for policy - for example, whether to allow or prohibit competition, whether to impose, maintain or remove a price cap.

This will be illustrated by discussion of nationalisation and privatisation, and the setting and removing of transitional retail price caps in telecommunications and electricity. The paper suggests a means of calibrating the concept of a ‘safeguard’ price cap.

Seeing competition in terms of market process suggests an approach to utility regulation focused on facilitating the market process rather than replacing it. Some examples are given from the energy sector worldwide. The paper concludes with an application to airport regulation, where the potential for regulation to enable effective competition presents particular opportunities today.

The meaning of competition

Neo-classical economics applies the tools of welfare economics to a benchmark based on perfect competition. This assumes many buyers and sellers. It is a static approach, taking cost and demand curves as given. In its simplest manifestation, it focuses on equilibrium where price equals marginal cost which equals average cost, hence there is zero profit.

Another approach as reflected in the writings of Adam Smith and the Austrians Schumpeter and Hayek stresses the concept of rivalry regardless of the number of competitors. This is a dynamic approach, based on creativity and innovation, and on the search for profit opportunities via the discovery of shifts in cost and demand curves. The economy is characterised by profits and losses as the market tends to equilibrium (without in practice ever reaching it). In Schumpeter’s words, competition is a ‘perennial gale of creative destruction’.

¹ Emeritus Professor, University of Birmingham, and Fellow, Judge Business School, University of Cambridge. This paper is based on a keynote speech at the Workshop on Effective Competition, Justus-Liebig-University, Giessen, 27 May 2010. I am grateful to Georg Goetz for comments on an earlier draft.

Consider three main properties of effective competition: A: eliminating excess profits, B: discovering more efficient methods of production, C: discovering what customers want.

Both neo-classical and Austrian approaches acknowledge property A (as reflected in so-called allocative efficiency), but Austrian economics has placed greater weight than neo-classical economics on properties B (productive or X-efficiency) and C (which does not seem to have a name in neo-classical economics though Michael Beesley once coined the term 'Y-efficiency').

Property A has attracted most interest in discussions of competition policy, for example underlying the SSNIP test. But properties B and C are arguably more important over the longer term.

Example: Nationalisation without competition versus privatisation with competition

During the 1960s and 1970s economists used static welfare economics to analyse UK nationalised industries. They posed the question: how should the nationalised industries set prices? Answer: the industries should follow optimal pricing and investment rules. These take cost and demand curves as given. There is no role for competition.

However, the more fundamental problems were dynamic. These industries were characterised by inefficiency, excessive costs, uneconomic investment, old products, too little regard for customers' preferences and too little innovation. It was necessary to discover better ways of doing things - to *change* cost and demand curves, not to take them as given.

Privatisation and competition sought to do this. Private ownership provided better incentives to find more efficient production methods, and to discover and deliver the products and services that customers preferred. Competition provided opportunities for others to challenge the incumbents, and for rivalry. This could be expected to lead to lower costs and prices, to new products and to innovation.

Incentive regulation with RPI-X price cap

The concept of incentive regulation using an RPI-X price cap reinforced this approach. It enhanced the incentive to efficiency and innovation. It did not assume that the regulator would specify the outcomes. Rather, it was for companies to discover these opportunities.

Appraised against the three properties of competition noted above, price cap regulation has had many successes.

- Property A: eliminating excess profits has become a central regulatory focus. The building block approach is built on estimates of efficient operating and capital cost and a stringent weighted average cost of capital (WACC). This has led to tough price caps and typically lower prices in real terms.
- Property B: privatisation, competition and regulation have worked well in terms of discovering more efficient production techniques. There has been significantly

- increased efficiency – in round terms a greater output than before is now produced with about one third of the previous workforce.
- Property C: there has been greater investment to provide better quality of service, which it is assumed that customers prefer.

But price cap regulation as practised in the UK also has its limitations.

- Property A: tight price caps can discourage effective competition even where such competition is feasible. This limits the scope for deregulation.
- Property B: how can regulators discover the efficient levels of operating and capital cost that they plug into their calculations of X? In practice, price control processes have become rather burdensome.²
- Property C: how is the regulator to discover customer preferences to inform the decisions about tradeoffs between quality and price? Costs and preferences can vary from one area to another, but regulatory centralisation limits the ability to tailor price controls to the particular circumstances of each area. Moreover, the uniformity of approach across companies reduces the scope for innovation and learning.

Transitional price caps

Regulators often set a transitional price cap where competition is not yet effective. The effectiveness of competition is often judged by market shares or the SSNIP test. Regulators tend to set the transitional price cap equal to their estimate of efficient cost, as they do for networks, and then wait for competition to arrive before removing the cap. However, this assumes that the growth of competition is independent of the price caps. This is not the case.

Price caps set in this way underestimate the costs and prices that characterise an actual competitive process. Setting them equal to cost removes the element of monopoly profit that generally characterises actual competitive markets. It removes or reduces the price disparities due to different parties having different efficiencies, and different information and expectations. It reflects a projected greater efficiency in future, which actual markets prices do not. It may reflect a low assumed cost of capital appropriate to the conventionally regulated monopoly networks, rather than the higher risk obtaining in competitive markets, which may be exacerbated by the cost of regulatory risk.

Potential competitors are less interested in entering a market if the regulator's policy is to reduce the incumbent's prices to the level that could be offered by the entrant. Customers are less interested in switching if the regulator sees it as its task to ensure that the prices charged by all companies reflect what the best competitors can offer. For these reasons, setting transitional price caps may in practice make new entry more difficult and deter the development of competition.

Example: retail telecommunications

² Regulatory output by Offer/Ofgem increased about eight-fold over the first three distribution price control reviews. Littlechild (2009a)

In 1983 an RPI-X retail price cap was proposed for British Telecommunications (BT), “to hold the fort until competition arrives”. (Littlechild 1983 para 4.11) Over the following years, Oftel repeatedly found that BT’s profitability was higher than would be expected in a competitive market; and concluded that competition was not yet fully effective. It retained and repeatedly tightened the retail price caps. It claimed that “Retail Price Caps have brought about a steady reduction in prices to the point that the UK has some of the lowest prices for residential telephony among developed countries.” (Ofcom 2006)

This was no doubt true. But was that policy conducive to competition and choice? Not until 2006 did Ofcom end the retail price cap – after 22 years! Is it not possible that retaining and repeatedly tightening the price cap discouraged the development of competition and prolonged the time when the price cap could be abandoned?

Example: retail electricity competition

In 1998, as Director General of Electricity Supply, I introduced transitional retail price restraints when opening the residential electricity retail market to competition. I said that “the restraints should not seek to do the job of competition, or discourage its development. ... The aim is to ... leave scope for competitors to purchase and operate more efficiently than the incumbent PESs [Public Electricity Suppliers]. It is then for the competitive process to bring these further benefits to customers” (OFFER 1997)

In 2002 my successor at Ofgem removed the price cap. This was a courageous move given the political opposition to doing so. However, Great Britain subsequently led the world in retail electricity competition. As of 2006, competitors had managed to take 52% of the UK residential market. Markets in other countries with no or very light retail price control had competitor market shares in the range 47% to 28%. Markets with moderate price controls had competitor market shares in the range 30% to 16%. Finally, markets with heavy price controls or other barriers had competitor market shares at 8% or below, often little more than 1%. (Littlechild 2006a)

Competition is more than prices

Decisions to impose and maintain price caps often implicitly assume that price is more important to customers than other aspects of competition, such as choice and innovation. This is not necessarily the case, as a former chairman of the Competition Commission pointed out.

“Lower prices are by no means sufficient if the process of rivalry is weakened.” With such weakening, “several dimensions of rivalry will often still be diminished, including the choices available to consumers concerning the number of independent sources of new ideas, new strategies, innovative products or processes and the like.” Competition is not only about price: “competition is, to an important extent, a mechanism by which new ideas emerge and the best ones survive, only to be superseded by other still better ones.” (Morris, 2003)

This was well illustrated in Germany.

“when the Berlin Wall came down, West Germans were not amazed at how high prices were in the East; they were amazed at the extraordinary lack of choice and poor quality of the products which were available, suggesting that this had been the real, enduring benefit of a competitive market economy.” (Morris 2003)

Such innovation can also be found in competitive retail electricity markets. Whereas the previous monopolies used to set single variable tariff, competitive suppliers now offer a choice of contracts. Examples include price guarantee tariffs (1-3 yrs) in the UK, chosen by 4.6m customers a few years ago. Fixed prices up to 10 years have been offered. In Norway: spot price contracts have been chosen by about 25% of customers. In Sweden one supplier has offered contracts with fixed prices in winter and spot prices in summer. Market contracts have been chosen by over 50% of customers in Sweden and by 69% of customers in South Australia. (Littlechild 2006b)

Competition thus seeks to discover and provide the terms of supply that customers prefer. This is not replicated by a regulated price for a single tariff, regardless of the level at which that tariff is set. And such competition is less likely to emerge if tariffs are held down by price caps.

Example: price caps at UK airports

The UK Civil Aviation Authority (CAA) recommended de-designation of Stansted Airport. (A ‘designated’ airport is subject to economic regulation including price control, so ‘de-designating’ an airport is tantamount to removing its price control.) The Secretary of State for Transport (2008 p. 15) rejected this, saying “On balance the evidence suggests that it is more likely than not that Stansted airport alone will acquire significant market power in the future, although this conclusion is finely balanced”.

It seems hard enough to judge whether a market is competitive now. It is even harder to assess the likely course of competition in future. It would seem easier to assess the strength of competition by removing the price control to see whether any market power does exist and is exerted. If necessary a price control or some other restriction could be reimposed.

Elsewhere, medium-term and long-term contracts between airports and airlines have helped to facilitate the coordination of investment and reduce market risks. Price controls prevent or discourage the development of such contracts. They thereby distort the competitive market process

A safeguard price cap

Unable to remove the price control at Stansted, the CAA considered other alternatives. It noted the problems of the conventional building block approach. This introduced a risk of distorting airport investment, which the CAA considered was greater than the risk of

market power at Stansted. It therefore envisaged a ‘safeguard’ price cap, set just below the level at which prices might be excessive under general competition law rather than set equal to cost.

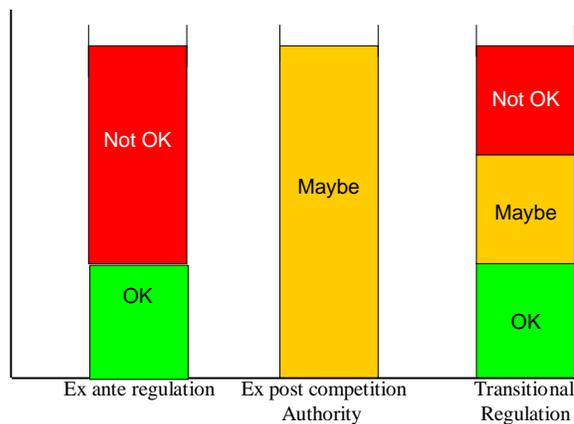
The Competition Commission rejected this approach. It held that the risk of investment distortion was less than the risk of market power at Stansted. It considered that a building block approach (using a WACC of 7.1%) was more certain.

We might nonetheless explore the setting of a safeguard price cap. This should allow greater scope for effective competition to develop than a cost-based cap would.

The issues impinge on the debate between ex ante and ex post regulation. Removing a price control is essentially a move from ex ante to ex post regulation. Ex ante regulation provides certainty: prices set below this level are OK, prices above this level are NOT OK. In contrast, ex post regulation means uncertainty: the price a company sets MAY BE OK – or it may NOT be. Ex post regulation may therefore be more risky for customers and companies – and for the regulator, who could be accused of opening the door to possibly excessive prices.

Could a safeguard price cap reduce these risks? Is it possible to combine ex ante and ex post regulation by indicating zones of OK, MAYBE and NOT OK? Figure 1 illustrates in terms of rates of return.

Figure 1 Ex ante, ex post and transitional price cap regulation



Calibrating a safeguard price cap

We shall attempt to calibrate the diagram by asking: What is an acceptable competitive return? Regulators would say: a return about equal to the cost of capital. They regularly agonise about WACC, and tend to settle on numbers of about 7%, or at least in the range 6 – 8% (all figures in this section pretax real).

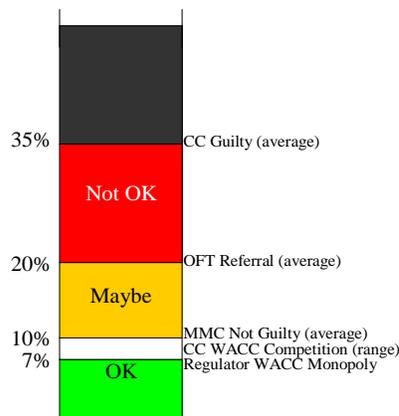
Competition authorities might accept higher returns. The same former chairman of the Competition Commission argued that “profits are the key signal and incentive for the

proper functioning of a market economy... There is no per se reason why profits in excess of the cost of capital represent anything other than the effective working of a competitive market.” (Morris 2003) Consistent with this, in 2000 the Competition Commission found that grocery companies had a WACC of about 10% and found them Not Guilty when they were earning a return of about 14%: about double the return that regulators find reasonable for network monopolies.

During the earlier period 1973 – 1998, the Office of Fair Trading (OFT) tended to make referrals for companies earning returns of about 20%, in other words about three times the typical regulatory WACC. In judging these cases the Monopoly and Mergers Commission (MMC) seems to have found companies Guilty when they were earning returns of about 35%, in other words about 5 times regulatory WACC. (Grout and Zalewska 2006)

This suggests that transitional price caps set on the same basis as monopoly network price caps – that is, about 7% return on capital - may be too severe. Regulatory safeguard caps might be set on the basis of a return in the range 10 - 20%. Whether regulators would find that persuasive remains to be seen.

Figure 2 Possible zones for safeguard price cap



Network regulation where competition is not effective: alternative approaches

The standard approach to network regulation focuses on competition property A: how to set the appropriate price cap so as to prevent excessive profit? But effective competition also poses questions about properties B and C: How to discover efficient production and investment? How to discover what customers want?

This is an increasing dilemma for Ofgem. Its RPI-X@20 review considered the strengths and limitations of its approach to date. It documented great success over the last 20 years, but concluded that the approach will not be appropriate for future conditions. In effect, it posed a question that is familiar from the Austrian perspective on competition: How to set price controls when future needs are unknown? Ofgem concluded that greater

incentives on companies were required in order to discover these future needs. But will greater incentives alone be sufficient? Would it not be helpful to involve the customers whose future needs are in question?

Some alternative and newer approaches to regulation better replicate effective competition as seen from the Austrian perspective. They do so by greater involvement of companies and users/customers in decision-making. The regulator facilitates the market discovery process, instead of replacing it. We illustrate with some examples from Argentina, the US, Canada, the UK, Australia, Germany and the EU.

Example: the Public Contest method in Argentina

When Argentina privatised its electricity sector in 1992, the government sought a method of regulation that did not put an undue strain on the abilities and independence of companies and the regulator. For the existing transmission grid it applied a conventional RPI-X price cap. But new investment proposals had to be proposed, voted for and paid for by users. Then they were put out to tender to determine the minimum cost of provision. Initially there were a few problems but generally the approach worked well. (Littlechild 2008) Users worked together to decide on future investments and the future investment schedule.

Example: US energy regulation at FERC

The US Federal Energy Regulatory Commission (FERC) has long encouraged parties to settle (initially, in order to cope with a great backlog of cases). During 1994-2000: there were 41 gas pipeline cases, of which 34 settled in full, 5 in part, and only 2 were litigated (Wang 2004) The main gain from settlements was that the different process led to innovative rate freezes, which the regulator could not legally impose. These were more certain, and had better efficiency incentives than the litigated approach. In practice, FERC staff play a significant role in facilitating the settlements. (Littlechild 2010c)

Example: the consumer advocate in Florida

The Florida Public Service Commission (PSC) is the state regulatory body, but in practice the Public Counsel (the consumer advocate body) has negotiated settlements with utilities. In the electricity sector it has negotiated over three-quarters of the total rate reductions, worth \$4bn. (Littlechild 2009b,c) It argues that customers have preferred rate reductions to building up company reserves. For their part, the utilities got greater accounting flexibility, plus revenue-sharing efficiency price freezes instead of rate of return controls.

Example: oil and gas pipelines in Canada

Traditionally, the National Energy Board (NEB) held long and repetitive hearings. But since 1997 almost all rate cases have been settled. The settlements typically involve multi-year incentive systems. They also contain information and quality of service

provisions as required. Unexpectedly, they have led to better information exchange and customer relationships in the industry. (Doucet and Littlechild 2009)

The NEB initially set a generic cost of capital formula to aid negotiation between the pipelines and their users. Its policy has been: if the negotiating process is sound, and parties with an interest can participate and get the information they need to negotiate, then accept the outcome. The NEB has not sought to substitute its own view of the public interest.

General principles of regulating networks to facilitate competitive market process

Certain general principles emerge from these various cases. Regulatory responsibility does not mean that the regulator has to take all the decisions. The role of regulation is to facilitate the competitive market discovery process (in terms of properties A, B and C) rather than to replace it. If the regulator removes monopoly power, then market participants can determine an acceptable outcome for themselves. Parties are willing and able to participate in this process. Transactions costs (that economists might worry about) are not a problem in practice.

There is, however, still a role for a regulator in these approaches: to set a timetable and to define an acceptable process; to satisfy itself on who represents customers; to protect those not at the negotiating table; to specify any constraints on the outcome e.g. to reflect government or regulatory policy; to enforce rules on information disclosure; to provide further information where appropriate e.g. on benchmarking or cost of capital or even on the whole price control; and to provide a fallback process if the parties fail to agree

Illustrations from airport regulation

We now illustrate how this alternative approach to regulation has been applied to airport regulation in a number of different jurisdictions.

Example: UK

In the UK it has been possible to remove price control from the smaller airports, and those where competition is effective. This leaves the London airports still subject to control. The Civil Aviation Authority (CAA) had concerns about the previous price control process, which had proved antagonistic. (Bush 2007) It proposed a process of constructive engagement, whereby it asked airlines and airports to try to agree certain inputs into the price control review: traffic forecasts, quality of performance standards and future investment programmes. The CAA retained responsibility for assessing future operating costs, the cost of capital, financing and the final price control. These inputs were largely agreed at Heathrow and Gatwick airports. There was also some improvement in relationships and understanding in the industry.

Example: Australia

In 2000 Australia privatised its major airports and imposed 5 year price caps. In 2002 the Government removed the price caps, encouraged contractual agreements between airports and airlines, extended the concept of monitoring and threatened to reintroduce price control if necessary. A Productivity Commission Review in 2006 found that there were still some airline concerns e.g. as to the definition of service quality, and acceptance of appropriate terms and conditions by airports. However, investment was better, prices were not excessive, more information was being exchanged, and industry relationships were better. Other assessments too are favourable. (Forsyth 2006, Schuster 2009) In 2007 the Government decided to continue the policy, and addressed some weaknesses of the original framework, for example by clarifying the valuation of initial assets. It agreed to clarify the threat of re-regulation, though the successor Government abandoned this plan. There is an ongoing debate whether binding dispute resolution would undermine this approach, as the Productivity Commission feared, or would be a useful supplement to it, consistent with the present paper. (Littlechild 2010a).

Example: Germany

In Germany it is widely held that competition between airports would not be effective. There is traditional cost-of-service (cost-plus) regulation of airport landing charges, implemented by the federal states. This provides little incentive to efficient operating and capital costs. Most airports are content with this because they are largely owned and regulated by the federal states. Airlines argue that this approach is not transparent, certain or effective. Niemeier (2003) and other airport economists have argued for independent regulation to implement incentive price controls, along the lines of RPI-X price caps in the UK.

In parallel, however, airlines have brought several civil law cases since 2000. They have argued that the landing charges approved by the regulatory bodies are not equitable, transparent and cost-related. In certain respects the courts eventually found against the airports. To avoid such disputes, Hamburg, Frankfurt, Hannover and Düsseldorf Airports entered into so-called framework agreements with their airlines, which provided stability of pricing for fixed periods of time (often 4 years). There was some sharing of the benefits and risks of changes in traffic volumes. The agreements often provided for quality monitoring, consultation and cooperation, which the traditional regulatory approach did not. They also provided for some flexibility of response – for example, at Hamburg the parties agreed to a suspension of the agreement after the events of 9/11. This suggests that, although the present airport regulatory framework in Germany is inadequate, RPI-X price cap regulation may not be the best solution, and that a framework for facilitating negotiated agreements would be preferable. (Littlechild 2010b)

Example: the EU Airport charges Directive 2009

This Directive (EU 2009) does not require price controls on airport charges, but instead specifies a consultation procedure between airports and users, to cover the structure (system) and level of charges, and quality of service. There is emphasis on transparency and the exchange of information with respect to cost structure, traffic forecasts and the

impact of airport investments. Where possible changes in charges should be by agreement. There is provision for an independent dispute resolution procedure.

The Directive is not without its problems. It is presumably designed to apply where competition is not effective, and to that end is compulsory for all airports with over 5 million passengers/year. However, in the UK there is effective competition up to the level of about 30 million passengers/year. The specification of the cut off point for effective competition therefore needs further consideration.

A particular concern in Germany is that the Directive provides that appeal to an existing regulatory body would constitute an acceptable independent dispute resolution procedure. Yet in Germany the existing regulatory bodies are the federal states that also own the airports. This conflict of interest would compromise the independence of the dispute resolution procedure. In other respects, the Directive would represent a useful development. (Littlechild 2010b)

Conclusions

If regulation is to seek to replicate competition, then effective regulation necessitates an appropriate definition of effective competition. This should reflect competition as a dynamic market discovery process. The criteria for assessing competition refer not only to price in relation to cost (property A) but also to finding more efficient methods of production (property B) and to the discovery and meeting of customer preferences (property C).

An analysis of all three aspects of effective competition has informed previous policy decisions, notably with respect to privatisation, competition and regulation. It should similarly inform present and future policy decisions.

Where there are prospects of effective competition emerging, the misapplication of price cap regulation on a transitional basis may not replicate all these aspects of effective competition, and may indeed deter it. In these circumstances a safeguard price cap is worth considering.

Where there is little prospect of effective competition emerging, newer regulatory approaches better replicate the market discovery process than do the conventional cost-of-service approach or the RPI-X price cap approach. There are now numerous examples of these newer approaches from which to learn.

In both cases, there is scope for competition and utility regulators to be more innovative in future – and innovation is, after all, a central feature of effective competition.

References

Bush, Harry (2007). *Some Issues in Airport Regulation*, presentation at Hertford Seminars in Regulation, 11 May

Doucet, J and Littlechild S C (2009). “Negotiated settlements and the National Energy Board in Canada, *Energy Policy*, 37, November 2009, 4633-4644.

EU (2009). Directive 2009/12/EC of the European Parliament and of the Council of 11 March 2009 on airport charges, *Official Journal of the European Union*, 14.3.2009, page L 70/11 – 70/16.

Forsyth, Peter (2006). “Airport policy in Australia and New Zealand: privatisation, light handed regulation and performance”, paper for conference “Comparative Political Economy and Infrastructure Performance”, Fundacion Rafael del Pino, Madrid, September 18-19.

Grout, Paul A and Zalewska, Anna (2006). “Profitability Measures and Competition Law”, University of Bath School of Management, Working Paper series 2006.04.

Littlechild, S C (1983). *The Regulation of British Telecommunications’ Profitability*, London: Department of Industry. Reprinted in Bartle, Ian (ed.), *The UK Model of Utility Regulation*, CRI Proceedings 31, University of Bath, September 2003.

Littlechild, S C (2006a). Foreword: The market versus regulation, in Sioshansi, Fereidoon P and Wolfgang Pfaffenburger (eds.) *Electricity Market Reform: An International Perspective*, Elsevier, April 2006, xvii-xxix

Littlechild, S C (2006b). “Competition and contracts in the Nordic residential electricity markets”, *Utilities Policy* 14 (3) August, 135-147.

Littlechild S C (2008). “Symposium on electricity reform in Argentina: Preface”, *Energy Economics*, 30 (2008), 1279-1283, and numerous articles in the same Symposium volume.

Littlechild, S C (2009a). Regulation, over-regulation and deregulation. CRI Occasional Lecture, 24 November 2008 at London: University of Bath, January.

Littlechild S C (2009b). “Stipulations, the consumer advocate and utility regulation in Florida.” *Journal of Regulatory Economics* 35 (1), 96-109.

Littlechild S C (2009c). “The bird in hand: stipulated settlements in Florida electricity regulation.” *Utilities Policy*, 17 (3-4), September – December, 276-287.

Littlechild S C (2010a). “Australian airport regulation: exploring the frontier”, submitted to *Journal of Air Transport Management*, 9 October

Littlechild, S C (2010a). “German airport regulation: framework agreements, civil law and the EU Directive”, paper submitted to *Journal of Air Transport Management*, 9 October.

Littlechild S C (2010c). “The process of negotiating settlements at FERC”, (forthcoming, 20 October).

Morris, Sir Derek (2003). “Dominant firm behaviour under UK competition law”, paper presented to the Fordham Corporate Law Institute, Thirtieth Annual Conference on International Antitrust Law and Policy, New York City, 23-24 October, at http://www.competition-commission.org.uk/our_peop/members/chair_speeches/pdf/fordham2003.pdf

Niemeier, Hans-Martin (2003). “Price cap Regulation of German Airports: Should German Airport Policy follow the Littlechild Approach?” in Ian Bartle (ed.) *The UK Model of Utility Regulation*, CRI Proceedings 31, University of Bath.

Ofcom (2006). *Retail Price Controls, Explanatory statement and proposals, consultation*, 21 March.

Offer (1997). *The competitive electricity market from 1998: Price restraints, fifth consultation*, August.

Secretary of State for Transport (2008). *Decision on the regulatory status of Stansted airport*, Department for Transport, 15 January.

Schuster, Dominic (2009). “Australia’s approach to airport charges: The Sydney Airport experience”, *Journal of Air Transport Management*, 15, pp. 121-126.

Wang, Z (2004). “Settling Utility Rate Cases: An Alternative Ratemaking Procedure”, *Journal of Regulatory Economics*, 26(2) September, 141-163.