OCCASIONAL LECTURE 22

CRI
CENTRE FOR THE STUDY OF REGULATED INDUSTRIES

REGULATION, OVER-REGULATION AND DEREGULATION

Professor Stephen Littlechild

UNIVERSITY OF BATH
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A CRI occasional lecture
held at the Royal Society on 24th November 2008
Chaired by Professor Ralph Turvey

Desktop published by
Jan Marchant

ISBN 1 85790 200 9

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PREFACE

The CRI is pleased to publish ***Regulation, Over-regulation and Deregulation*** as Occasional Lecture 22. The lecture was given by Professor Stephen Littlechild, Emeritus Professor, University of Birmingham, and Fellow, Judge Business School, University of Cambridge, on 24th November 2008 at the Royal Society, London.

The lecture was given just as the 2008/2009 banking crisis came into full effect, accompanied by the onset of recession, affecting the whole world. Some commentators have spoken of a changed world, the need to nationalise the banks, and the necessity for more extensive public involvement and tighter regulation. Yet, notwithstanding the need for a specific review of banking regulation, such events simply support Professor Littlechild's general contention that regulation needs to be appropriate and effective. Given his analysis of the apparent limitations of utility regulation, we should take account of his arguments for more explicit involvement of consumers and users in the regulatory process for network industries (including 'negotiated' settlements), less regulatory prescription, and greater trust in the 'exploratory' capacity of competition to promote innovation and change the prevailing costs of supply.

Debate on these issues will be uppermost in 2009, and so we are grateful to Professor Littlechild for the lecture, and the opportunity to publish it. To carry forward the debate the CRI has organised a policy seminar to be held on 23rd February 2009 at the National Liberal Club, Whitehall, London, entitled 'Facing the Regulatory Challenges of a Changed World – Are New Approaches, Structures and Institutions Required?'.

Peter Vass
Director, CRI
January 2009

Professor Stephen Littlechild

Stephen Littlechild is Emeritus Professor, University of Birmingham, and Fellow at the Judge Business School, University of Cambridge. He is also an international consultant on privatisation, regulation and competition, especially in the electricity and telecommunications sectors, and a member of the expert advisory panels of Ofgem and the CAA. He was previously Professor of Commerce at the University of Birmingham (1975-89), part-time Member of the Monopolies and Mergers Commission (1983-89) then Director General of Electricity Supply (1989-1998). He received his B. Com. from the University of Birmingham and his Ph.D. from the University of Texas at Austin, and has been a Visiting Professor or Research Fellow at various US universities including Chicago, New York, Northwestern, Stanford, Virginia Polytechnic and UCLA. He has published widely in regulation economics and other areas, including the proposal for RPI-X regulation in 1983.

REGULATION, OVER-REGULATION AND DEREGULATION

Stephen Littlechild

Introduction

Is UK utility regulation tending to over-regulation, and are regulators adequately pursuing deregulation? The House of Lords Select Committee on Regulators recently posed such questions.[1] It concluded that some regulators were doing better than others. It suggested changes in statutory duties, and recommended that no less than three bodies should assess the performance of the regulators in pursuing deregulation.

The financial and macroeconomic situation has changed since the House of Lords Report, and deregulation is no longer flavour of the month. However, financial regulation has not emerged with particular distinction worldwide.[2] Questions about over-regulation and deregulation of the utility sectors still remain valid. Indeed, some UK regulators have already taken steps in this direction.[3] Others are also examining their regulatory processes.[4]

[1] House of Lords (2007), UK Economic Regulators, Select Committee on Regulation, First Report, Session 2006-2007, HL 189-I, 189-II, 13 November.
[2] Kurdas C (2009), Does Regulation Prevent Fraud: The Case of Manhattan Hedge Fund, The Independent Review, 13 (3), Winter, pp325-343.
[3] Civil Aviation Authority (2004), Airport Regulation: Looking to the Future, Learning from the Past, May, and Civil Aviation Authority (2005), Airport Regulation: The Process for Constructive Engagement, May.
[4] Buchanan A (2005), Facing up to the Better Regulation Challenge, speech to the Institute of Economic Affairs, London, 29 November; Buchanan A (2008a), Ofgem's 'RPI at 20' Project, speech at SBGI, 6 March, and Buchanan A (2008b), Is RPI-X still fit for purpose after 20 Years?, Beesley Lectures on Regulation, Series XVIII, London, 2 October.

Acknowledgement: Without singling them out here, I am grateful to many colleagues for many discussions over many years.

Professor Stephen Littlechild, Emeritus Professor, University of Birmingham; Fellow, Judge Business School, University of Cambridge.

This paper suggests that inappropriate assumptions about the extent of knowledge and the nature of competition are leading to over-regulation of the network monopolies and an unduly slow pace of deregulation of the prospectively competitive sectors. More appropriate assumptions provide a way forward in both respects. We can learn from the initial approach to privatisation and regulation of UK utilities, from the regulation of monopolies in other jurisdictions including Argentina, Florida and Canada and indeed by the CAA in the UK, and from UK competition authorities. This leads to some alternative options for modifying the statutory framework within which utility regulators operate. The arguments are illustrated from UK experience, but I believe they have relevance in other jurisdictions.

Achievements and concerns

Utility regulation in the UK has generally, and rightly, been associated not only with protecting customers against monopoly power, but also with greater efficiency in the regulated sectors, lower costs and prices, improved quality of service, higher investment, new products and other innovation, and so on.[5] However, UK regulation has been exercised in the context of a significant change in ownership and a significant shift to competition. Arguably, it is these underlying drivers that have fundamentally changed the incentives and opportunities in the utility sector, and in turn driven the observed improvements in performance. Regulation has facilitated and in some respects channelled the forces of the competitive market process.

With respect to the network monopolies, the periodic price control processes are in many ways impressive, thorough and effective, but they are also increasingly complex and burdensome. As a simple but striking measure, the material issued by the electricity regulator (Offer

[5] National Audit Office (1996), The Work of the Directors General of Telecommunications, Gas Supply, Water Services and Electricity Supply, HC 645, 1995-96, and National Audit Office (2002), Pipes and Wires, Report by the Comptroller and Auditor General, HC 723 Session 2001-2002, London, April.

then Ofgem) during successive distribution price control reviews increased from about 250 pages in 1994/5 to about 500 pages in 1998/9 to about 2000 pages in 2004/5. On this basis, the regulatory burden approximately doubled from the first to the second review then quadrupled from the second to the third review.

The 'right solutions' seem increasingly elusive in the face of imperfect knowledge and uncertainty about the future. The views of customers are sought, and in some cases there is increasing emphasis on consumer surveys, willingness-to-pay and cost-benefit analysis, but customers are not directly involved in the regulatory process. The pressure for regulatory uniformity – the difficulty of justifying different approaches for different companies in the same sector – means that there is less tailoring of regulation to local needs and circumstances, less innovation, less ability to compare different approaches, less learning from experience (such learning depends on different regulatory experiences in other sectors or in other countries). The centralising impact of regulation has an adverse impact on industry relationships: it reduces the incentive for companies to talk to their customers, and puts a premium on the use of the media and political pressure.

With respect to activities where competition is developing or expected to develop, RPI-X regulation was first proposed as "*a means of 'holding the fort' until competition arrives*".[6] In the event, competition has often taken a long time to arrive – no less than 22 years in the case of the first RPI-X cap on BT's retail prices, as

[6] Littlechild S C (1983), The Regulation of British Telecommunications' Profitability, London, Department of Industry, para 4.11. Reprinted in Bartle I (ed), The UK Model of Utility Regulation, CRI Proceedings 31, University of Bath, September 2003. "*Competition is indisputably the most effective means – perhaps ultimately the only effective means – of protecting consumers against monopoly power. Regulation is essentially a means of preventing the worst excesses of monopoly; it is not a substitute for competition. It is a means of 'holding the fort' until competition arrives. Consequently, the main focus of attention has to be on securing the most promising conditions for competition to emerge, and protecting competition from abuse. It is important to ensure that regulation in general, and the profit control scheme for BT in particular, do not prejudice the achievement of this overall strategy*".

discussed below. Ironically, RPI-X regulation does not seem to have been very successful in the role for which it was originally designed.

The industry restructuring necessary to facilitate competition has often been too limited or too late. Transitional price controls have often been too tight and remained in place too long, perhaps in the face of political, media and interest group pressure that still reflects the era of the windfall profits tax. Regulatory analyses tend to rely heavily on hypothetical conjectures about how the market would work under different kinds of control, and what a competitive market would look like, rather than upon evidence of how it actually does work. The focus seems to be on short-run outcomes, notably price, at the expense of longer run considerations such as innovation and choice.

Previous experience with nationalised industry problems

Why is regulation running into these problems, and what are the solutions? We can learn from the previous experience of regulating these same industries while they were nationalised. During the 1960s and 1970s economists analysed nationalised industry policies using static welfare economics techniques. They posed the question: how should prices and investment be set? Their answer was in the form of optimal pricing and investment rules.

Government endorsed these rules but in practice they were not much observed. It increasingly became apparent that the nationalised industries had different and more fundamental problems. They were characterised by inefficiency, excessive costs, uneconomic investments, old and outdated products, little innovation, little responsiveness to customer preferences. They needed to discover better ways of doing things. Whereas the previous analyses implicitly took the cost and demand functions in the industries as given, and assumed known to the regulator, the more important challenge was to ‘change’ the cost and demand curves in the industries.

How were these different problems addressed? By changing the institutional arrangements. Private ownership provided better incentives for the incumbent companies to find and adopt more efficient production methods and new products and services better tailored to the preferences of customers. Competition provided an opportunity for others to challenge the thinking and practices of the incumbent companies. The expectation – which proved correct - was that these changed arrangements would lead to lower costs, more efficient investment programmes, more innovation, and in general greater responsiveness to customers.

RPI-X price cap regulation was designed to reinforce these incentives to efficiency and innovation. Importantly, it was not for the regulator to specify what the outcomes would or should be. It was for the regulated companies, in an increasingly competitive environment, to discover more efficient methods of production and better products and services.

In short, once the problems of the nationalised industries were recast into a different form, once the problems were expressed in terms of 'changing' cost and demand curves rather than in terms of determining optimal prices and investment with 'given' cost and demand curves, then a different approach yielded a more appropriate means of solving these problems.

The nature of competition

This more dynamic approach is not new. It dates back at least to Adam Smith. Until the twentieth century, competition was routinely understood in terms of rivalry. During the last century the formalisation of welfare economics led to a focus on competition in terms of static equilibrium, with its effectiveness judged by the extent to which prices are equal to cost, taking cost and demand curves as given. But there were also important developments in the understanding of competition as a rivalrous and indeed innovative process taking place over time. Austrian economists made notable

contributions here. For example, Schumpeter described competition as "*a perennial gale of creative destruction*".[7]

Hayek explained the significance of competition as a discovery process – as a process for discovering what customers want and the most efficient ways to produce it, in a world where knowledge was dispersed rather than collected in the mind of a single entity.[8] Kirzner showed how entrepreneurship, in discovering and exploiting overlooked opportunities, thereby drives the competitive market process, towards lower costs and more cost-reflective prices.[9] [10]

This approach to competition is not confined to academic economists. It has been endorsed by various chairmen of the Competition Commission and, arguably, by UK competition legislation. For example, Sir Derek Morris, then Chairman of the Competition

[7] Schumpeter J A (1950), Capitalism, Socialism and Democracy, New York, Harper & Row, 3rd ed, especially Ch 7, The Process of Creative Destruction.
[8] Hayek F A (1978), Competition as a Discovery Procedure, chapter 12 in Hayek, New Studies in Philosophy, Politics, Economics and the History of Ideas, Chicago: The University of Chicago Press, pp179-90, and Hayek F A (1948), The Meaning of Competition, reprinted as chapter V in Hayek, Individualism and Economic Order, Chicago, The University of Chicago Press.
[9] Kirzner I M (1973), Competition and Entrepreneurship, Chicago and London, University of Chicago Press.
[10] Incidentally, these Austrian ideas on market process in the face of imperfect knowledge are now being incorporated into macroeconomics, for example, Frydman, R (1982), Towards an Understanding of Market Processes: Individual Expectations, Learning and Convergence to Rational Expectations Equilibrium. American Economic Review, 72, pp652-88, reprinted in Recent Developments in Macroeconomics, edited by E S Phelps, Edward Elgar, 1991; Frydman, R and Goldberg M (2007), Imperfect knowledge Economics: Exchange Rates and Risk, Princeton, NJ, Princeton University Press; Frydman R and Goldberg M (2008), Macroeconomic Theory for a World of Imperfect Knowledge, Capitalism and Society, 3(3) article 1, and Phelps E S (2008), Commentary: Revolutionary Times, Then and Now, Capitalism and Society, 3(3), article 5.

Commission, referred to "*competition as quintessentially a process of rivalry through time*".[11] He continued that, while 'the old UK regime' was "*capable of the very broadest interpretation*", what he called 'the new regime' (following the 1998 Competition Act and the 2002 Enterprise Act) "*conceptually is very different, and the criteria are quite explicitly competition based. ...the driving motivation of the new regime is competition itself*" (p15).

Peter Freeman, the present Chairman of the Competition Commission, has likewise endorsed the concept of competition as a process.[12]

> "The process of competition is the means by which good ideas succeed while bad ones fail, well-run firms thrive while bad ones reform or perish, and a constant pressure for innovation is maintained".

After quoting Adam Smith on 'rivalship', he asserts that: [13]

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[11] Morris Sir D (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, p14. He described what he called the competition approach (as opposed to alternative approaches that maximised total surplus or consumer welfare). "*This approach sees competition as quintessentially a process of rivalry through time with the basic objective of competition policy being to defend and maintain (some might say 'promote') this process of rivalry…. The competition school sees competition as so fundamental to consumer welfare, not only in terms of minimum prices, good quality and the like but in terms of the choice which only competition can bring, that maintaining a healthy process of rivalry becomes a policy objective in itself*".

[12] Freeman P (2007), Investigating Markets and Promoting Competition: the Competition Commission's Role in UK Competition Enforcement, Beesley Lecture Series, 18 October.

[13] Smith, A (1776), An Inquiry into the Nature and Causes of the Wealth of Nations, London, as republished in an edition edited by RH Campbell and AS Skinner, Liberty Press, Indianapolis, IN, USA, 1976, "*... [W]here the competition is free, the rivalship of competitors, who are all endeavouring to justle one another out of employment, obliges every man to endeavour to execute his work with a certain degree of exactness…. Rivalship and emulation render excellency .. an object of ambition ...*". Book V, Part III, Article II, p759.

> "This concept of 'rivalship' (now modernised to 'rivalry') is critical to the operation of the market investigation regime" (p10).

It has further been suggested that the Competition Appeals Tribunal (CAT) has endorsed the concept of a competitive process, at least in the sense of favouring 'wider dynamic competition benefits' over 'narrow productive efficiency'.[14]

Recasting the present regulatory problems

Why is UK utility regulation now experiencing problems of over-regulation and lack of deregulation? Because it has relied unduly on welfare-economic thinking. In order to avoid excessive profits, there is an implicit presumption that the regulatory body itself must first specify the efficient operating costs and capital expenditure programmes before setting the price controls, and must first specify in some detail what the outcome of removing a price control would be before removing that control.

This is a natural approach using static welfare economics, when the problem is seen in terms of given cost and demand curves that are assumed known to the regulator. But in reality costs and demand curves are not given, and certainly not known to the regulator. This

[14] Marshall E and Robinson C (2008), Comment on Competition Commission Report: Stansted Quinquennial Review – Assessment of Competition at Stansted Airport, July, under sub-heading Airports: Price regulation. "*The Competition Appeal Tribunal also came down on the side of a dynamic view of competition in a relevant recent judgment in the water industry in which one of us was involved. A major issue in this case was the meaning of 'competition' and whether the use of the Efficient Component Pricing Rule (ECPR), a static efficiency rule, is conducive to the development of a competitive market. The Tribunal pointed to the 'potential clash between the narrow productive efficiency sought in theory through ECPR , and the wider dynamic competition benefits and level playing field which the Chapter II prohibition is designed to safeguard'. It concluded that the ECPR was not a 'safe methodology' to use in the case in question*".

leads to predictable problems. The RPI-X mechanism still induces companies to search for lower costs and new products, and over time regulated prices will tend to reflect these lower costs. But implicitly or explicitly requiring or expecting the regulator to discover the results of this search, in order to set the control in the first place, or in other contexts to remove it, puts an undue and unrealistic burden on any regulatory body.[15]

There is an alternative approach, which recognises that much of the relevant knowledge is not in fact available to the regulator. Regulating a network monopoly therefore requires addressing the question: how best to find the most efficient production methods and investment programmes? Deregulating prospectively competitive sectors requires addressing the question: how best to encourage the development of competition and find out what it can do? The answer in both cases is to recognise that rivalrous competition is a more effective process of discovery than is regulation. And making better use of the competitive process by greater involvement of market participants will be a more effective discovery process than relying only or mainly on the regulator to find and determine the competitive outcome.

I now illustrate with some examples of this idea, starting with alternative approaches to the regulation of monopolies that are used elsewhere in the world.[16] I then turn to the deregulation of prospectively competitive activities.

[15] See Kirzner I M (1979), The Perils of Regulation: a Market Process Approach, Occasional Paper of the Law and Economics Center, University of Miami School of Law, February for an Austrian analysis of why regulation cannot duplicate the market process.

[16] Littlechild S C (2008a), Some Alternative Approaches to Utility Regulation, Economic Affairs, 28(3), September, pp32-37; and Littlechild S C (2008b), Some Applied Economics of Utility Regulation, Energy Journal, Special Issue #2, September, pp43-62.

Alternative approaches to monopoly regulation

The electricity sector in Argentina was privatised in 1992, much along the lines adopted in the UK. However, the government doubted whether either the transmission company or the regulator would ensure an economic programme of transmission expansion. Accordingly, while it provided for an RPI-X price cap on the revenues of the existing transmission network, to be revised by the regulator in a conventional way, the legislation established a new method of regulation of transmission expansion. New investment programmes had to be proposed, voted for and paid by users. Approved expansions would be put out to competitive tender to find the most efficient provider and to determine the cost to be paid by users. There were some initial teething problems, but in general the so-called Public Contest method worked well. Users worked effectively together to determine and approve the transmission expansions they needed, and tendering the expansions to competition halved the cost.[17]

In the US, the Federal Energy Regulatory Commission (FERC) has long encouraged negotiated settlements between pipelines and their users, which are then typically approved by the Commission. From 1994 to 2000, 39 out of 41 gas pipeline rate cases were wholly or partially settled by such negotiation.[18]

A similar process applies with the National Energy Board (NEB) in Canada.[19] Since 1997 almost all oil and gas pipelines have settled their rate cases with their users instead of this being done by the traditional litigated regulatory process. This is more efficient: whereas

[17] Littlechild S C (2008c), Symposium on Electricity Reform in Argentina: Preface, Energy Economics, 30 (2008), pp1279-1283, and numerous articles in the same Symposium volume.
[18] Wang Z (2004), Settling Utility Rate Cases: An Alternative Ratemaking Procedure, Journal of Regulatory Economics, 26(2) September, pp141-164.
[19] Doucet J and Littlechild S C (2006a), Negotiated settlements and the National Energy Board in Canada, Electricity Policy Research Group Working Papers, No. EPRG 06/29, November 2006. Cambridge, University of Cambridge.

the previous rate cases were often annual, the settlements are typically for several years, sometimes up to ten years or more, and the regulatory processing times have been cut by between one and two thirds. In one case, settlements were used to change regulation from intrusive to light-handed.

In Florida, the Office of Public Counsel represents all consumers. In coordination with various other users and consumer groups it has negotiated many settlements with telecoms, gas and electricity utilities.[20] Over the last 25 years, these settlements have delivered three quarters of the achieved utility rate reductions – actually 90 per cent excluding the impact of tax reductions and one exceptional case. One electricity base rate settlement was for $350 million (£230 million) per year for three years. In total the settlements amounted to nearly $4 billion (£2.7 billion) in the electricity sector alone.

Many of the benefits in Florida and Canada derived from replacing traditional rate of return regulation by RPI-X type incentive price caps for specified periods of years, an approach that has worked well in the UK. The resulting efficiency improvements have yielded significant price reductions along with higher profits.

But that is not all that was achieved. In general, the settlements have better reflected the actual preferences of the customers and the companies, unconstrained by the formal regulatory process. The settlements have also been characterised by flexibility, variety, a wide scope, innovation and learning, as some legal scholars have noted.[21]

[20] Littlechild S C (2009a), Stipulations, The Consumer Advocate and Utility Regulation in Florida, Journal of Regulatory Economics 35 (1) pp96-109. Earlier and fuller version available as Electricity Policy Research Group Working Paper No. EPRG 06/15, 25 February 2006, Cambridge, University of Cambridge, and Littlechild S C (2009b), The Bird in Hand: Stipulated Settlements and Electricity Regulation in Florida, Utilities Policy (forthcoming). Earlier and fuller version available as Electricity Policy Research Group Working Paper No. EPRG 07/05, February 2007, Cambridge, University of Cambridge.

[21] Doucet J and Littlechild S (2006b), Negotiated Settlements: The Development of Legal and Economic Thinking, Utilities Policy, 14(4), December.

Importantly, and particularly in Canada, the process has significantly improved mutual understanding and company-customer relationships in these utility sectors.

Lessons on regulatory process

What lessons about regulatory process can be learned from these experiences? They show that, in a range of regulatory frameworks, users are both willing and able to participate and to determine sensible outcomes. If necessary, they are able to negotiate successfully with monopoly utilities. Transactions costs and access to funding and information have not in practice been problematic.[22]

In those US and Canadian frameworks that leave discretion to the regulator, there are further lessons for the regulator. First, regulators should not 'cherry pick' the settlements by accepting the bits they like and changing the bits they do not like. In two early cases the NEB accepted all the elements in two settlements except the rate of return, which it held to be too high. This killed the process of negotiating settlements for nearly a decade, until the NEB modified its guidelines.

Second, regulators could consider giving guidance on the cost of capital. This is perhaps the most controversial element in any negotiation, and some settlements avoid the need to specify that cost explicitly, concentrating instead on the prices and quality of service to be provided. In Canada, the NEB uses a formula to indicate annually the generic cost of capital that the regulator would determine if necessary.

This essentially removes the element of market power from the negotiation, without precluding the parties from agreeing a slightly

[22] This should not preclude steps to ensure adequate provision of information or funding by the utility if that seemed appropriate in a UK context, as discussed below.

higher cost of capital as part of their negotiations on all the other elements of the package.[23]

Third, regulators should judge a settlement upon the adequacy of the process and not upon whether they like the outcome. If all the relevant parties have had an opportunity to participate, and are in substantial agreement, accept that as in the public interest: don't try to superimpose the regulator's own idea of what is the public interest. The NEB eventually issued revised Guidelines that declared, in essence, that if all interested parties had an opportunity to be involved in a settlement, if there was no opposition to the settlement, and if it was not inconsistent with the relevant act, then the NEB would normally be able to conclude that the settlement was acceptable. The emphasis is thus on ensuring acceptable processes rather than on second-guessing the outcomes negotiated by the market participants.

This approach continues to provide protection against monopoly but shifts the focus and purpose of utility regulation. Where there are elements of monopoly, the role of regulation is not to replace the market process but to facilitate it by removing or reducing the market power. The aim is to encourage rather than discourage the process of negotiation between utilities and their customers, so as to discover and achieve an outcome that is in their mutual interest.

A regulator would, of course, need to satisfy itself that the interests of those not at the table – notably final customers and potential future competitors – were fully protected. This reinforces the advantage of involving in the process some actual customers who pay the utility bills.

If such an approach were adopted in the UK, different companies and their customers would be able to propose different forms of price control. The regulator would not feel constrained to require that all price controls were identical in form. Amongst many other

[23] Or from agreeing everything except the cost of capital. In a recent and ongoing NEB case, the pipeline was unwilling to accept the generic cost of capital, but the parties were able to agree all the other issues, leaving the rate of return for the regulator to decide via the normal public hearing process.

possibilities, some companies might agree RPI-X controls of the standard form. Others might agree different bases of sharing the efficiency gains, perhaps putting less emphasis on trying to guess the outcome *ex ante*, and more emphasis on sharing the benefits achieved *ex post*. In future periods all participants would be able to learn from the experiences of each type of control, and adjust their own future arrangements accordingly.

Constructive engagement and the CAA

Could such an approach be applied in the UK? In response to concerns about the previous price control review that somewhat mirrored the concerns noted above, the Civil Aviation Authority (CAA) invited the airports and airlines to take forward some of the work usually carried out by the regulator, under a process of 'constructive engagement' (CAA, 2005). This included traffic forecasts, quality of service requirements, and investment programmes. The CAA would retain responsibility for assessing operating costs, cost of capital and the final price control. It would ensure that the interests of passengers and future airlines were safeguarded, and would retain final responsibility for decisions, but would give preference to an agreement reached by the parties.[24]

[24] "*Final decisions and responsibility in a legal sense will continue to rest with the regulator. But if an agreement can be better reached by the parties, the regulator is likely to have a preference for it, provided the regulator is satisfied that the agreement meets user interests overall and is consistent with its statutory obligations*" (CAA, 2004, para 37, pxii), and "*The CAA's new approach: to the greatest extent possible base the review on direct engagement/negotiation between airlines and airports so that … as long as the negotiation processes meet the CAA's objectives in respect of the interests of future users, and passengers … agreements would be adopted by the CAA in setting the next price control*", Airport Regulation: the process for constructive engagement – Industry Seminar 16 June 2005, www.caa.co.uk.

The CAA considers that the outcome was generally satisfactory at Heathrow and Gatwick, though it did not succeed at Stansted. Several broad agreements were reached. There was also an improvement in consultation and regulatory discourse.[25]

Former BAA executive Mike Toms has been critical of this approach.[26] However, he accepts that constructive engagement may be a necessary part of the regulatory process, and that both sides 'should be encouraged to go the extra mile'. The CAA did in fact address one of his main concerns.[27] Moreover, it was precisely one of the difficulties of his preferred alternative – a regulator carrying out long run planning – that led the CAA to adopt the constructive engagement route.

The Competition Commission (CC) too was critical, though it was also critical of BAA's own planning procedures.[28] It was particularly concerned about significant increases in BAA's capex programme during its inquiry, about information and resource asymmetries, and the absence of a dispute resolution or arbitration procedure at each stage. Nevertheless, the CC saw substantial merits in the constructive engagement process and noted that the airlines did too. It concluded that constructive engagement should be a continuous process.

[25] Bush H (2007), Some Issues in Airport Regulation, presentation at Hertford Seminars in Regulation, 11 May.

[26] Toms M (2008), Airports Regulation: a Case of Destructive Engagement?, Beesley Lectures on Regulation, Series XVIII, London, 9 October, argues that the parties are unlikely to reach agreement and that it would not be a good thing if they did, because the interests of passengers and future airlines are not represented at the table. He calls for the CAA to "*develop its own analytical tools to evaluate capex programmes. ... decide what parameters define an optimal outcome, and to establish methodologies for calibration of proposals against these parameters*". He recommends cost-benefit analysis as required by Ofwat.

[27] To better reflect the interests of passengers (who were not at the table), the CAA introduced a positive incentive for BAA to improve quality of service, beyond what the airlines considered necessary for their own purposes.

[28] Competition Commission (2007), BAA Ltd. Heathrow and Gatwick Quinquennial Review, Final Report, published 3 October.

In fact, when the CC was subsequently required to pronounce on the price control for Stansted airport, it considered that there was merit in reviving the process.[29] It was pleased with its success, albeit with a limited capital expenditure programme.[30] The CC explicitly took account of the interests of parties not at the table.[31] It also made recommendations to address complaints about BAA's conduct since 2002.[32]

[29] Competition Commission (2008b), Stansted Airport Ltd, Q5 price control review, 23 October 2008, 6 November, para 23, p8, "*We took the view that the airport's airline customers are generally in a much better position than the regulator, the CAA, to suggest what development is needed at the airport, even recognising that these interests might, on occasion, diverge from the interests of future airlines and passengers, whose interests should also be represented. Therefore, we sought to rekindle the process of constructive engagement between the airport and the existing airlines and, through these discussions, we saw some considerable progress*".

[30] BAA submitted a largely agreed and much reduced £90m capex programme for developing existing facilities (reduced from £239m). It proposed only £40m of initial expenditure on a second runway and terminal, deferring consideration of the proposed full cost (£1.2bn) until the next price control quinquennium.

[31] "*We considered whether the interests of potential new airlines at the airport or passengers might deviate from the interests of current airlines in these decisions, but we found no reason to believe that they did*", CC, 2008b, para 24, p8.

[32] The CC found that there had been "*significant failings in the consultation process, and that the information provided by BAA to the SACC [Stansted Airline Consultative Committee] had been insufficient and untimely to enable effective consultation*" CC, 2008b, para 29, pp9-10. This was against the public interest. The CC recommended that CAA remedy the adverse effects in two ways: "*(i) the information provided as the basis of consultation should be improved, provided on a more timely basis, and should address the needs of users, and (ii) a facilitator should be appointed to encourage an efficient process of consultation and to ensure compliance by BAA to the obligations imposed on it by the CAA following this finding*".

How far the regulator should get involved in dispute resolution is worth further consideration.[33] However, the CC's recommended remedies could lay the basis for more effective and more extensive use of the constructive engagement process in future. Indeed, there is a case for extending it to include the level of charges or revenue implied by the agreed investment programme, as is normally the case with negotiated settlements.[34]

More generally, alternative approaches – such as the public contest method or negotiated settlements or constructive engagement as applied by the CAA in the UK – could contribute to addressing the concerns identified earlier about over-regulation of UK utilities. These approaches are less burdensome, or at least the burdens are voluntarily and more willingly incurred because discussion focuses on issues that the parties themselves consider important and fruitful. The parties search together for a mutually acceptable solution that they deem better than what the regulator would determine, users are directly involved in the discovery process, and they are better able to judge the tradeoffs involved. The need for regulatory uniformity is reduced or removed if the parties can reach agreement. A common

[33] The CAA emphasised that "*if it were to have been drawn into individual disputes, during the process of negotiation, its involvement would have undermined that process and risked unravelling a complex set of compromises and agreements*" Competition Commission (2008a), BAA Airports Market Investigation, Provisional Findings Report, 20 August 2008, para 7.30. In the US and Canadian jurisdictions where negotiated settlements work well, it does not seem to be considered helpful for the regulator to 'monitor what is going on' and act as arbitrator. A recent view in Australia (see section on Airport Regulation in Australia) is that "*Though introduction of an airport-specific arbitration mechanism would be counterproductive, the parties should be expected to negotiate and resolve disputes within an appropriate commercial framework, and to be assessed accordingly under the new oversighting arrangements*", Productivity Commission (2006), Review of Price Regulation of Airports Services, Inquiry Report No. 40, 14 December, pxii.

[34] Civil Aviation Authority (2008), NATS (En Route) plc, Price Control Review for Control Period 3, 2011-2015, CAA consultation, October, ch 5. The CAA has indeed proposed a similar approach to the setting of National Air Traffic Services, without limitation on what the parties might agree.

experience is that industry relationships and understanding are improved.

Promoting competition by restructuring

Turn now to the regulation of activities that are prospectively competitive. Restructuring incumbent companies into separately owned or operated businesses is generally critical to the development of competition, together with the regulation of access to monopoly or bottleneck facilities.

This was a lesson learned only over time: initially there was no restructuring of BT, BAA and British Gas when they were privatised in 1984 to 1986. Then, with complaints about the absence of competition, the electricity industry (especially the CEGB) was thoroughly restructured in 1990, as was British Rail in 1993. British Gas was encouraged to split itself into two and then three successor companies in 1997 and 2000. In the light of experience, the distribution and retail supply businesses of the regional electricity companies were further separated in 1998 and 2000.

Restructuring of BT with the creation of BT Openreach in 2006 was a condition for finally removing its retail price control. The breakup of BAA's London airports is now belatedly in process (CC, 2008b). Restructuring of the water companies is presently under discussion in order to create the conditions for retail competition.[35] The prospect of restructuring has eventually been proposed for Royal Mail.[36] It might almost be said that the emergence and strength of competition is proportional to the extent of restructuring. But I must leave this theme in order to focus on the question of price controls during the transitional period.

[35] Cave M (2008), Independent Review of Competition and Innovation in Water Markets, Defra, November, and Ofwat (2008), Review of Competition in the Water and Sewerage Industries, part II, 4 May.
[36] Hooper, Sir R (chairman) (2008), Modernise or Decline: Policies to Maintain the Universal Postal Service in the UK, Cm 7529, Stationery Office, 16 Dec.

Transitional price controls

If a sector is prospectively competitive, but not yet effectively competitive, how should it be regulated? A common approach is to set transitional price controls until competition is sufficiently effective. Regulators have generally done this on the same basis as they have set RPI-X controls on network facilities. That is, they have used the familiar building block approach, making estimates of the efficient level of operating cost and any capital expenditure, together with a relatively low weighted average cost of capital (WACC). Then they have sat back and waited for competition to arrive. And waited, and waited.

The approach adopted implicitly assumes that these are the prices that would characterise a regulated company in a competitive market at this stage of development, and that the growth of competition is independent of these regulatory price controls. But this is generally not the case.

Prices constrained by a price control set on the above basis may underestimate the costs and prices that would obtain in an unregulated competitive market in various respects:

- the control removes (or at least seeks to remove) any element of monopoly profit or market power that might obtain in unregulated markets;
- the control removes the disparity in prices (and hence in prospective profit margins) that results from the different knowledge and expectations of the different market participants in unregulated markets (that in practice never reach a state of equilibrium with a single uniform price);
- the control reduces or removes the disparity of prices (and prospective profit margins) that results from different levels of productive efficiency among the different market participants;
- prices set by the control reflect the greater level of efficiency assumed by the regulator to obtain in future rather than the lower level of efficiency that obtains in the regulated company at present;

- the cost of capital underlying the control reflects the relatively low risk assumed to be associated with operating in a situation of market power or limited competition, rather than the higher risk associated with operating in a more competitive market; and
- the cost of capital does not include any allowance for regulatory risk associated, for example, with the possible imposition or modification of price controls in future or the imposition of additional regulatory constraints.

Thus, although regulation may be intended to achieve competitive prices until competition actually emerges, in practice regulated prices set on the traditional building-block basis may well mean lower prices than would otherwise obtain in a typical unregulated market. That in turn will make it less profitable and less attractive for a potential competitor to enter the market.

In addition, regulatory involvement is likely to reduce the interest of customers in seeking out and choosing an alternative supplier. If regulated prices are lower than they otherwise would be, the gain from moving to an alternative known supplier is correspondingly lower. If the regulator is explicitly promising to protect the customer until competition arrives, this reduces the incentive to explore and discover what new and as-yet unknown alternative suppliers might have to offer.[37]

For these reasons, the development of competition is not independent of the setting of a price control. Transitional price controls set on a conventional building block basis will typically make new entry more difficult than it otherwise would be, and thereby actively deter competition. Conversely, removing a price control is likely to stimulate competition.

[37] For a recent formal analysis, see Armstrong M, Vickers J and Zhou J (2008), Consumer Protection and the Incentive to Become Informed, September, Journal of the European Economic Association (forthcoming). "*In a market with costly information acquisition, we find that imposing a cap on suppliers' prices reduces the incentive to become informed of market conditions, with the result that prices paid by consumers (both informed and uninformed) may rise*".

The history of the initial RPI-X retail price cap on BT, which was set at privatisation in 1984, is instructive. Oftel repeatedly tightened the cap, indeed "*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*".[38] But the time was never right to remove it.[39] It was 22 years before Ofcom finally removed the retail price controls in 2006, at the same time taking further steps to facilitate competition by creating BT Openreach.

An alternative approach: retail electricity

Regulation of the retail electricity market provides a contrasting approach. At the time of privatisation in 1990, the market was scheduled to open to retail competition in three stages: large customers immediately, medium-sized customers in 1994, small businesses and residential customers in 1998. Government decided that all customers would initially be covered by a retail price control because that seemed the easiest and least controversial approach.

In the event there was active competition for the business of large customers. In 1994 Offer removed the price control not only for large customers but also for medium-sized customers, on the basis that adequate competition could be expected. This proved to be the case.
In 1998 the situation was more delicate: most potential competitors were indicating that the residential market might not be sufficiently profitable to warrant entry, and it was difficult to judge how residential customers would respond to the unfamiliar prospect of competition in electricity supply. Any sudden increase in incumbent prices when the market opened to competition would have undermined the whole retail competition policy. Indeed, prices to

[38] Ofcom (2006), Retail Price Controls, Explanatory Statement and Proposals, consultation, 21 March, para 1.1.
[39] For example, "*BT's profitability in the calls market remains higher than would be expected in a competitive market. ... the current retail price controls should be extended ...*" Oftel (2001), Proposals for Network Charge and Retail Price Controls from 2001, February, para 2.1.

customers ought to fall to reflect the reductions in generation costs that would accompany the full opening of the market (as a result of the ending of the back-to-back coal contracts with the generators). Transitional price restraints were therefore put in place for two years to reflect these cost reductions. But the price controls were less severe than they would have been if the aim was to secure the lowest possible prices to customers in the short term. The underlying aim was to lay the basis for the development of a competitive market, where no price controls at all would be needed.[40]

The initial price caps were set for two years. In October 1999 Ofgem considered whether and how to reset them.[41] I argued that tightening the cap severely would discourage the emerging competition.[42] Fortunately Ofgem relented, and in December 1999 modified the extent of tightening so as to balance the duty to protect customers and the duty to encourage competition.[43]

[40] Offer (1997), The Competitive Electricity Market from 1998: Price Restraints, fifth consultation, August, paras 1.15, 1.17 pp4-5. "*There is certainly advantage to customers in substantial and immediate price reductions. The restraints should ensure that all customers are not only protected but also receive tangible benefits from the opening of the competitive market. The restraints should also encourage greater efficiency on the part of the PESs. But the restraints should not seek to do the job of competition, or discourage its development. Only competition, not regulation, can discover the best levels of price that can be offered by efficient companies seeking to meet the needs of customers.The aim is to consider what can reasonably be expected of the PESs in the way of immediate price protection for all customers, while leaving scope for competitors to purchase and operate more efficiently than the incumbent PESs. It is then for the competitive process to bring these further benefits to customers, working within the framework of non-discrimination rules until competition is fully effective*".

[41] Ofgem (1999a), Reviews of Public Electricity Suppliers 1998 to 2000, Supply Price Control Review: Initial Proposals, October.

[42] Littlechild S (1999a), A Competitive Shock to the System, Financial Times, 11 November, p21, and Littlechild S (1999b), Promoting Competition in Electricity Supply, Power UK, Issue 68, 29 November, pp12-19.

[43] Ofgem (1999b), Review of Public Electricity Suppliers 1998 to 2000, Supply Price Control Review: Final Proposals, December.

In 2002 Ofgem courageously and correctly removed the control completely despite loud objections from one of the Select Committees.[44]

With the benefit of hindsight, there would have been advantage in removing the retail price control in the UK at the time that the residential market opened in 1998, just as was done for the medium-sized user segment in 1994. The regulatory safeguards could probably have been achieved by assurances from the incumbent companies, without a formal licence condition. This would have avoided the difficult decision situations in 1999 and 2002, or enabled them to be dealt with in a lower key manner.[45]

Retail electricity competition has continued to develop in the UK, as it has done in nearly a dozen markets that have not restricted competition by unduly severe price controls. Take just one simple indicator, the proportion of residential customers that have switched from their incumbent supplier to another competing supplier. In those markets where there is no price control, or only a light one, this proportion is in the range about 30% to 50%. The UK is in the lead at 52%.

[44] The basis for Ofgem's decision, as recently summarised in Ofgem (2008), Energy Supply Probe – Initial Findings Report, 6 October, para 2.5, p20, was that competition was developing well (assessed in terms of consumer awareness of the ability to switch and significant switching from incumbent suppliers as well as other evidence of a competitive market process); that the Competition Act 1998 would deter companies from abusing any market power and provide Ofgem with sufficient *ex post* powers to tackle any abuse; and that there was a risk that maintaining price controls could distort competition.

[45] Experience shows how difficult it is to remove a price cap once in place. Its very existence creates beneficiaries and stimulates objections to its subsequent removal. If any problematic conduct does emerge, this could normally be investigated and addressed as a matter of competition policy.

In contrast, for those markets that have imposed tight price controls on incumbents, and in some cases have failed to deal with other barriers to entry, the switching proportion is in the range 0 to 8%.[46]

Competition is more than prices

The imposition of a transitional price control implicitly assumes that prices are more important to customers than the development of competition, choice and innovation. This assumption is unwarranted. As Sir Derek Morris observed, lower prices are "*by no means sufficient if the process of rivalry is nonetheless weakened as a result of the exercise of market power*" (Morris, 2003).[47] He gave a striking illustration:

> "At the risk of over emphasising an old but, nonetheless, still repeatable observation, 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" (p23).

[46] Littlechild S C (2009c), Retail Competition in Electricity Markets – Expectations, Outcomes and Economics, Energy Policy, 37, pp759-763. The most active competitive markets are Great Britain, South Australia, Victoria, Texas, Sweden, New Zealand, Norway and the Netherlands. Regulators are now relaxing price controls to allow competition to develop in a few intermediate markets like New South Wales (30% switching), Finland (21%) and New York (16%). The uncompetitive markets are most of the rest of the EU and the US.

[47] He continued *"... prices lower than otherwise ... will not be sufficient because, with an AEC [adverse effect on competition], 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. This reflects that 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) p23.

The competitive market process is characterised not only by a search for lower costs and greater efficiency in producing a given set of products, and thereby lower prices. It is also characterised by a search for new products and processes that better meet the needs of customers. To insist that a regulated company continue to produce an existing product at a regulated and ever-lower price may therefore distort and thwart the competitive market process by discouraging the emergence of new and better products and processes.

Innovation in retail electricity markets

This can be seen in the retail electricity markets just mentioned. Perhaps their most interesting feature is not that prices are lower than before competition was allowed (they are generally higher, reflecting the impact of substantial increases in costs of fuel, renewable energy, carbon etc). It is that there are now alternatives to the standard variable tariff that used to be the only basis of purchasing electricity. Those tariffs were variable as and when the incumbent monopoly company chose to vary them. Now, however, competing suppliers offer a range of bases of payment, notably what are called price guarantee tariffs:

> "These tariffs offer consumers certainty that over a fixed period (usually 1 to 3 years) their tariffs would either be fixed or not rise above a specified capped price. … We estimate that around 4.6m customers (over 1 in 7 households) are on a price guarantee tariff of some form" (Ofgem, 2008, paras 3.30, 3.31 p41).

Although the fixed period is usually 1 to 3 years, shorter periods and periods up to ten years have in fact been offered in the UK. For those customers who prefer prices more closely tied to wholesale prices it has also been possible to buy electricity at a tracker price pegged to the wholesale market price and changing quarterly.

In other markets not limited by price controls and other regulatory restrictions, even higher proportions of customers have chosen market contracts in preference to the standard variable tariff: over 50% in Sweden, and 69% in South Australia.[48] The range of product types is also greater. Nearly one quarter of Norwegian electricity customers have chosen contracts related to spot price. In Sweden one supplier offers a contract with a fixed price in winter and spot price in summer, and another contract with an equally-weighted average of spot price and a specified fixed price.[49]

Competitive markets are thus providing the ability and the incentive for companies and customers to discover and provide what customers want. This is the competitive market process in action. In this respect, the UK has one of the leading competitive retail electricity markets in the world. The decision to remove price controls early has been a major reason for this success.

Retrogression?

Recently, however, there have been criticisms of this particular market. Ofgem recently found that "*all segments of the market remain highly competitive*".[50] However, it now says only that the transition to competitive markets "*is well advanced and continuing to develop*" and is concerned that "*many consumers are not yet benefiting fully from the competitive market ... the transition to competitive markets needs to be accelerated*".[51]

[48] Such as the now-removed 28 day rule, Littlechild S C (2006a), Residential Energy Contracts and the 28 Day Rule, Utilities Policy, 14 (1) March, pp44-62.
[49] Littlechild S C (2006b), Competition and Contracts in the Nordic Residential Electricity Markets, Utilities Policy, 14 (3) August, pp135-147.
[50] Ofgem (2007), Domestic Retail Market Report – June 2007, Ref 169/07, 4 July.
[51] "*Many consumers have benefitted from lower prices, better service, and a wider range of deals on offer. The Big 6 suppliers are acting competitively and we have found no evidence of cartels*" (Ofgem, 2008, Overview).

Some of Ofgem's proposed actions are aimed at "*encouraging more consumers to participate actively in the market and improving the quality of switching decisions*", with a view to intensifying competitive rivalry and eroding unfair price differentials. These steps are not particularly problematic. Of more concern are its proposed new price controls.[52]

Those who have admired the way that Ofgem has enabled one of the most active and successful retail energy markets in the world will be dismayed by the apparent retrogression in its thinking on retail competition.[53] Ofgem says "*We would need to be sure that such a condition is a proportionate measure and serves to help, rather than hinder, progress towards effective competitive markets*". However, both economic theory and actual experience suggest that price controls will restrict competition, increase regulatory risk, make price cutting and innovation less attractive, and discourage investors and new entrants in this as in any other market.

New entrants are in fact already addressing some of the issues identified by Ofgem. For example, Utilita has found an innovative way to offer smart meters to prepayment meter customers, thereby providing better service at a lower price than the 'Big Six' suppliers. Marks and Spencers has begun to offer green electricity and rewards for energy efficiency at no increase in price. These recent entrants

[52] It envisages a "*new licence requirement on suppliers that differences in charges for different payment types must be cost-reflective", and a possible further new licence condition "that would either impose a prohibition on undue price discrimination or introduce a form of relative price control. Any such condition would seek to ensure that price differentials are objectively justified by cost differences*" (para 1.40, p15).

[53] For example, it equates effective competition with equal profit margins for all products, hence unequal margins reflect ineffective competition. It seeks to specify what the competitive market outcome would be, and to require competitors to reproduce its vision. It believes that cost curves will provide objective justification of price differentials. This is a return to competition as a static concept of equilibrium, with given cost and demand curves assumed knowable by the regulator, rather than a dynamic and rivalrous process of discovering and responding to the wishes of customers by continually shifting the cost and demand curves.

again reflect the competitive market process in action: they seem to be aiming at the sections of the market that the incumbents are alleged to have neglected or ill served. Yet they risk being crushed by Ofgem's 'regulatory hobnail boots'. Its chief executive has recently reminded us that "*capital market trust is hard won and easily lost*" (Buchanan 2008b, p11). Reintroducing supply price controls is in danger of losing that trust.

Airport regulation in the UK

Sometimes the best of regulatory intentions can be thwarted by government. If a UK airport is 'designated' by the Secretary of State, it is required to have a price control. The CAA recently concluded that a price control was no longer appropriate at Stansted and Manchester, and recommended de-designation. The Secretary of State for Transport accepted the recommendation for Manchester but rejected the recommendation for Stansted.[54]

When a company is alleged to have acted anti-competitively, it is difficult enough to assess the validity of such a claim. How much more difficult it is to assess conjectures as to whether a company might have significant market power at some unspecified time in the future, and might be prepared to exercise it if it were not constrained by a price control. Rather than indulge in such conjecturing, removing the price control and observing what happens seems more likely to provide convincing evidence of whether or not a company has and

[54] Secretary of State for Transport (2008), Decision on the Regulatory Status of Stansted Airport, Department for Transport, 15 January. The first criterion for designation relates to competition. "*On balance, the CAA considered that Stansted airport does not hold a position of substantial market power at present and that the balance of probability is that it is unlikely to do so for the foreseeable future*" (p4). In contrast, the Secretary of State held that "*On balance, the evidence suggests that it is more likely than not that Stansted airport alone will acquire substantial market power in the future, although this conclusion is finely balanced…. By virtue of BAA's common ownership of Heathrow and Gatwick airports, Stansted airport currently has substantial market power*" (pp15-16).

actually exercises market power, or when it might subsequently acquire such power.

Starkie has shown how price controls tend to stifle and distort competition between airports. As competition has developed in the airport market, long-term contracts between airlines and airports have emerged as an integral part of the competitive discovery process in the US, EU and UK - except for regulated BAA.[55] These contracts are comprehensive and informative.[56] They have "*led to a fundamental change in the nature and intensity of competition between most UK airports*". Airports now compete to attract airlines to base there, and "*the effect of this has been to greatly increase the bargaining power of many airlines vis a vis the airports*" (p10). Contracts provide a more efficient solution to 'hold-up' problems, but

[55] Starkie D (2008), The Airport Industry in a Competitive Environment: a UK Perspective, OECD/ITF Discussion Paper No 2008-15, July. "*The traditional relationship between airport and airline user has had at its core a posted tariff of charges ... Under this arrangement the airport is, in effect, assuming the long-term traffic risk. This was not of concern to airport owners when air services were subject to general regulatory controls on route entry and thus operated in a less competitive, stable, environment. But liberalization of aviation has increased the risk of airport assets being stranded by the opportunistic behaviour of airlines that are now free to change routes and switch airports at will. Consequently, there is now an incentive for the airport to establish with its downstream airline customers negotiated long-term contracts for supply that achieve a better balance of risks. These contracts are not dissimilar to those that exist in other industrial sectors faced with similar economic circumstances; the shipping and ports industry for example*" (p. 9).

[56] "*Besides specifying charges, the negotiated contract usually covers issues such as the quality of service the airport is to provide, for example minimum turn-round times; the amount of marketing support the airline is to receive; and a commitment by the airport to future investment, the nature of which is sometimes specified in detail. Conversely, as part of the agreement the airline commits to basing a certain number of aircraft at the airport; to roll out, per schedule, a route network; and sometimes to guarantee a minimum level of traffic, effectively take-or-pay contracts . The average charge paid by the airline in these contracts is usually much less than the average that would result from the use of the published tariff. Payments are also structured in such a way that traffic risks are shared, for example by using a per passenger charge only. The published tariff is, of course, still used for charging those airlines for which a negotiated contract is less suitable or inappropriate*" (p9).

regulation crowds this out.[57] It requires the airport to continue to offer an existing and less efficient product – a posted tariff of charges under which the airport assumes the long-term traffic risk. The price of this existing product is held down by price control so that the new product – a contractual arrangement for reducing and sharing risk – is less attractive to the airline consumers. As long as users believe they can rely on regulation to keep down prices of the existing product, and to undercharge them with the costs of expansion, they have less incentive to support the evolution of a more efficient product.

There is similar analysis and evidence from the United States.[58] Hopefully, the Secretary of State for Transport will reconsider the designation of Stansted in the light of the CC's recommendation that BAA dispose of two of its three London airports.

[57] "*And yet the irony of this situation is that, as we have seen, the unregulated airports industry reaches its own solution to these problems: it establishes long-term vertical supply contracts with its airline customers. The long-term nature of the contract provides the security that the airport needs to sink costs in additional infrastructure, thus avoiding the hold-up problem and the terms of the contract stipulate the quality of service that the airline expects from the airport. It is, after all, the way in which similar issues are resolved in much of the market economy. In contrast, the effect of regulation can be to crowd out the efficient solution*" (p18).

[58] Fuhr J and Beckers T (2007), Contracts, Financing Arrangements, and Public Ownership, an Empirical Analysis of the US Airport Governance Model, Center for Network Industries and Infrastructure, Working Paper No 2007-02, Berlin, describe contractual arrangements in the US airline sector, where the airports are owned by local governments but "*rely heavily on private sector contracting as well as airline investments in the operation and financing of infrastructure*". These bilateral arrangements between airports and airlines range from short-term contracts to long-term leases and 'quasi integration' by single airlines through project-financed dedicated terminal facilities. These contractual and financing arrangements facilitate coordination in planning and construction of terminal facilities and reduce risks in the subsequent operating stage. In contrast to possible concerns about restricting competition, the terminal investments actually increased gate capacity thus allowing existing and potential competitors to expand.

Airport regulation in Australia

Does the approach to airport deregulation recently adopted in Australia offer a solution for the UK? In privatising the airports the Government introduced CPI-X price regulation on the major airports for an initial period of five years from July 1997 to June 2002, but declared that subsequent regulation would be determined after a review at the end of the period, on the premise that the price caps would no longer continue to operate.

The review by the Productivity Commission found that only four airports had substantial market power. Their scope to use this power was constrained by commercial pressures, particularly the substantial non-aeronautical income to be had from promoting airline passenger traffic. Because of the risks and costs of strict price controls relative to more light-handed regulation, such controls were not required.[59]

The uncertain outlook for the aviation market also called for a flexible approach. The review's preferred approach was a light-handed regulatory regime (in addition to general competition law) in which the airports would have their pricing and other behaviour monitored for a probationary five year period. A further review at the end of the period would assess the need for continued regulation, if any. The Productivity Commission specified some criteria related to pricing principles and other matters that it suggested should guide this further

[59] Productivity Commission (2002), Price Regulation of Airport Services, Inquiry Report No. 19, 23 January, ppxli, xlii. The review instanced two reasons. First was "*the ever-present risk of regulatory failure, given the severe information problems confronting any regulator*" and the consequent "*risk that regulation will cause its own distortions to production and investment decisions*". Second was that "*the 'problem' to be addressed does not warrant such a heavy-handed regulatory regime. Though the four largest airports have considerable market power, the prospect of them using that power in a way that would generate significant costs to the economy or community is supported neither by the evidence nor the analysis*"

review.[60] Meanwhile, monitoring would promote more productive commercial relationships between airports and airlines (pxvi).

This arrangement was introduced at seven major airports for five years from 2002. In December 2006 the further review recommended the continuation of price monitoring rather than stricter price controls.[61] The Government accepted these recommendations and continued the price monitoring arrangements at five major airports for a further six years. It added three new principles to the assessment criteria.[62] It commented that the third of these principles – a reasonable sharing of risks and returns between airports and their customers – "*reflects the Government's strong view that effective*

[60] The criteria included (in simple terms): prices at airports without capacity constraints should generate expected revenue not above long run costs and should allow a return on assets commensurate with the risks involved; prices at capacity-constrained airports might be higher than that; and price discrimination and multi-part pricing to promote efficient use of the airport should be encouraged. Other criteria related to quality of service, negotiation of commercial agreements, consultation with users, applications for third party access and user complaints (see pxl).

[61] The Productivity Commission (2006) conclusions were as follows: Price monitoring as part of a light-handed approach had delivered some important benefits (easier to undertake investment necessary to sustain and enhance airport services, airports' productivity high and service quality satisfactory to good). Price outcomes did not seem excessive. But some non-price outcomes were less satisfactory and some commercial relationships between airports and customers were strained. Some market constraints on airport behaviour were not as strong as envisaged, and there were some systemic shortcomings in the regulatory framework (lack of policy guidance on the valuation of airport assets for pricing purposes, and no clarity on when further investigation of an airport's conduct is required and how it should be initiated). A further six year period of price monitoring would be preferable to stricter price controls. Clearer dispute resolution procedures were appropriate.

[62] These were: further asset valuations should not generally provide a basis for higher charges for monitored aeronautical services; the parties should negotiate 'in good faith' to achieve outcomes consistent with the principles, including through the negotiation of processes for resolving disputes in a commercial manner; and there should be a reasonable sharing of risks and returns between airports and their customers (including those relating to productivity improvements and changes in passenger traffic).

commercial negotiations are the foundation of a light-handed approach to pricing regulation".[63]

All this sounds quite encouraging. However, there is a serious concern that the criteria intended to prevent excess profits are leading to the framework degenerating into one of light-handed cost-plus regulation, with adverse consequences for efficiency.[64] Where competition is indeed increasing, there may be more to be learned from the information and publication requirements negotiated by market participants to enable the transition to light-handed regulation of the pipeline Westcoast's gas gathering and processing activities.[65]

Ex ante versus *ex post* regulation: what are reasonable returns?

Removing a price control marks a shift from *ex ante* to *ex post* regulation. In the face of media and political concern about excess profits, regulators frequently seem to find *ex post* regulation an insufficiently attractive option. *Ex ante* regulation provides certainty for company, customer and regulator: a price below a specified level is clearly acceptable, a price above that level is clearly unacceptable.

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[63] Treasury media release No. 032, 30/4/2007, p7. "*It also reflects the Government's view that a 'take it or leave it' approach (eg, varying existing prices and/or terms and conditions of access without prior agreement) is inconsistent with commercial negotiations undertaken in good faith between an airport operator and its customers*".

[64] Forsyth P (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.

[65] Doucet and Littlechild, 2006a. The parties recognised the need for commercial confidentiality, but also "*the need for a reasonable degree of price discovery to assist in the operation of a functioning market*". To that end they proposed that Westcoast would either file all contracts with the Board or indicate the maximum and minimum range for the tolls in each tariff; allow the Board access to contracts for mediation or complaint purposes; and make available quarterly summary data on contract terms.

Ex post regulation means uncertainty for all concerned: at what level will the company set its price, will it be acceptable or not, what if any action will the regulator take and when?

What about the possibility of a half-way house to ease the transition from *ex ante* to *ex post* regulation? Prices would not be held down to the lowest feasible level by a price control that effectively determined prices. Instead, prices would be allowed to range up to a specified higher level, but would be subject to *ex post* investigation and remedial action if appropriate. This would seem to be consistent with the transitional price cap set for retail electricity (see above) and with the thinking underlying a 'safeguard price cap' for potentially competitive wholesale telecommunications services.[66]

The question explored here is how to set such a safeguard price cap if it is not appropriate simply to continue the existing price level (Oftel set the safeguard cap equal to previous price with an RPI+0% adjustment). Specifically, in setting such a cap (or calibrating a three-zone price control), what would be an acceptable competitive rate of return? Regulators typically assume that it would be reasonable for expected profits to reflect the cost of capital. During the 1990s, utility regulators calculated the pre-tax nominal weighted average cost of capital (WACC) for the network monopolies to be about 7% real, or at any rate usually in the range 6 to 8% real.

[66] The term 'safeguard price cap' seems to have originated with Oftel (1995), Pricing of Telecommunications Services from 1997, Controls and Consultative Document on BT Price Interconnection Charging, December. "*It is Oftel's view that BT should be free from controls on its charges for competitive services. However, the issue considered here arises from services that are not competitive at the time of the charge cap review, but are expected to become competitive before the next review. Oftel proposes that each such prospectively competitive service should be subject to a separate cap, outside the general control basket, which would act as a safeguard by placing a 'lid' on the charge of each service. It would be the pressure of competition that would be expected to provide the binding constraint on BT's charges for these services rather than the 'lid'. The intention of the 'lid' would therefore be merely to provide a safeguard, should the judgment of the speed of development of competition prove to be optimistic*" (para 5.32). For later use see, for example, Oftel (2000), Price Control Review, Consultative Document, October, para 2.25.

As argued above, it would be inappropriate to set a price control for a potentially competitive market on the same basis as for a network monopoly. Real world competitive markets are characterised, not by a single uniform price leading to a rate of return equal to the cost of capital, but by a variety of prices and rates of return which may well be above (or below) the cost of capital. Competition authorities recognise this.[67]

What constitutes profitability substantially above the cost of capital? The recent report on supermarkets by the Competition Commission gives some useful comparative data on that particular un-regulated market.[68] In the period 1993-99 the average WACC was 13%. The average internal rate of return (IRR) achieved by the supermarkets over the same period was 17%, some 4 percentage points above the average WACC.[69] The CC was at pains to point out that an average

[67] Morris, 2003. "*It must at once be stressed that profits are the key signal and incentive for the proper functioning of a market economy. There is nothing 'anti-competitive' about using such analysis in competition analysis even though, as is often pointed out, realised profits are an outcome of the competitive process rather than a decision (or conduct variable) in the process. More specifically, profits typically will vary through time and across companies in a fully competitive market. 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. It is only where profitability is a) substantially above the cost of capital b) across most or all companies in a market over c) a sustained period of time, that concerns arise*"), pp20-1.

[68] Competition Commission (2000), Supermarkets: A Report on the Supply of Groceries from Multiple Stores in the United Kingdom, Cm 4842, pp161-4.

[69] These supermarket profits were by no means out of line with the experience in other sectors. In 1999 the average Return on Net Operating Assets for 11 supermarket multiples was 17.4%, compared to averages of 16.2% for 11 other UK food and drug retailers, 18.1% for 19 food producers and processors, and 19.1% for over 650 UK commercial and industrial companies. Table 8.18.

profit rate exceeding the cost of capital is not inconsistent with a competitive market.[70]

With inflation at around 2.5% over the 1990s, the supermarkets' 13% average nominal WACC would be around 10% real and their 17% average nominal IRR around 14% real. In effect, the CC held that the cost of capital might be roughly half as high again in a competitive market as for a regulated monopoly, and that an average return of roughly double the regulatory WACC was still consistent with a competitive market.

Earlier judgements of competition authorities

What do earlier judgments of the competition authorities imply? Grout and Zalewska have examined the 37 cases (covering almost 100 companies) that the Office of Fair Trading (OFT) referred to the MMC (the CC's predecessor) over the period 1973 to 1998.[71] They report the Accounting Rates of Return (ARR, equivalent to Return on Capital Employed, or ROCE), calculated by the MMC. Their findings relevant to the present issue may be summarised as in **Table 1**.

[70] "*It has been conventional in setting allowable revenues for regulated utilities to seek to allow efficient companies to earn an IRR equivalent to their cost of capital. This reflects the view that persistent returns greater than the cost of capital are excessive. This inference does not automatically apply here*", paras 8.83, 8.84 p164. The arguments were that achieved returns will not necessarily equal anticipated returns, and the 'survivor bias' means that the average return of surviving companies is likely to exceed the cost of capital even in a competitive market.

[71] Grout P A and Zalewska A (2006), Profitability Measures and Competition Law, University of Bath School of Management, Working Paper series 2006.04.

Table 1: Average nominal rate of return (ROCE) for companies referred to MMC 1973 to 1998

	Monopoly pricing cases	Other cases	All cases
All OFT referrals	**66%**	34%	40%
Adverse Finding	**102%**	38%	51%
No Adverse Finding	**28%**	31%	30%

In cases where the OFT made explicit reference to excessive (monopoly) pricing, the average ROCE for companies that it referred to the MMC was 66%. In cases where the MMC reached an adverse finding, the average ROCE was 102%. In cases where the MMC did not reach an adverse finding, the average ROCE was 28% (Grout and Zalewska, 2006, pp12-14).[72]

As the authors acknowledge, there are many limitations of such data. These numbers cannot necessarily be applied directly to situations where utility sectors are in transition to competition. The accounting data need careful consideration and may need adjustment. And the fact that certain sectors are regulated may indicate that a higher level of profit would be less acceptable there than in other non-regulated sectors. Each case ultimately needs to be treated on its merits. Nonetheless, the figures may provide a useful input into the present discussion.

It is necessary to adjust for the rate of inflation, which was higher during the 1970s and 1980s than during the 1990s. In consequence the

[72] The authors comment: "*This is quantitative evidence [… that] it is perfectly reasonable for the companies involved to have an ARR well in excess of the cost of capital where there is no abusive behaviour. … profitability measures need to be extremely high before they can be taken as reliable evidence of excessive pricing*". I am grateful to the authors for the more detailed data set out in Table 1.

return on historic cost capital employed would be higher than the return on an inflation-adjusted regulatory asset base. To make these nominal figures more comparable with the figures used by utility regulators, a rough and ready adjustment for inflation might be to halve the numbers in Table 1. To err on the conservative side I have taken one third of those numbers. The result is shown in **Table 2**.

Table 2: Average real rate of return (ROCE) for companies referred to MMC
(Adjusted for inflation by multiplying by one third the numbers in Table 1)

	Monopoly pricing cases	Other cases	All cases
All OFT referrals	**22%**	11%	13%
Adverse Finding	**34%**	13%	17%
No Adverse Finding	**9%**	10%	10%

Contrast these figures with the previous calculation that utility regulators tend to set transitional price controls on the basis of a WACC of about 7% pretax real (or at least in the range 6 to 8%). The CC found that a WACC of the order of 10% real was appropriate for a more competitive market but was willing to accept higher returns as consistent with a competitive market. In contrast, from 1973 to 1998 the average return in cases that the OFT referred to the MMC for excessive pricing may have been of the order of 20% real – about three times the regulatory WACC. Where the MMC made no adverse finding the average return was over 9% real, whereas adverse findings averaged about 35% real return – about five times the regulatory WACC.

These are very approximate calculations. But they suggest that utility regulators may be setting transitional RPI-X price controls that are

more severe than the practice and values of the competition authorities in the competitive market generally. More research on this point would be welcome.

As regards the setting of a safeguard price cap, it would be difficult to justify using a cost of capital higher than the average trigger point for the OFT (say about 20% real). A sector regulator might wish to set it at a lower level given its statutory duty to protect customers in that industry. But that still leaves the possibility of a safeguard price cap set on the basis of a cost of capital or return in the range 10-15%, say – or about double the level at which regulators have been setting monopoly price caps where competition has not been an issue.

Safeguard price caps for airports

Would such an approach be plausible in regulatory practice? Once again the CAA provides an innovative example. Since Stansted remained designated, the CAA was required to set a price control for it. It was conscious of the problems of the conventional building block approach. In its view, the risk of a tight price control distorting future investment exceeded the risk of market power exploitation under a less tight price control. It therefore proposed as one option the possibility of a price cap set just below the level at which prices might be viewed as excessive under general competition law.

The CC (2008b, s4) considered and rejected this approach. In its view, the risk of market power in the forthcoming Quinquennium 5 (Q5) was high because there were currently not sufficient competitive constraints. The risk of distorting the investment programme was low once the main item of expenditure – a new runway – was deferred to the next price control period Q6. The CC therefore recommended a price control set on the basis of the conventional building block approach, with WACC of 7.1% real. It commented that this would bring regulatory certainty. But it also noted that the CC did not presume that the same approach would be appropriate in Q6.

In some respects the CC's analysis and decision are disappointing. Its competition analysis is entirely short-run, with anything beyond Q5 deferred until the next review. It seems difficult to believe that there would be a serious risk of Stansted exploiting market power in Q5. And there is surely more to learn from setting a safeguard price cap and observing how the competitive market process operates and whether Stansted does indeed have and choose to exercise market power to raise prices, than there is from nailing prices down with a building block price control designed for a monopoly business.

Admittedly the CAA's analysis and proposals had to be put together rather rapidly after the rejection of its proposal to de-designate Stansted. And the CC perhaps felt that it had bigger fish to fry with its proposed requirement on BAA to sell off two of its three London airports.[73] However, the CC did leave the door open for a safeguard price cap at Stansted in Q6, if the airport remains designated post-disposal.[74]

The statutory framework

What if any changes to the statutory regulatory framework are indicated by the above analysis? How can regulators be encouraged to avoid over-regulation, promote competition and deregulate whenever appropriate?

[73] Perhaps the CC felt that it could not easily fry these fish while riding two horses: arguing that there is so much competition among London airports that there is no longer need for a tight price control at Stansted might not sit easily with its existing argument that there is so little competition among London airports that BAA needs to dispose of two of them.

[74] Competition Commission (2008c), BAA Airports Market Investigation, Provisional Decision on Remedies, 7 December. And the CC later acknowledged the possibility that, if price caps are expected to continue indefinitely, there might not be adequate incentive to invest or innovate, and that "*the continuation of price caps tends to undermine the incentive for airports to agree fixed-price long-term contracts for airport use*" para 243.

The House of Lords Select Committee considered that there was a need to check on whether the sectoral regulators are properly discharging their duties in this respect. Its main recommendation here was that "*the proposed Select Committee on Regulators take on the duty to ensure that the sectoral regulators it oversees are promoting competition and withdrawing from sectoral regulation wherever appropriate*" (7.46). No doubt such a Committee would have a duty to examine all aspects of regulatory performance, though experience suggests that, in practice, Committees might be more concerned to extend sectoral regulation than to withdraw from it.

The House of Lords Select Committee also suggested that "*the CC should conduct a periodic review on whether effective competition exists in the markets overseen by sectoral regulators, with the aim of scaling back regulation to the greatest extent possible*" (7.47). In addition, it endorsed the OFT's proposal that it reports to the Joint Regulators' Group on an annual basis, including "*on the compliance of the regulators with BRE's principles of good regulation*" (7.48).

These recommendations are perhaps more debateable. Would they compromise the independence of all parties involved? Would they heighten any tensions between the competition authorities and the sectoral regulators? If done thoroughly, would they impose significant resource burdens on both the CC and the sectoral regulators? And since it cannot be assumed that the CC and OFT would necessarily be on the side of the angels, would it also be appropriate to require the sectoral regulators to conduct periodic reviews of the CC and OFT?

All the sector regulators should surely have the duties pertaining to competition and deregulation. For example, most of the economic regulators except the CAA have a duty to promote competition: the duty could usefully be applied to the CAA too. Similarly, as the Lords Select Committee recommended, the CAA could appropriately have the ability to designate and de-designate airports for purposes of price control, just as other regulators have the ability to impose or remove price controls in their own sectors (subject to normal license modification procedures).

The Airports Act 1986 gives the CAA a duty 'to impose the minimum restrictions' that are consistent with the performance of its functions. The CAA has had particular regard to this obligation, both in recommending that Stansted be de-designated and in proposing a safeguard price control. Although in these two instances the duty does not seem to have carried the day with the Secretary of State and the CC, nonetheless it could usefully be considered for other regulators too, and perhaps made more explicit (CC, 2008c).[75]

The Communications Act 2003 gives Ofcom a duty to review the carrying out of its functions to ensure that its regulation does not impose or maintain unnecessary burdens, and it has to report on this each year. This duty evidently informed the formulation of Ofcom's own Regulatory Principles, which include "*Ofcom will operate with a bias against intervention ...*" and "*Ofcom will always seek the least intrusive regulatory mechanisms to achieve its policy objectives*".[76] Ofcom's annual reports for the last four years typically list over a dozen areas of deregulation. The duty has evidently encouraged Ofcom to take a proactive approach to deregulation. It would seem well worth considering for other regulators.

Looking beyond the UK, the Alberta Energy and Utilities Board Act 1995 (s132) provides that ''*the Board must recognize or establish rules, practices and procedures that facilitate negotiated settlement*''. This has the merit of requiring the regulator actually to do something tangible to facilitate settlement. It also explicitly involves other market participants in the discovery process. A similar duty would seem appropriate for UK utility regulators too, perhaps expanded

[75] CC 2008c. Thus, the CC proposes that "*the regulator should be under a statutory duty not to set price caps or impose related licence obligations or retain them unless its market analysis shows that there is a material risk of the relevant airport charges being set at an excessively high level with adverse consequences for end users*". Para 284 (c) (v).

[76] See www.ofcom.org.uk. Ofcom (2004/5), First Annual Report explicitly recognises the disadvantages of unnecessary regulation. "*Therefore, as a matter of operating principle and in line with our statutory mandate, it is our ambition to be a deregulating regulator wherever feasible*", Lord David Currie, Chairman's Message, 25 August 2004.

along the following lines: "*to recognise or establish procedures to facilitate negotiated settlements, contracts and other arrangements agreed between licensees, users, consumers and consumer representatives*".

A final question is whether the regulation of potentially competitive activities could and should be transferred from sectoral regulators to the OFT. This is beyond the scope of the present paper but the evidence on differential approaches discussed above suggests that this possibility would merit consideration.

Conclusions

The successes of UK utility regulation have been significant. In important part they are attributable to the shift to private ownership and the introduction of competition, and they reflect the recognition and acknowledgement of competition as a rivalrous discovery process.

Over-regulation, the limited development of competition and the slow pace of deregulation are now causing concern. They reflect a return to old welfare economic ways of thinking about competition in terms of a static equilibrium, where cost and demand curves are assumed given and known to the regulator. In reality, regulators do not have such knowledge. The present approaches implicitly require regulators to take responsibility for replicating the market discovery process and bringing about the results of competition without the benefits of competition itself. This is an undue burden to place on regulators.

Regulators can make more use of the competitive market process. In setting network price controls, they can encourage market participants to discover and implement better solutions by negotiating between themselves. There is now much successful experience of this in other markets. In dealing with prospectively competitive sectors, they can promote competition by removing price controls, or in the interim by considering safeguard price caps instead of price caps developed for

monopolies. Sector regulators might thereby align themselves more closely with competition authorities. In all these areas, regulators can facilitate the market process rather than seek to replace it.

To encourage such outcomes, there would be advantage in giving all utility regulators the duties to promote competition, to impose the minimum restrictions and to avoid imposing unnecessary burdens. An additional duty to facilitate negotiated settlements would be helpful. Such modest measures could help to encourage utility regulators to avoid over-regulation and to deregulate where appropriate, to the benefit of customers over the longer term.

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