REGULATORS, COMPETITION AND TRANSITIONAL PRICE CONTROLS:
A CRITIQUE OF PRICE RESTRAINTS IN ELECTRICITY SUPPLY AND MOBILE TELEPHONES

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1. Introduction

Some sectors of privatized industries are expected to remain monopolies for the foreseeable future, and are regulated as such. Other sectors are expected to be competitive in future, but for various reasons that cannot always be achieved immediately. Regulators are therefore given the duty to assist and complete the transition from monopoly to competition that was started by governments. Some form of transitional price or profit control may be needed in order to protect customers while competition develops. It is understood that these purely transitional controls can and should be removed when these markets later become sufficiently competitive.

It is less well understood what principles should underlie such transitional price controls. How should they be set? What policies should accompany them? How if at all should they be adjusted over time? And when should they be removed?

Limitations of some present regulatory approaches

In many cases, regulatory authorities have adopted policies that might be summarized as follows:

- set maximum price caps at levels close to the estimated costs of the most efficient company, on the assumption that these are the prices that a fully competitive market would deliver
- adjust the regulated price caps at periodic intervals to reflect achieved and prospective movements in such costs
- wait until competition is fully effective before removing these controls.

It is argued in this paper is that such an approach has serious limitations. First, it implicitly uses as a benchmark an inappropriate concept of competition. It assumes that a fully competitive market will generally be characterized by all companies having the same costs and with price equal to that cost. This assumption derives from a static (neo-classical) concept of competition rather than a dynamic (Austrian) concept. The static concept is a hypothetical end-point of the competitive process. To use it as a benchmark tends to underestimate the extent of competition at any time, and hence to overestimate the need for regulation.

Second, the static approach tends to ignore the reverse effect of regulation on the extent and process of competition. It assumes that competition will somehow emerge despite regulation. In practice, however, this will not generally be the case. Excessively tight price controls, and repeatedly tightening the controls to reflect changing costs, will frustrate the emergence of the very

competition that it is desired to encourage. It will also prolong the existence of the controls and encourage reliance on continued regulation rather than on the competitive market. Relaxing or removing the controls may be more effective in promoting the required competition, and hence in protecting customers in the longer run.

Third, price controls tend to mask the underlying problem rather than cure it. Insofar as there are legitimate concerns about monopoly power, it is generally more appropriate to look at the conditions of new entry. The regulator can often take steps to remove possible barriers to competition. In the meantime a transitional cap that simply prevents prices from rising may be more helpful to customers and competition than a transitional cap that seeks to bring about an aggressive reduction in prices.

A topical issue

Use of the wrong economic model can thus lead to harmful, mis-directed and unnecessarily prolonged regulation. This is a point that Beesley and Robinson have made with respect to the UK utilities sector[1]. Excessive regulation has long been a concern of companies. The unnecessary continuation of detailed utility regulation is also an issue of growing concern to several commentators[2].

A number of countries that have liberalized their energy and telecommunications markets, including the United States, Australia and in the European Community, are facing these issues for the first time. In the UK, this issue has already been faced several times, but with apparently different outcomes. Recently, there were two striking and contrasting policy announcements. On 26 September 2001 the Office of Telecommunications (Oftel) concluded that there was need for a renewed and tighter price control on termination charges for mobile telephone calls. In contrast, on 26 November, the Office of Gas and Electricity Markets (Ofgem) proposed to remove entirely the

[1] Michael Beesley, "Price regulation and competition" in M E Beesley (ed.) Lectures on Regulation 1991, Centre for Business Strategy, London Business School, 1991, reprinted as chapter 17 in M E Beesley, Privatization, Regulation and Deregulation, London: Routledge, 1992, 2nd edition 1997. Colin Robinson, "Introducing competition into water", in M E Beesley (ed.), Regulating Utilities: Broadening the Debate, IEA/LBS Readings 46, London, 1997.

[2] For example, "Most regulators subscribe to the theory that regulation should be rolled back as competition develops but in practice they envisage the need for continued sectoral regulation. We accept that this is needed for natural monopolies but are not sure that it is true elsewhere." Economic Regulators, Better Regulation Task Force, London, July 2001, pp. 37-9. See also John Blundell and Colin Robinson, Regulation Without The State … The Debate Continues, IEA Readings 52, IEA, London, 2000.

price controls on gas and electricity supply. The mobile operators declined to accept Oftel's proposal, and on 7 January 2002 Oftel referred the matter to the Competition Commission.

Why have the two regulatory bodies been led to such apparently different stances, and what does economics have to say about the approaches taken? What issues will the Competition Commission have to consider with reference to mobile telephones? What can each country learn from the others?

Structure of this paper

Part One of this paper examines two different concepts of competition. It looks in turn at the static neo-classical and dynamic Austrian approaches, and what they have to say about profit, market failure and the role of regulation.

Part Two outlines and discusses the approach that was taken in setting and revising the transitional price caps on UK electricity supply. This illustrates some of the central issues without the complications of the mobile telephone market.

Part Three examines the policies and experience in two other countries. In Australia the State of Victoria has just set transitional price controls for the market that opened this January 2002. In the United States a variety of approaches seem to have proved problematic, especially in California.

Part Four examines the approach to competition as it was presented in Oftel's consultation paper on mobile telecommunications, issued in February 2001, and in its subsequent decision statement in September.

Part Five focuses specifically on the issue of mobile call termination charges, where the present price controls are due to expire in March 2002. It examines in turn the four policy options that Oftel identified for consideration in February 2001.

Part Six appraises Oftel's decision, issued in September 2001, to continue with and indeed tighten the price control on mobile termination charges.

A final section summarises the argument and conclusions for policy. There are also some suggestions for further reading in Austrian economics.

PART ONE ALTERNATIVE CONCEPTS OF COMPETITION

2. The neo-classical approach to competition and regulation

Perfect competition

Whether a problem is perceived with the state of competition, and if so what should be done about it, can depend on how competition itself is perceived. There are different views in the economic literature about the nature of competition. Standard economics textbooks, as developed during the middle to latter part of the twentieth century, reflect the so-called neo-classical perspective. This centres on the concept of "perfect competition" as a benchmark.

The perfect competition benchmark assumes that technologies, products, costs and demands in a market are all "given", unchanging and known to all market participants. There are also many buyers and sellers. Under these assumptions, the industry will be characterised by an equilibrium state in which prices will just equal costs of all firms (including an allowance for return on capital employed). No firm will have any market power to raise its price above the level charged by other firms, or above the level of costs.

There will be no excess profit for any firm (or in the industry as a whole) because, if there were, other firms would enter the market and compete it away (or existing firms would increase their own output). Nor will there be losses, because if price were less than cost for any firm, it would exit the market or reduce output until a normal return was earned.

Under these conditions, if an excessive profit is observed - where the return on capital exceeds the cost of capital - it must mean that the firm or firms in question have a degree of market power. It cannot indicate superior abilities or resources because the technology and cost conditions are assumed to be known and available to all. (If there were a superior resource, the price of it would be bid up so that any user of that resource would not make a superior profit.) Nor can an excessive profit indicate a temporary phenomenon or the outcome of an uncertain exogenous event because the industry is assumed to have settled into equilibrium.

Market failures and proposed solutions

The next stage in the neo-classical analysis is part of "welfare economics". If there is perfect competition, then resources will be allocated efficiently, according to the preferences of consumers. But if there is no longer perfect competition, there will be "market failure" and a misallocation of resources. Monopoly power represents an important type of market failure. Because price is set above cost, there is less demand for the product than there otherwise would be, and consequently less output. Instead, some resources are devoted to producing more of other products that consumers value less. In addition, the excess profit represents a transfer of income from the consumers of this product to the producers of it.

The solution proposed by welfare economists was to use regulation or government ownership to ensure that price was equal to cost, so as to remove the market failure. This would improve the allocation of resources because it would lead to greater output of the monopolised good and less output of other goods. This would increase the value of what was produced in the economy. It would also protect customers of this product from exploitation in terms of price.

Another type of neo-classical market failure is lack of knowledge on the part of customers, which might lead them to purchase less suitable products or to pay higher prices than they needed to, hence enabling some suppliers to exercise market power. The remedies might include providing further information, prescribing the products or services that customers could buy, buying the services for them, having government provide the services, regulating the kinds or qualities of products that could be offered, or regulating the prices of these products, and so on.

3. Discussion of the neo-classical approach

During the last quarter century, criticism of the neo-classical and welfare economic approaches has gradually been accumulating. One line of argument has been to point out that, just as there can be market failure, so too there can be "government failure". It cannot automatically be assumed that government-owned or regulated firms will be as efficient as privately owned firms subject to some degree of market competition. Nor can it be assumed that governments and regulators will use their power to set prices equal to costs – they may have quite other objectives. The recognition of these possibilities has been an important force behind the movement to privatize and introduce competition into the former nationalised industries.

Another possibility is that regulators may "have the right intentions" but may not have sufficient information to be able to work out where and how to intervene appropriately. For example, they

may to want to intervene only where prices are excessive, and to set prices at the "competitive" level, but they may not know what this is. A consequent danger is that they might intervene where competition is not really deficient, and/or set a regulated price below cost. This would artificially stimulate demand for the product in question. However, firms would be unwilling or less inclined to make that product, or to invest resources to supply it in future, or to invent alternatives. The outcome might be future shortages for that product and less innovation. While the neo-classical perspective sees the disadvantage of unduly low price controls, it is not so aware of these dangers of intervention because uncertainty, lack of information and innovation are explicitly assumed away in the simple neo-classical model.

The failure of the neo-classical approach to accommodate innovation is in some respects the most serious concern. It may often be unrealistic to assume "given" cost and demand conditions and to focus on an equilibrium situation where nothing changes. In reality, the economy is always changing, and economic analysis should reflect the importance of innovation. Economics can indeed take on board the analysis of innovation and change, and is beginning to do so, but only by moving beyond the neo-classical framework.

If demand and supply are taken as given, and the market is assumed to be in equilibrium, then there is little cause to look at the impact on them of any proposed policy like price control. In practice, however, price control may well impact on the attractiveness of a market to potential competitors, and in turn on the kinds of products that are offered there, and hence on the nature of demand and supply and competition in the market.

To summarise, the neo-classical approach to competition is familiar to economists, and apparently has clear policy recommendations. However, it also has limitations. It may over-estimate the extent of market power because it sees that as the only explanation for profits. It may underestimate the dangers of regulatory intervention with respect to price controls, and fail to take full account of the effect of such controls on the nature of competition. And reliance on a model that does not acknowledge the possibility of innovation and economic change can give wrong diagnoses and harmful rather than helpful prescriptions for policy, if it is applied in a sector in which these assumptions do not hold. It is therefore important to explore an alternative framework that does incorporate innovation and change.

4. Increasing interest in a "dynamic" approach to competition

There has been concern for many years about the static nature of the neo-classical concept of competition. But only now does it seem to be recognized that there is a long-standing alternative approach that can be used to inform public policy. Colin Robinson's paper has already been mentioned. Two further quotations from wider afield will illustrate the increasing appeal of this approach.

The first quotation is from a Special Issue of the International Journal of Industrial Organization, devoted to Competition Policy in Dynamic Markets. The editors of that issue write as follows:

> …industrial economics has advanced substantially from its exclusive static foundation and its pre-occupation with *price* competition alone. In a dynamic economy competition in product and process innovations may have a more significant effect on welfare, at least in the long run, than does any likely variation in price. Developments in the productive efficiency of firms and the quality of their products, as well as their growth, and the ease with which they can enter or exit, can be critical. The industrial organisation literature has also begun to incorporate much of the Austrian and evolutionary viewpoints into mainstream thought.
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> In the new dynamic models of industrial organization the usefulness of the perfect competition model becomes even more questionable. An early group of critics of this standard on dynamic grounds were the members of the Austrian school of economics, led by authors such as von Mises and Schumpeter and more recently by Demsetz, Shackle and Kirzner. The Austrians argue that economists in the classical tradition misuse the term 'competition' by applying it to a state of affairs rather than to a process[3].

The second illustration is from a speech by a US telecommunications regulator who has since been appointed chairman of the Federal Communications Commission:

> competition is not a static concept but a dynamic process, and our failure to grasp this is leading to anxiety about deregulation….The most important thing policy makers can do to quell their fear of the unknown is to come to peace with the fact that competition is a never-ending dynamic. Events along the way are important and must be considered and

evaluated for how they impact the competitive process, but we should resist trying to guess, or worse, engineer where the road will take us.[4]

5. The Austrian approach to competition

The "Austrian" approach is so-called because it was initially developed by economists in or from Austria during the last quarter of the nineteenth century and the first half of the twentieth. However, the notion of competition as a dynamic process rather than as a static state dates back to Adam Smith. Moreover, the Austrian tradition has been enriched by contributions from many scholars worldwide, not least in the US and UK.[5] The following account owes much to the analyses of Hayek and Kirzner.

Competition as a process of discovery

In contrast to the neo-classical approach, the Austrian approach does not assume that technologies, products, costs and demands are all "given" and constant and known to all market participants. The economic problem is not simply to allocate resources efficiently, given this assumed data. On the contrary, the economic problem is, as well, to discover this data. What products do customers want, what are the most efficient ways of producing these, and what will be the level of demand for each product? What new and better products and means of production can be discovered? Market participants have to make judgments about all these matters. They are entrepreneurs, trying to discover opportunities for meeting customers' requirements more efficiently than other firms. They may turn out to be right, in which case they make profits, or they may turn out to be wrong, in which case they make losses.

Over time, market participants tend to learn from their successes and mistakes, and from those of others. In consequence, over time there is a tendency for those goods and services to be discovered and produced that consumers most want, and produced in the most efficient way. But this is only a tendency, not a description of the actual state of affairs at any one time. This is partly because, at any time, markets will typically not yet have discovered what these "best" products and

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[3] David B Audretsch, William J Baumol and Andrew E Burke, "Competition policy in dynamic markets", International Journal of Industrial Organization, Vol. 19, 2001, pp. 63-34, quotations from Abstract p. 613 and from pp. 614 and 618.

[4] Michael K Powell, Commissioner (later chairman), Federal Communications Commission, "Somewhere over the rainbow: the need for vision in the deregulation of communications markets", speech before the Federal Communications Bar Association, New York, NY, 27 May 1998.

[5] See for example the books and articles listed at the end of this paper.

technologies are. It is also because the “best” products and technologies are constantly changing, as producers innovate and seek to do better. Competition is thus not just a process by which price gets related to cost, it is also a process of discovery.

The role of profits

All this has implications for profits. Some firms will turn out to have made a series of good judgments about what products to produce, what technologies to use, what inputs to buy (including management and staff), what marketing techniques to use and what prices to set. Thy will make profits, perhaps reflecting prices far above the costs of production, at least in the short term. Others firms will turn out to have made poor decisions, and will make low profits or even losses. The levels of profits and losses may be particularly high where the firms have innovated, taking investment risks that other producers were unwilling to take as a result of lack of confidence in their own judgment, or simply as a result of failure to realise what demand there might be for entirely new products.

As a result of learning and competition by rival firms, the competitive market tends over time to yield prices that reflect efficient costs of production, and to the elimination of excess profits. It tends to encourage the more efficient and profitable firms, those who are better able to discern what the market will want. It also tends to eliminate the less profitable and less able firms. But again, this is only a tendency, not a description of the precise situation at any point in time. At any one time, the market will be full of firms at different stages of learning and adaptation, most of them less efficient than the leaders in the field.

In an uncertain world, high profits are thus not in themselves evidence of market power. Such profits may reflect a variety of other factors, most notably better or luckier judgement, or successful innovation that others have not yet been able to copy, or a series of such innovations.

It may be argued that if these high profits are substantial and persistent over time, then market power is more likely to be responsible. Size and duration of profit are certainly relevant factors. However, high and substantial profits can also indicate the magnitude of the discovery, the risk that was taken, and the ignorance and lack of coordination in the economy beforehand. Apparent “excess” profits may remain for a long period if the innovation is difficult or time-consuming or risky to copy.

Moreover, for every judgment that turns out to be successful, there are likely to have been others that were unsuccessful. Alongside profits there are also losses, potentially large if an unsuccessful venture is not cancelled soon enough. To look only at the profits at one point in time, or only at the firms that make profits at that time, is to look at only part of the full picture of the competitive market.

High profits (and losses) draw attention to disequilibrium situations and constitute an incentive to discover better ways of doing things. Learning where to buy raw materials at the best price, or learning to stock what products customers seem to like, are simple examples. At the other end of the spectrum, profits help to influence the course of major innovations, including the development of innovations made by others. They draw the attention of potential innovators to areas of current demand or shortages, and suggest problems that could profitably be solved or ameliorated by some new technology.

6. The Austrian approach to regulation

What does the Austrian approach say about welfare economics, about possible market failures and the remedies for them? How do its policy prescriptions vary from those of neo-classical and welfare economics?

From the Austrian perspective, neo-classical welfare economics is subject to the limitation that it focuses on the characteristics of a socially efficient and equilibrium allocation of resources, assuming knowledge of the relevant preferences and technologies. It does not explore how to acquire that knowledge in the first place. It is therefore not led to identify those institutional arrangements that are most conducive to discovering and acting upon the relevant information. Prominent among these is the profit incentive.

<u>High profits do not necessarily mean market failure</u>

The possibility of producers making profits that exceed the cost of capital is certainly not ignored. But there are several possible reasons for this. The obvious one, as noted above, is that some firms have entered a market early, by innovating. Other firms could have competed with them if they had seen the opportunity as early, and will no doubt seek to do so as soon as they realise their oversight. But until then the first firms in the market will make profits.

From the Austrian perspective, this is not a market failure. It is not worse than a situation in which there are many firms in the market that have already competed the price down to the level of cost. Rather, it is a step on the way to that situation. If the first movers had not seen an opportunity and entered the market, consumers would not have had the product at all. It is the success of the first movers that alerts and encourages rivals to follow them, bringing with them lower prices, quality improvements and yet further innovation. In this context, profits are both a signal and an incentive to other market participants.

The cause of monopoly profits

Austrian economics recognizes the possibility and potential undesirability of monopoly power. The source of monopoly profit is the sole ownership or control of some resource necessary for producing a product. This might derive from a restriction instigated or maintained by government, such as an exclusive franchise or a patent or a legal restriction on entry. Or it might be a resource or asset acquired by one competitor that for some reason other competitors cannot easily duplicate.

If rival producers cannot access the resource - or cannot access it at a comparable cost - they cannot compete on equal terms. Price may not get bid down towards the cost of the most efficient firm, and so-called excess profits may not tend to be eliminated, or not as fast as they otherwise would be.

As neo-classical economics points out, there will in consequence be a misallocation of resources – a restriction of the output of that product, a diversion of resources away from the monopolised product towards other less valued products. There will be a higher price for the monopolized product and a redistribution of income in that market from consumers to the monopoly producer(s).

While acknowledging this, the Austrian perspective also sees a somewhat wider picture. Because technology is not given and static, it evolves over time in response to market pressures. If monopoly ownership of some resource yields profits but is a barrier to potential competitors, these competitors have an incentive to invent a new product or process that does not require that resource. And the bigger the monopoly profit, the bigger the incentive. So the competitive discovery process continues to operate despite the existence of monopoly elements. The market process is diverted around the obstacle, not prevented from happening.

Any monopoly is thus likely to be temporary, though of course it may last longer than customers would consider reasonable. There may be a case for public policy to "do something about it". Neo-classical economics has tended to focus on controlling the monopoly pricing that results from monopoly. Austrians have preferred to eliminate the source of the monopoly, or to allow others access to it, so as to enable competition to work more effectively.

Price controls

Price controls can reduce prices to customers in the short term, at the expense of producers. This may also improve the allocation of resources to the extent that output of the monopolized product is no longer so restricted.

However, from the Austrian perspective, lower prices make it less attractive for competitors to innovate around the monopoly, and thereby tend to prolong it. Also, regardless of their precise level, price controls introduce an additional element of uncertainty into the market - the possibility or indeed likelihood that the regulator will intervene to adjust prices in future – and this is likely to discourage some kinds of investment or innovation[6].

Identifying and alleviating barriers to entry

This does not mean that nothing should be done about monopoly or apparently excessive profits. The Austrian approach would first want to be satisfied that the high profits were indeed primarily due to some element of monopoly rather than to innovation not yet matched by rivals. Then, instead of looking to price controls, the Austrian approach would tend to look for ways of enabling competition to work more effectively. It would therefore focus on the sources of the barriers to entry that might prevent rivals from competing down the high profits. What are the monopoly resources

[6] Recent empirical evidence from pharmaceutical markets might be cited here. "We find that price competition between generic competitors is significant in unregulated or less regulated markets (United States, United Kingdom, Canada, and Germany) but that regulation undermines generic competition in strict regulatory systems (France, Italy and Japan)." The authors comment "it might appear from this analysis that regulatory pressure on prices over the product life cycle achieves roughly the same effect as generic competition in less regulated markets." They argue, however, that the net welfare effect is not the same. "… regulation of both manufacturer prices and retail pharmacy undermines competition in the off-patent sector and the potential budgetary savings from postpatent competition are not fully realized in countries with strict regulatory systems." Patricia M Danzon and Li-Wei Chao, "Does regulation drive out competition in pharmaceutical markets?" Journal of Law and Economics, vol. XLIII, October 2000, pp. 311-6. Quotations from Abstract and Conclusions.

that some firms own or control, to the exclusion of others? Is there action that can and should be taken to make these resources available to others as well?

Over the last two decades, public policy has increasingly reflected such thinking. Statutory barriers to entry into transport and utility industries have been removed. In some cases, competitors have been given access to networks owned by others, as discussed below. In the professions, barriers on advertising have been removed.

The picture is not entirely black and white, however. Although there are potential benefits consequent on removing restrictions on competition, the Austrian approach acknowledges that some restrictions might also serve to increase incentives or reduce risk. They could thereby facilitate some kinds of innovation while hindering others. As Schumpeter once put it, there is no more inconsistency here than in recognizing that cars can travel faster because they have brakes. So facilitating some kinds of competition could reduce competition in other respects.

Conclusion

In practice, therefore, a judgment has to be made about the net effects of allowing or prohibiting certain kinds of conduct. Each case has to be considered on its merits against a background of sound economic theory and evidence, and looking at the longer term as well as the immediate impact. There is a general presumption that, where practicable, enabling competition to work more effectively is likely to be better than direct controls on prices. Even where price controls are the only option, however, there may be ways of setting them that promote rather than discourage competition, or that provide better incentives to efficiency and that promote the discovery of relevant information. Some of these methods are illustrated in what follows.

PART TWO TRANSITIONAL PRICE RESTRAINTS IN UK ELECTRICITY SUPPLY

7. Removing barriers to entry

When the England and Wales electricity industry was privatised, the Government decided to open it up to competition. The Electricity Act 1989 removed the statutory barriers to entry that hitherto precluded anyone other than the Central Electricity Generating Board from generating electricity and the Area Boards from selling it. But this was only the first step. Some questions followed immediately. How can competition be made to work? How can new entry best be facilitated? Are there further practical barriers that should be removed?

The obvious problem for new generators was that they needed access to the transmission grid in order to be able to sell to the Area Boards or to other suppliers. Similarly, new suppliers needed access to the distribution networks in order to sell direct to customers. Accordingly, these network owners were required to make their networks available to all users on a published and non-discriminatory basis. The former Area Boards, now Public Electricity Suppliers, as owners of both distribution and supply businesses, were required to keep separate accounts for these two types of businesses. Their distribution businesses were not allowed to discriminate between their own supply businesses and those of their competitors.

Over time, and in the light of experience and concerns expressed, the Office of Electricity Regulation (Offer) and its successor Ofgem took steps to make this non-discriminatory access fully effective. For example, they required the companies to identify separate staff, premises and IT facilities for each business. They required both sets of businesses to make available a range of services, such as metering and meter reading, which could not easily be provided by competing suppliers. The Utilities Act 2000 later required the two sets of businesses to be in separate companies with separate licences. On the customer side, the regulators took very extensive steps to publicise the advent of customer choice, to enable customers to make price comparisons, and to make switching supplier as easy as possible.

At privatization, the Government introduced two main sets of price controls on the Public Electricity Suppliers. One set applied to the network of wires owned by their distribution businesses. The other set applied to the retail supply of electricity through those wires by their supply businesses. There were no price controls on generation, or on new entrants into electricity supply.

Controls on the use of system charges of the distribution networks were regarded as necessary since for the most part competition there could not be foreseen. The process of setting and periodically resetting these controls nonetheless reflects some of the principles of Austrian economics. These controls were of the so-called RPI-X variety, whereby prices could be increased at the rate of inflation (the Retail Price Index RPI) minus a specified number X. This does not necessarily require a detailed knowledge of company costs or an appraisal of each proposed investment. On the contrary, the aim is to provide incentives for companies to discover ever more efficient ways of producing the service. The process of resetting the controls ensures that over time customers receive a share of the gains. There is debate about how best to do this as costs and other factors change, but the incentive principle remains fundamental. Also, wherever possible, the

regulators have taken steps to encourage competition for the distribution services – for example, in metering, meter reading and connections to the system – so as to limit the scope of the monopoly and the coverage of the price control.

In contrast, price controls on the incumbent retail supply businesses were not necessarily seen as permanent. The Government scheduled the opening of the retail market to competition in three stages: large customers could choose a supplier in 1990, medium-sized businesses in 1994 and smaller and residential customers in 1998. Until each section of the market was open to competition, price controls served to protect customers against the monopoly suppliers. However, after each section of the market was opened to competition the question arose whether it was necessary to continue the controls, and if so in what form. It was also appropriate to consider whether the existence, level and principles of the retail supply price controls could impact significantly and adversely on the prospects for such retail competition.

8. Setting a transitional price control in 1998

There was vigorous competition for larger industrial customers after the first section of the market was opened to retail competition in 1990. Offer judged the retail price controls to be unnecessary for such customers and potentially harmful to competition, and accordingly removed them. The controls were similarly removed for medium-sized industrial customers in 1994. The question then arose what to do about the remaining controls on prices to smaller customers when the remainder of the retail market was opened in 1998.

The nature and extent of competition to supply commercial and residential customers was initially uncertain. Would anyone be interested? Offer considered it reasonable to remove the controls for the larger commercial customers, but prudent to retain some form of control on the prices to residential and small business customers.[7] This control would be transitional, and would apply only to incumbent utilities in their own areas for an initial period of two years, until March 2000.

What form should that control take? Previously, generation costs were passed through to customers provided they were consistent with the "economic purchasing" condition. It was assumed

[7] These "designated" customers (with an annual consumption under 12,000kWh) accounted for 61 per cent of consumption in the under-100kW market that was now becoming open to competition. See Offer, Second Consultation, January 1997, Table 4, p. 11. The thoughts summarised in the next few paragraphs are based on five Offer Consultation Papers in September 1996 and January, May, July and August 1997.

that the alternative type of control, a fixed RPI-X type of price constraint, would either impose undue risk on the supplier or lead to the price restraint being set at an unduly high level.

The opening of retail competition for residential customers put the choice between these alternative mechanisms in a different light. If the price restraint turned out to be too high – for example, if the profit margin turned out to be higher than would obtain in a competitive market, or if the incumbent supplier was relatively inefficient at purchasing electricity - another competitive supplier could step in and offer a lower price. The customer did not depend wholly or even mainly on a regulatory price control for protection.

The level of the maximum price restraints reflected judgments about past and future costs, but also a judgment about trade-off between prices in the short-term and the development of competition in the longer term. As to the first aspect, transmission and distribution charges were reasonably predictable since they were subject to separate price caps. Assumptions on generation purchase costs reflected an average over the incumbent suppliers of prices in long-term contracts previously entered into, weighted by an average proportion of continuing long-term contracts, plus the remaining proportion of output assumed to be purchased at prices of short-term contract cover then available in the market. It was generally expected that Pool and short-term contract prices would not increase over the next two years. Assumptions on supply business costs reflected an average of those incurred by incumbent suppliers. Allowance was made for increases in certain costs as a result of competition and obligations on incumbent distribution utilities, and for other costs to be spread over fewer customers as a result of losing some customers to competing suppliers. A minimum margin of 1 ½ per cent on supply business turnover was assumed, recognising that the more efficient or successful companies would earn a higher return.

These calculations allowed the maximum price restraints to be set at levels nearly 6 per cent lower than existing prices (in real terms), with a further reduction of 3 per cent in real terms the next year. With an inflation rate of about 3 per cent this meant a small money-terms reduction in the first year and prices broadly held in money terms the next. The primary source of the reductions was the ending of certain coal-backed contracts, facilitated by the Government, that had only been possible with a monopoly in the retail market. This provided the opportunity to assure all customers that they would be better off as a result of opening the market, whether or not they chose another supplier.

The aim was not to cut the level of the price control to the minimum that could be justified by looking at prospective costs alone. Offer had a duty to protect the interests of customers with respect to

price, but it also had a duty to promote competition. The costs assumed were not unreasonable ones for customers to bear. However, it was expected and indeed hoped that competing suppliers would be able to undercut them, and customers were free to move if they wished. The main sources of lower prices by entrants would be lower generation purchase costs, particularly by suppliers who had little or no stranded costs from previous commitments. There would also be lower supply business costs by those who were more efficient, or who could reduce costs by expansion, or who were willing if necessary to accept lower per-customer profit and risk margins. On the other hand, entrants had to incur costs of acquiring customers, and these were typically greater than incumbents' costs of retaining customers.

The final decision about the level of the price control represented a judgment about balancing objectives rather than a mechanical calculation of cost. It would have been possible to set the levels of the price caps at where prices then were instead of tightening them to reflect reductions in costs of coal contracts and distribution charges. As some of the companies argued, this might have been more conducive to the development of competition. However, residential customers had suffered the burden of the coal contracts for many years, and there were also at that time strong concerns about the sharing of privatization gains between customers and investors and about the costs of enabling competition. To provide no price reduction at all would not have struck an acceptable balance between short and long term considerations, and could thereby have jeopardized the prospects for a stable competitive and regulatory framework in future[8].

Offer summarised its approach as follows:

> The level of the price restraints needs to balance the short term and long term interests of customers … The restraints should ensure that all customers are not only protected but also receive tangible benefits from the opening of the competitive market. … But the restraints should not seek to do the job of competition, or discourage its development. … The aim is to consider what can reasonably be expected of the Public Electricity Suppliers (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.[9]

[8] In retrospect, it was not necessary to impose a further 3 per cent real price reduction in the second year of the control. It would have sufficed to preclude price increases in real terms. This would have facilitated the subsequent phasing out of the control. It would also have provided a useful test of the ability of any incumbent to raise prices in nominal terms, and of the ability of competitors and customers to respond.

9. The debate about resetting the control in 1999/2000

The revised price caps proved to be consistent with the emergence of competition in retail supply. To a greater or lesser extent all suppliers decided to compete for additional customers, and new entrants gradually emerged, not least the gas supplier Centrica. By autumn 1999, on average some 10 per cent of residential customers had switched away from the local supplier, in response to price cuts of up to about 10 per cent. This was an encouraging start[10]. The question arose as to whether the maximum price restraints should be renewed after March 2000. In autumn 1999, Ofgem took the view that they could be removed for small business customers but should be temporarily retained for domestic (residential) customers since there was not yet enough evidence of effective competition there to warrant removing them[11].

In considering whether to remove the supply price restraints on the incumbent suppliers Ofgem looked at two main factors: the extent to which prices had reduced, and the extent to which consumers had switched suppliers, since the market had been opened to competition. Ofgem acknowledged that competition was increasing but concluded that the market was not yet sufficiently competitive. In consequence it proposed to continue the price restraints, and to tighten them by setting them at a lower level to reflect actual and prospective cost reductions since the previous restraints had been set.

Ofgem's consultation paper proposed that the underlying cost components should be recalculated on a similar basis as when the restraints had previously been set. The new levels would reflect reductions in distribution costs (following new price controls there), evidence of lower generation purchase costs than previously assumed (predictions were for further decreases but these were not built into the restraints) and emerging evidence about suppliers' supply business costs. On this basis, Ofgem initially proposed that the restraints would be tightened by an average of nearly 10 per cent for Standard Domestic tariffs.

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[9] Offer, The Competitive Electricity Market from 1998: Price Restraints, Fifth Consultation, August 1997, pp. 4,5.
[10] This level of switching was about double what had been assumed in setting the transitional price restraints.
[11] Ofgem, Review of Public Electricity Suppliers 1998 - 2000, Supply Price Control Review: Initial Proposals, October 1999.

Difficulties with this approach

There were, however, some substantial difficulties with this approach.[12] First, the maximum price restraint already limited the scope for competitors to offer price cuts, and the extent of price competition was thin. Not surprisingly, incumbents generally priced up to the level of the restraint, for each class of customer. The restraint was arguably distorting or restricting competition for customers of certain services, like prepayment, where the competitive prices were barely below or even above the price restraints.

Second, the principle underlying the approach was unhelpful to competition. Ofgem's Consultation Paper said, "the price control needs to reflect the benefits that the competitive market is seeing". However, the prospect of repeated tightening the control in this way would severely reduce the incentive on customers to seek out and switch to the best supplier. This would correspondingly reduce the incentive on existing suppliers to compete and on new suppliers to enter the market.

Third, the revised control would make it more difficult to justify removing the control in future. The regulator had proposed two main bases for deciding whether the time was now ripe for removing the control: the extent to which prices had reduced, and the extent to which consumers had switched suppliers, since the market had been opened to competition. A tighter control would undermine both these bases.

Fourth, the approach would suggest or reinforce in the minds of customers, politicians and the general public that price regulation was an important and permanent element of a competitive market for residential customers. If the price restraint were to be regularly adjusted to reflect the price offered by competitors, and if correspondingly few customers switched away from the incumbent, when would it ever appear appropriate to remove the price restraint?

Fifth, insofar as the approach induced more customers to stay with the incumbent, at a price defined by regulation, it would build up a constituency dependent on it. More customers would have a direct interest in the continuation of price regulation, and in driving down the level of the price restraint.

[12] S C Littlechild, "A competitive shock to the system", Financial Times, 11 November 1999, p. 21, and "Promoting competition in electricity supply", Power UK, Issue 68, 29 November 1999, pp. 12-19.

Sixth, the lower the maximum allowed price, the less likely would be the prospect of subsequent reductions in the incumbent's price when the price restraint were removed, and the greater the prospect of price increases. The prospect of the latter eventuality, followed by calls to re-impose price regulation (and for the regulator to resign?) would again discourage removal of the restraint.

An alternative approach

In a market open to competition, customers should look to competitive suppliers, not to the regulator, to deliver the benefits of competition. Given the nature and history of electricity supply, it was not unreasonable that there should be a transitional price restraint on the prices charged by incumbents, to reassure customers. A case could also be made for continuing this a little longer. But this should essentially be limited to ensuring that the prices to the most sensitive customers did not increase, and more generally to ensuring that no one would be worse off while enabling competition to make as many as possible better off. Greater efficiency was indeed being achieved throughout the industry, as reflected in tighter price controls in transmission and distribution, lower prices in the generation market and lower costs of operating supply businesses. But to get the benefits of lower prices consequent on such efficiency improvements, customers should look to competitive suppliers.

In general, this might suggest that existing price restraints should remain unchanged over time, even when costs reduce. However, in Britain, one modification to the restraints did suggest itself. When the original price restraints were set two years earlier, the underlying calculations and judgements were intended to be uniform across companies. In the event they proved not to be, as reflected in the very different levels of price reductions offered in the competitive market from one incumbent's area to another's[13]. There was a case for "truing up" these restraints, by tightening those that were the most lax (so as not to risk making any customers worse off by raising those restraints that were most tight). For the Standard Domestic price restraints this indicated an average tightening of under 2 per cent rather than 10 per cent.

Ofgem took these arguments into account and significantly modified its proposals on the levels of the controls[14]. It proposed and implemented an average tightening of just under 6 per cent for Standard Domestic tariffs. The outcome was uncertain. In the event the tightening did not prevent competition from continuing to develop.

[13] For example, upper quartile price reductions varied from 3 to 9 per cent.

10. Removing the control 2002

In November 2001 Ofgem came to review the control yet again[15]. It considered a variety of factors. There was a high level of awareness of competing suppliers from various sources; general satisfaction with the service provided; and switching supplier was perceived to be easy. Around 100,000 customers had been switching supplier each week, slightly up on the previous year; net switching away from the incumbent had also increased slightly; nearly 40 per cent of all customers had switched supplier at least once, about double the level achieved a year earlier; and the pattern of switching was similar for all socioeconomic groups. The average proportion of customers retained by the incumbent supplier had fallen from 90 per cent two years earlier to 70 per cent.

Whereas only two incumbent companies had set their prices below the price cap two years ago, and then by less than one percent, now all but three offered a reduction, of up to about two percent. The median discounts available on the incumbent supplier's prices ranged from 5 to 13 per cent for the Standard Credit tariff, from 6 to 14 per cent for direct debit, and from 1 to 8 per cent for prepayment.

Ofgem reports that the range of tariffs and offers available to customers has continued to widen and become more innovative. For example, green tariffs, energy efficiency deals, offers targeted at disadvantaged customers, dual fuel tariffs, affinity deals and online services have been taken up by more suppliers. Suppliers have become more responsive to customer demands. Further innovations have emerged including loyalty cards, offers aimed at students, tariffs with no standing charge, "double the difference" offers, an offer to buy back excess solar energy generated by customers in their homes, tariffs including low energy light bulbs or a new fridge/freezer trade-in offer for disadvantaged customers, a Stay Warm tariff which allows customers aged over 60 to pay a fixed amount for their fuel throughout the year (irrespective of actual consumption and spread evenly over the year), insurance offers, and combined bills including gas, electricity and home telephone.

There have been mergers and acquisitions among suppliers, and there has been other entry and exit. The number of suppliers making offers has fallen, but there is still a reasonable spread of

[14] Ofgem, Review of Public Electricity Suppliers 1998-2000, Supply Price Control Review: Final Proposals, December 1999.
[15] Review of domestic gas and electricity competition and supply price regulation: Evidence and initial proposals, Ofgem 71/01, November 2001.

offers. There is evidence of a competitive market process at work: “Suppliers that were in October 2000 making price offers in excess of the local incumbent have now either left the market or reduced prices so as to offer a discount to the incumbent.” (p. 62) More suppliers are now offering price discounts to prepayment customers.

Ofgem noted a few remaining barriers to entry, principally trading arrangements in Scotland and problems associated with access to prepayment meter facilities. These had not precluded competition, and Ofgem indicated the action it was taking to address the issues.

In view of this evidence of increasing competition, Ofgem proposed to eliminate the supply price restraints at the end of March 2002. It had already eliminated most restraints on gas supply prices a couple of years earlier.

Impact of the earlier price control revision

It is interesting to speculate whether such competition and removal of price restraints would have been possible had the controls been tightened to the extent originally proposed.

If price caps had been tightened by some 10 per cent instead of 6 per cent, it is unlikely that incumbents would have set prices below the cap. So this particular evidence of competition would probably not have manifested itself. As a first approximation, discounts offered relative to incumbent suppliers might have been about 4 percentage points lower. The median range of discounts for prepayment customers might therefore have been negative. At such lower incumbent prices it seems unlikely that suppliers would have been as keen to compete or customers as keen to change supplier. There would have been less interest in providing and acquiring information about market opportunities. Switching rates would have been lower, perhaps negligible for prepayment customers. There would have been fewer innovative tariffs.

Credit is due to Ofgem for vigorously promoting competition and addressing potential barriers to entry wherever they arose. However, an undue tightening of the price restraints in 2000 could plausibly have discouraged competition and innovation, and precluded the subsequent removal of these restraints in 2002. Ofgem’s modification of its initial proposal was probably crucial to its ability subsequently to deregulate this sector of the market.

PART THREE TRANSITIONAL PRICE RESTRAINTS IN ELECTRICITY SUPPLY OVERSEAS

11. Policy and experience elsewhere

Many countries face the question of how to set transitional price controls for retail electricity supply. For the State of Victoria in Australia retail competition has just arrived, in January 2002. The form and level of transitional price control has been actively debated over the last year. For about half the United States retail competition has been implemented during the last couple of years, often with problems. Possible changes to the transitional controls are still under review. The next two sections critically examines the approaches adopted.

For most of Europe the issue of full retail electricity competition might lie some three years in the future. In March 2000 the European Council, meeting in Lisbon, voted to speed up gas and electricity liberalisation. It asked the European Commission to bring to the March 2001 meeting in Stockholm a set of proposals to achieve that end. The Commission proposed that all non-residential consumers should be able to choose their electricity supplier by 1 January 2003, and all residential consumers by 1 January 2005. The Commission also proposed other measures to make such competition effective. For example, third party access to both transmission and distribution networks was to be based on published and non-discriminatory tariffs, and no longer on terms that needed to be individually negotiated.

At the March 2001 Stockholm Council meeting, France declared that it could not support the proposal for full retail competition. Germany objected to the proposal for national sector regulators. For the moment the issue has been shelved, but it seems unlikely to disappear. As and when full retail competition is adopted, some policy of transitional price control is likely to be required. The contrasting international experiences discussed here seem likely to be relevant[16].

12. Policy in Victoria, Australia

The State of Victoria is in process of opening its electricity market to retail competition. Residential customers were due to have a choice as from January 2001; this was subsequently deferred until 13 January 2002. As part of the State Government's transitional 'safety net' arrangements until competition is effective, host (incumbent) retailers are required to publish their tariffs before they take effect. The Government has a reserve power to review and amend these published prices if it considers that adequate competition has not developed and that prices are being set at unreasonable levels. The Government used this power to disallow one company's proposed increase in June 2001.

In June 2001 the Minister for Energy asked the Office of the Regulator General (ORG) to investigate and report on some proposed price increases. At the same time it asked the Office to investigate and report on options for a 'light-handed' review of standing offer electricity tariffs for households and small businesses. In its Final Report[17] issued in September 2001 the Office outlined a number of principles and guidelines to apply, and set out a review process. It suggested that where retail competition is judged to be ineffective, including prior to full retail competition, the oversight of tariffs should be based on benchmarks of the key cost components subject to retailers' control. Once retail competition is judged to be effective, the assessment can be less intrusive, and rely in the first instance on a comparison of a retailer's energy cost components with those of other host retailers.

Assessment of proposed price increases

On 12 October 2001 the Minister issued a standing reference requiring the Office to investigate and report on any retailer's proposed price amendments. The Office was not required to make recommendations to the Minister as to whether she should allow or disallow those amendments. Shortly afterwards, each of the five host retailers proposed retail tariff increases to take place on 1 January 2002, varying from 12 to 22 per cent for household bills and from 3 to 32 per cent for small businesses. The average increase sought by the companies ranged from 15 to 21 per cent. The Office reviewed these proposals and concluded that, in terms of overall average prices, two

[16] Also relevant will be experience in Norway and Sweden, which have introduced full retail competition in electricity supply without transitional price controls. Importantly, however, there were no price controls before competition either, as a result of the extensive (and continuing) municipal ownership of local networks.

[17] Office of the Regulator General, Final Report – Options for the Review of Retail Electricity Tariffs, September 2001, available on the Office website www.reggen.vic.gov.au.

retailers' proposals were broadly in line with the upper end of its benchmark range and the other three were in excess of the upper end, with one significantly higher than that range[18].

The Office discussed the implications of these findings for any subsequent Ministerial decision-making, in the light of the objectives specified in the terms of reference. It put the various objectives and considerations into three categories:

- preventing the misuse of market power
- facilitating and relying upon competition rather than regulation to provide a discipline on retail prices, and
- facilitating a financially viable industry and ensuring that no individual retailer is 'trapped' without having recourse to cost effective hedging and contracting strategies.

The Office's Report agonised at considerable length as to what this meant in terms of its benchmark ranges. It concluded that it would be appropriate to

- allow pricing proposals to be implemented on 1 January 2001 where the proposals do not significantly depart from the benchmark range for each cost component, and
- reject pricing proposals that do depart from these ranges and invite the retailer concerned to submit reasons why the proposal should not be adjusted to reflect the costs incurred by the industry on average or the better performing retailers.

The Office provided the Minister with confidential details of the extent to which each retailer's submission aligned with the benchmarks. It suggested that the proposals of certain retailers should be rejected, implying that the proposals of others should be accepted.

State Government decision

On 19 December the State Government announced that it had rejected the price increases of 15 to 21 per cent sought by the retailers and instead approved increases ranging between 2.5 and 4.7 per cent[19]. This was facilitated by rebates from the Government to two companies for customers in outer suburban, regional and rural areas. The Government also said that it had "blocked massive increases within individual tariffs". Individual tariffs would rise by no more than the individual retailer's average plus 3 per cent.

[18] Office of the Regulator-General, Special Investigation, Electricity retailers' proposed price increases, Final Report, December 2001.
[19] Victoria State Government, Media release from the office of the Premier, 19 December 2001

The regulatory approach

The outcome of this decision has yet to be seen. In the meantime, a few observations might be made on the approach to date. The Office seems to have taken a number of important practical steps to enable competition to work. This includes ensuring working and compatible IT systems, and informing customers as to what to expect and how to change supplier. The explicit aim to rely on competition rather than regulation is welcome, as is the acknowledgement that unduly tight controls or criteria could restrict competition. There seems to be a realistic appreciation of the need to balance the interests of customers in the shorter and longer term.

The approach of the Office generally focuses on the estimation of costs without great debate as to the relationship between these costs and the prices that would be observed if competition were effective. Consultants to the Office have clearly studied carefully experience in the UK and in New South Wales, and have reflected this in their advice.[20] There is an appreciation of both static and dynamic concepts of competition. The Office refers to the possibility of setting prices "on the basis of a competitive market outcome, that is, with little or no conservatism to facilitate competition."[21] This static concept - a description of a competitive equilibrium outcome after the competitive process has taken place – is balanced by a reference back to the Office's previous view that

> while efficient costs may be a sound reference point for assessing the outcomes of an effectively competitive market, the real world dynamics of competitive markets – and the objective of not hindering their development – may impose a range of practical limitations on the extent to which the Office should rely on a single indicator in developing a framework for the regulatory oversight of standing tariffs.[22]

The Office says that its "balanced approach" between its objectives is capable of achievement in two ways. One is to make downward adjustments where "the pricing proposals embody margins and costs that appear too high relative to what might be considered 'efficient levels'". (p. 45) The other is to start by "having regard to benchmarks of efficient cost components, on the basis that anything else would represent an outcome that is inconsistent with competition.". (p. 46) Either way, a rather static equivalence between efficiency and competition is balanced by the Office's evident appreciation of the possible impact of its actions on the future development of competition.

[20] E.g. Price Review, CRA Preliminary Benchmarks Report, 15 November 2001
[21] Special Investigation, Final Report, p. 45
[22] Office of the Regulator-General, Options for the Review of Retail Electricity Tariffs, Final Report, p. 17, cited in Special Investigation, Final Report, p. 41.

The role of Government

In contrast, the recent stance of the Victoria State Government is of some concern. It has limited the tariff increases to a much lower level than the Office seems to have envisaged as appropriate. The Office implied that at least one company's proposal was acceptable, so that at least one average increase of at least 15 per cent might have been envisaged. In contrast, the Government has capped average increases to under 5 per cent. It also seems to have severely restricted the adjustment of individual tariffs.

It is not clear that this decision will achieve the Government's stated aim "to strike the right balance between the interests of Victorian consumers and the need for a viable electricity industry". Holding down price increases may seem to be in the interests of customers in the short-term, but what about the long-term? It is likely to reduce the interests of both customers and suppliers in participating in the newly opened retail market. It will have an adverse impact on the prospects for achieving effective competition, and also for recognising it, just as in the UK. This reduces the prospect of moving to a less intrusive regulatory oversight. This will be important when the Office comes to report on whether retail competition is likely to be effective, which the Minister has asked it to do by 30 September 2002.

An active role for Government, necessarily subject as it is to short-term political pressures and apparently overriding regulatory advice, is likely to increase risk, and adversely affect costs, new entry and competition. The situation may be politically more difficult at present in Victoria than in the UK, in the sense that wholesale costs appear more likely to rise than to fall at the time of introducing full retail competition. However, the Government and regulator need to explain that price increases would have been necessary even in the absence of such competition. Any increases are likely to be lower as a result of competition since suppliers will be actively seeking to obtain the lowest possible purchase costs in order to attract and retain customers. Moreover, initial price increases are likely to create a climate in which customers are more receptive to new entrants. Continuing uncertainty about what the Government will or will not allow, and a policy of allowing only what the Government deems to be "efficient" costs, are not conducive to an active response by new suppliers to the needs of customers.

13. Experience in the United States

According to a recent Staff Report by the Federal Trade Commission, 24 US states have decided to move toward competition in electricity supply at the retail level[23]. These states have decided that, in order to protect customers while introducing competition, there should be a transition period while some elements of regulation remain. A main focus of interest and concern has been the decisions of most states to set fixed retail prices for customers who remain with the incumbent utility – the so-called standard offer price or price of default service or "price to beat". Coupled with this has been the specification of the "shopping credit" for taking the generation component from a new supplier instead of the incumbent. It has become evident that the levels of these standard offer prices and shopping credits has greatly influenced the degree to which new entry and competition have emerged. This has led to several concerns, which experience elsewhere suggests need not have been so severe.

First, there are allegations of excessive or inadequate shopping credits, in turn leading to allegations of cross-subsidy and distorted entry[24]. This problem could have been avoided or minimised if there had been more explicit separation of monopoly network businesses from competitive retail supply businesses, together with non-discriminatory use of system network charges paid by all suppliers, and more explicit calculation of the standard offer prices and shopping credits.

Second, the levels of the price controls have often caused problems.

> The decision of most states to set fixed retail prices for customers who remain with the incumbent utility, coupled with very substantial increases in wholesale electricity prices, has slowed new retail entry that could increase competition and provide customers with more timely and accurate price information. These decisions have also jeopardized the financial stability of some incumbent utilities that are serving customers that have not chosen an alternative supplier. " (pp. ii, iii)

The answer is not cost pass-through, which has its own well-known disadvantages. The problem could have been avoided or minimised if the initial prices had been fixed more explicitly to include

[23] Competition and Consumer Protection Perspectives on Electric Power Reform: Focus on Retail Competition, Report by the Federal Trade Commission Staff, September 2001, p. i.

[24] See also Paul L Joskow, "Deregulation and Regulatory Reform in the US Electric Power Sector", in Sam Peltzman and Clifford Winston (eds.), Deregulation of Network Industries, AEI-Brookings Joint Center for Regulatory Studies, Washington DC, 2000, pp. 113-188, and Paul L Joskow "Why do we need electricity retailers? Or, can you get it cheaper wholesale?" Center for Energy and Environmental Policy Research, Massachusetts Institute of Technology, revised discussion draft, January 13, 2000.

the cost to the utility of hedging against the risk of price increases, if such hedging had been allowed, and if the transitional standard offer prices had been set for a shorter time before review.

Third, untenable or over-optimistic initial rate reductions have caused problems.

> Initial rate reductions for standard offer service, which are not based on cost reductions, tend to distort entry decisions and reduce incentives for retail customers to search for alternative suppliers. If rate reductions are applied to total rates, this effect may be severe. Rate reductions for standard offer service that are financed by all distribution customers may result in below-cost offers for standard offer service and, consequently, reduce incentives of alternative service providers to enter. (pp. v, vi)

These problems could have been avoided or minimized by imposing price reductions only where significant cost reductions had already been achieved and where further reductions could confidently be expected. Even then, it is preferable to bring price cuts via competition rather than via regulation, and doing the opposite needs justification.

Regulators might be concerned that failing to reduce prices could leave incumbents with excessive profits, at least over the transitional period until they are in danger of losing their customers to competitors. Certainly incumbents are in a relatively favourable position during the initial period of competition, given that they have inherited one hundred per cent of the customers, who may be expected to stay with them until there us reason to leave. If it has been decided to allow them to recover stranded costs, there is a case for requiring them to recover at least a part of these from their profits during the transitional period, rather than recovering all such costs via a stranded asset charge imposed uniformly on customers of all suppliers. At least part of the costs of providing for full retail competition might also be recovered in this way. In Texas certain environmental costs were financed out of incumbents' transitional profits.

Finally, California envisaged a different approach for those utilities that had covered their stranded costs. Henceforth, they were required to pass-through the wholesale spot price of electricity to all customers including residential ones. This was not a problem while spot prices were low, but when they soared and customers' electric bills doubled and trebled, the complaints were so severe as to invoke the attention of the California State Government. This had even more adverse

consequences, not least the proposed State ownership of transmission facilities and the entering of large-scale long-term contracts at what are said to be over $10 billion above market rates.[25]

The vulnerability of customers to wholesale spot prices could have been minimised by allowing customers to choose Pool spot price terms if they wished, instead of forcing this method onto them. The approach adopted undervalued the contribution of retailers to the competitive market process[26]. Interim retail price caps set at fixed levels with proper allowance for the costs of hedging and without untenable initial price reductions could have avoided later retail price disturbances.

The consequence of these transitional price control policies is that new suppliers have been reluctant to enter the market in most states. There has been little residential switching, and in many cases the extent of it has decreased rather than increased in recent months. Many new suppliers seem to have left the market. Not surprisingly, customers are losing interest too. Most seriously, the California Public Utilities Commission and the State Government have now abolished retail competition for all customers. The rationale is to give customers no option but to pay the higher costs of the State Government purchases until these newly-stranded costs are paid off.

The most recent state to open its market to full retail competition is Texas, on I January 2002. The Texas PUC said "The Price-to-Beat rates that we've established strike a good balance between immediate customer savings and attracting retail electricity providers to enter our market and offer even greater savings and service innovations." For five of the six suppliers these new rates are between 8 and 9 per cent below the previously current residential rates, with provision for changes in these rates up to twice a year if there are changes in natural gas or power costs [27]. These are significant initial reductions, and it is not clear what justifies enforcing them by price controls rather than by competition. It is to be hoped that a good balance has indeed been struck.

To summarise, some US regulatory policies have been questionable. Admittedly several states have had problems with increased demand, generation availability and the newly devised wholesale trading systems. Restrictions on the construction of new generation capacity and possible exploitation of generation market power also seem to have played a role in the price increases.

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25 See Paul L Joskow, "California's Electricity Crisis", Working Paper 8442, National Bureau of Economic Research, August 2001, © 2001 by Paul L Joskow. Stephen Littlechild, "Electricity: Regulatory Developments Around the World", The Beesley Lectures on Regulation Series XI, IEA/LBS, London 9 October 2001, revised version 12 November 2001.

[26] Stephen Littlechild, "Why we need electricity retailers: a reply to Joskow on wholesale spot price pass-through", WP 21/2000, Judge Institute of Management Studies, and WP 0008, Department of Applied Economics, University of Cambridge, August 22, 2000.

Nevertheless, the situation often seems to have been exacerbated by regulatory policies and transitional retail price controls that sought to replace or minimize the role of retail competition. Such policies will need to change, not merely when retail competition is allowed to re-emerge, but in order to enable it to do so.

PART FOUR OFTEL'S APPROACH TO COMPETITION IN MOBILES

14. Appraising competition in mobile telephony in the UK

Turning from electricity supply to mobile telephones, the regulator Oftel faces a general issue of how best to match the level of regulation to the level of competition in the sector, and a more specific issue of whether to continue with transitional price controls on mobile termination charges. In February 2001 Oftel issued two consultation documents on mobile telephones[28]. In September 2001 it issued its conclusions and policy proposals.[29]

Part Four of the present paper discusses Oftel's consultation and conclusion on effective competition. Part Five deals with its consultation on the mobile price control. Part Six examines its conclusions and policy proposals on this price control. In each case, it will be of interest to examine the approach in the light of the alternative economic concepts discussed above, and also to compare the approach with that taken in electricity supply.

Conditions in any market change continually, not least in those industries that have been privatized. The appropriate role for regulation needs constantly to be reassessed. Oftel was therefore right to attach importance to a review of competition in the mobile sector, as in other sectors for which it is responsible. Moreover, the consultation documents were informative, thorough and comprehensive. There are some respects in which the approach to competition set out there might have been modified or augmented, as suggested below. Nevertheless, the Oftel documents were properly open-minded at that stage, and capable of taking on board the perspective set out in the present paper.

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[27] Texas PUC, News Release 7 December 2001.

[28] Effective Competition Review: Mobile, Oftel, February 2001 (henceforth referred to as Competition consultation) and Review of the Price Control on Calls to Mobiles, Oftel, February 2001 (henceforth Price control consultation).

[29] Effective competition review: mobile, A Statement issued by the Director General of Telecommunications, Oftel, 26 September 2001 (henceforth Competition statement) and Review of the charge control on calls to

Effective competition

Oftel's Competition consultation[30] seeks to ascertain whether the mobile market is effectively competitive now. It suggests that the crucial questions to be resolved are whether certain prices and profitability are too high, and whether the sector is likely to be effectively competitive within the next two years, if it is not effectively competitive at present. Oftel also identifies specific pieces of evidence, both positive and negative, as relevant to those decisions.

The focus presumably derives from Oftel's statutory duty to promote "effective competition" though this concept seems to have no well-defined meaning in economics generally. There is no explicit definition of effective competition within this consultation document.[31] Following a previous Oftel document four groups of indicators of effective competition are identified: consumer outcomes, consumer behaviour, market structure and supplier behaviour.

Oftel says that "A competitive market will deliver high levels of service, competitive prices, innovative services and choice. Accordingly, measures of the benefit of competition to consumers are key factors in Oftel's assessment of effective competition." (para 2.1) The criteria of high levels of service and choice are in principle consistent with both static and dynamic approaches to competition. The criterion of innovative services is essentially a dynamic concept that has no role in a static equilibrium model with given technology and products. The criterion of competitive prices could derive either from a static model, where perfectly competitive prices are defined equal to cost with zero excess profit, or from a dynamic model where the emphasis is on changes in prices as part of a competitive process over time. Which of these concepts of competition is more appropriate?

Appropriateness of each concept

The strongest case for using the static neo-classical model would be in an industry where technologies and products change little because there is little innovation, where costs and demands vary only slowly over time, and where customers are relatively well informed about the alternatives

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mobiles, A Statement issued by the Director General of Telecommunications, Oftel, 26 September 2001 (henceforth Price control statement).

[30] Unless otherwise indicated, all quotations and references in Part Four are to this paper.

[31] There are propositions about the concept – for example, "A market which is effectively competitive implies an absence of operators with market power." (para 1.19). However, there is no separate definition of market power, and in any case it seems to be the definition of effective competition that determines whether market power exists, rather than the converse.

because those alternatives are few and unchanging. Competition in the dynamic Austrian sense might have little scope in such an industry, and the insights that it brings might be considered less important than the insights of the neo-classical model. Arguably the water, gas and electricity networks might fit this description, as opposed to the supply of services across those networks. Even here, however, there are increasing possibilities of competition to supply network services to the monopoly utilities, and possibilities of alternatives to those networks, that make the dynamic considerations very pertinent[32].

The dynamic or Austrian model of competition is likely to be most appropriate where the conditions of the industry exhibit continual change. That is, where technology and products reflect continual innovation, where costs are continually decreasing and demands are continually increasing or changing because of the innovation, and where customers continually have to try to keep up with the latest products and prices. The neo-classical model is at best of limited relevance in such an industry, and at worst positively misleading.

Which concept is more relevant in mobiles?

To which of these types of industry does the mobile telephone sector more closely correspond? As discussed shortly, Oftel itself has identified many positive aspects of competition and change, including with respect to customer switching between networks, new entry and changing market shares. Other examples may readily be given. For example, with respect to entrepreneurship, in the 1980s Vodafone and BTCellnet saw an opportunity to earn economic profit in the provision of analogue mobile telephony services. For others, either the opportunity went unnoticed or they saw no prospect for pure profit. The returns to investment were uncertain. In other sectors of the market and on other technological platforms, Iridium, ICO, Rabbit, Eurotel, and Ionica all held similar hopes and were motivated by similar expectations. They failed whereas Vodafone and BTCellnet succeeded. Their subsequent profitability has thus been the reward for a combination of foresight, innovation, planning, organisation and no doubt luck.

There is ample evidence of competitors entering the mobile market, attempting to follow the lead set by the successful initiating companies. These include One2One, Orange and Dolphin at the network level, and Virgin, Centrica, Sainsbury's, Energis, ValueTel and Carphone Warehouse at the

[32] See for example "The FT Interview with David Owens", Power UK, Issue 84, February 2001, pp. 25-8. Stephen Littlechild, "Contracting out distribution services: addressing the concerns", Power UK, Issue 87, May 2001, pp. 55-61. "The FT Power UK Interview with Allan Jones MBE", Power UK, Issue 89, July 2001, pp. 28-33.

'wholesale' level. Competition has involved innovation in numerous dimensions, including as to network coverage, handset type, pricing packages, pre-paid arrangements, call quality, internet access and so on. All this is a picture of innovation and change[33].

It would be possible to document the case at greater length. However, it seems incontrovertible that the mobile sector is characterised by frequent and significant innovation and change, of an order of magnitude greater than in the traditional utilities sector. It is surely an industry for which a dynamic competition model is eminently suited, and for which the static model is eminently unsuited. Analysis and prescriptions based on static concepts are therefore suspect.

15. Achievements in the mobile market

Oftel reviews experience in the mobile sector and acknowledges that "There are a number of positive developments in consumer behaviour and trends" (para 2.88). This is a rather modest assessment. The consultation paper shows that there have in fact been substantial recent achievements in the mobile market. They exceed even those of the UK electricity sector, which itself has performed remarkably well since privatisation.

As to consumer outcomes, in electricity, under government ownership, it took the better part of a century to achieve almost universal access and consequently access has remained virtually unchanged recently. In mobile telephony the ownership rate seems to have increased nearly fourfold in the last three years - from about 15 per cent penetration in 1997/8 to about 60 per cent in 2000/1. Oftel research in August showed that 73 per cent of UK adults had a mobile phone. In electricity there has not been much growth in aggregate demand over the last decade, averaging a little over 1 per cent a year. In contrast, mobile traffic has grown from a negligible level a decade ago to around 50 billion minutes last year. The traffic level now attained is higher than the MMC designated as a high growth scenario only a couple of years ago. In electricity, over the last decade there have been price reductions of 25 to 35 per cent in real terms. In mobile, prices have fallen by 24 per cent in the last two years alone.

[33] It might be argued that the scope for technological innovation is limited because mobile operators are licensed to use a single standard technology. No doubt this does influence the nature of innovation. At any particular time it may seem to be focused on changes that are possible within that technology, as just illustrated. But over time operators and potential entrants are looking to newer technologies that will in due course render the present ones old-fashioned.

Mobile prices in the UK compare favourably with those in other European countries. Consumers are shown to enjoy "best or near-best deal" in comparison with consumers in similar economies, which is Oftel's target. Consumer satisfaction seems to be high and stable. A wide range of services is available, and in particular the UK's position is relatively good on provision of new services like data and mobile internet.

As to customer behaviour, the use of number portability has increased constantly since its introduction in early 1999. A relatively high number of customers are switching provider and/or tariff. 21 per cent of domestic customers have switched between networks, over half of these in the last year. 27 per cent have changed package type with their existing provider.

As to market structure, newer entrants One2One and Orange have gained market share and are now firmly established, with 21 per cent and 24 per cent of mobile subscribers, respectively. Over the last three years the shares of the two large incumbents Vodafone and BTCellnet have fallen from 38 per cent and 34 per cent of subscribers, respectively, to 30 per cent and 25 per cent. There are more than a dozen Independent Service Providers with a significant base of customers (over 2.5 million)[34].

Finally, as to supplier behaviour, prices are decreasing overall. There is a significant amount of competition on price for access, calls to fixed line phones, on-net mobile calls and international calls. Quality of service is good, with 98-99 per cent of the population covered, and over 95 per cent of call attempts successful. The growing level of investment by each of the operators indicates that they are actively competing to improve quality. There is no evidence of anti-competitive behaviour or collusion.

These significant achievements show a picture of growth and inovation that is an order of magnitude greater than obtains in electricity, gas and certainly water. In other words, the mobile sector is significantly different from the traditional utility sector.

[34] There is also evidence of continued competition since publication of the Oftel papers. For example, Virgin Mobile, a 50-50 joint venture between Virgin Group and One2One that describes itself as the most successful virtual network operator in the world, announced a 54 per cent sales growth from Q3 to Q4 2001, and cited an analyst's estimate that its sales in Q4 2001 represented an 18 per cent market share. (Virgin Press release 3 January 2002) There is also a newspaper report that "British Telecom is considering a link-up with Virgin Mobile as the company looks at ways to re-enter the mobile phone business – only three weeks after it demerged Cellnet and the rest of its MMO2 wireless arm." (Sunday Times, 9 December 2001)

The Oftel reviews do not suggest that these achievements in mobile telephony are a temporary phenomenon, or that there is concern about proper provision for the future. On the contrary, "Looking ahead, Oftel is confident that the conditions exist for the UK to continue to compare well in delivering a wide range of services. The early award of 3G spectrum licenses in the UK should promote a wider range of services at a comparatively early stage." (para 2.7) The aggregate investment of over £20 billion by successful bidders to obtain these 3G spectrum licenses is tangible evidence of the commitment of the companies to this market.

16. Oftel's concerns

Oftel nevertheless finds some less satisfactory aspects in the sector.

> But the combination of a number of crucial factors suggests that the mobile sector still falls short of effective competition. The structure of the market remains consistent with a finding that overall prices are set above the competitive level, despite the presence of competition. The available evidence: the market share information, the lack of well informed consumers, the initial results of the profitability analysis and the observed high static prices for some services, also supports an initial conclusion that, on balance, the mobile sector is not yet effectively competitive. (para 2.89)[35]

We now examine in turn the various adverse factors mentioned, grouped according to Oftel's four categories of consumer outcomes, consumer behaviour, market structure and supplier behaviour.

Consumer outcomes

At first sight, the main adverse finding seems to be that overall prices are set above the competitive level. However, the structure of the market is merely said to be "consistent with" such a finding, and there appears to be no such finding in the consultation paper. Although there are findings that prices for particular services are above cost, there are also findings that prices for other services are below cost. Indeed, "Oftel's mobile price monitoring work shows that overall, prices for the services monitored by the model are decreasing." (para 2.47) There are also some rather convoluted discussions of relative costs and profit rates, which are presumably subsumed under the

[35] Elsewhere (para S.4) these concerns are associated with the reported lack of competition in particular services (international roaming and off net mobile to mobile calls), profitability and price, barriers to entry, and the degree to which consumers are informed.

reference to the initial results of the profitability analysis. However, there appears to be no independent comparison of prices against "the competitive level"[36].

Apart from the findings on relative prices and profits, dealt with below in terms of supplier behaviour, there seem to be no adverse findings on consumer outcomes.

Consumer behaviour

Oftel says that "for competition to be effective, consumers must be well informed, and Oftel is concerned that many consumers find information on mobile telephony products confusing".(para S.4)

Perfect information is a requirement of perfect competition. However, it is not a prerequisite for dynamic competition. On the contrary, learning by customers as well as by firms is an integral part of the competitive market process. Customers are trying to discover which products they like, where they can get the best prices and quality of supply, and from which suppliers they prefer to buy. At the same time, suppliers are trying to find out what customers like and to inform customers about the existence and merits of their products.

In the dynamic or Austrian view, therefore, well-informed customers are far from a precondition for effective competition. Nor is it a market failure that customers are at any time less well informed than they might be. Lack of perfect information is inevitable given the world of constant change in which customers live. In fact, the competitive process is a mechanism for enabling consumers to acquire the knowledge they need. It brings to their attention new options that suppliers think may be better for them than the products they presently buy. It is to be judged, not against perfect information, but against other non-market means of informing customers.

The empirical evidence adduced by Oftel does not suggest a serious failure here. To quote just three of its remarks from Annex E (pp. 76-80):

> "… only 45 per cent of residential consumers thought that they were on the cheapest or best value tariff/package…However, the same survey showed 78 per cent of consumers as

[36] From a dynamic perspective, the very concept of "the competitive level" of price presumes that the competitive process has ceased. Changes in prices and other product attributes are responses to market conditions that are themselves changing and evolving, partly in response to the actions of firms in other markets. As a theoretical exercise, one might assume that underlying conditions did not change, and envisage price tending to cost and "excess" profits being fully competed away. One aspect of the competitive process (the price of a given product) might thus be supposed to work itself out while other aspects of that

satisfied with the range and quality of advice and information used to select their network/package. Also, confusion over purchasing has never been expressed as a key concern in Oftel's surveys. … One interpretation of these apparently contradictory findings is that the frequent emergence of new and better deals, and special offers, quickly make what were originally sensible choices outdated."

"… the vast majority of consumers seeking advice from sales assistants claimed it helped them …although the quality of retail advice is varied and could in many cases be better, consumers are currently generally getting more or less what they want from retailers, in part because many consumers want only limited advice"

"… it is unsurprising that many consumers do not know whether they are getting the best deal. … the range of available options changes frequently. Further, many consumers do not particularly wish to go to great lengths to make their choice, and to some extent favour convenience over cost."

These are sensible and plausible conclusions in a fast-changing market. The only surprise is the suggestion that such a normal state of affairs might constitute a reason to believe that competition was not effective.

17. Market structure

Oftel's main concern about the structure of the mobile sector is the existence of high barriers to entry. It cites two barriers: the availability of spectrum and the level of investment required in order to enter the market[37]. It is also concerned about market shares.

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same process (quality and product variation) might somehow be required to stand still. But to envisage that ever actually happening, let alone within the next two years, is tantamount to asking the world to stop.

[37] Similar concerns were expressed in section 72 of the European Commission Guidelines. "In the telecommunications sector, barriers to entry are often high because of existing legislation an other regulatory requirements which may limit the number of available licences or the provision of certain services (i.e. … 3G [third generation] mobile services). Furthermore, barriers to entry exist where entry into the relevant market requires large investments and the programming of capacities over a long time in order to be profitable."

Availability of spectrum

Both neo-classical economists and Austrians would see lack of spectrum as a potential barrier to entry, although it is to some extent possible to substitute network infrastructure for spectrum. Encouragingly, Oftel reports that it has sought to relax this barrier in future[38].

However, is lack of spectrum really a barrier in practice? The mobile operators argue not: they suggest that the number of operators is likely to be four or five regardless of the availability of spectrum. One company explains why spectrum is not as critical as might be thought:

> The constraint upon entry in the UK mobile market is not spectrum but the returns in prospect for the marginal firm. When GSM licences were awarded in the early 1990s, a third available licence was not sought when two of the three original bidders merged to take a single licence. The substantial losses still being incurred by One2One – the marginal firm in the market – cannot have gone unnoticed eight years after launch. If the mobile market enjoyed the barriers to entry ascribed to it by Oftel, most economists would expect to see evidence of profitability on the part, not only of the market leader, but also of the marginal firm after such a period of time. In fact, One2One and Orange both continue to earn ROCEs substantially below any reasonable view of cost of capital. There is no evidence that spectrum availability is serving to constrain entry or support profits which cannot otherwise be competed away.[39]

Scale of investment

A minimum amount of investment may be a condition of entry, but there are strong arguments against considering it a barrier to entry[40]. Any firm that is willing to put up the investment can enter

[38] "… as far as possible, Oftel has sought to relax [spectrum constraints] by advocating spectrum trading with the maximum flexibility on spectrum use as well as supporting the entry of a fifth network operator through the third generation licence auction." (Competition statement para A8.7)
[39] Vodafone's Response to Oftel's Two Consultation Documents issued February 2001, Vodafone Ltd, May 2001 (available on Oftel website), para 3.2.2, p. 28.
[40] George J Stigler, "Barriers to entry, economies of scale, and firm size", chapter 6 in his Organization of Industry, Richard D Irwin, Inc., Homewood Illinois, 1968.

the market. Whether the market is worth entering given the level of investment required is another matter.

The entrant into mobile may need to build a national network to be credible, and to ensure high quality. It may also need to commit to large marketing costs to attract a viable number of customers. But even having incurred such costs, will the entrant be able to match, let alone beat, the costs and service levels of the incumbents? Will it be able to offer a product that is sufficiently superior to that of its rivals to attract sufficient customers? And can it expect its rivals to stand still while it enters, instead of lowering costs, improving service and innovating even more?

The evidence cited in the previous quotation suggests that the answer to these questions is No. The present level of profits of one of the first firms into the mobile market may be high , but so too were and are the costs and the risks, and the return on capital that required to justify entry. The most recent entrants were not deterred by the size of the investment required[41]. Their problem has been to earn a return that justified their entry, in an evidently competitive market.

Market shares

Oftel notes that "Orange and One2One appear to be gaining volume market share faster than they are gaining value market share". It concludes that this "may indicate that [Vodafone and BTCellnet] are able to retain higher value consumers (or charge higher prices), which may indicate an element of market power resulting from first mover advantages." (para 2.32, p. 13)

Well, it might or it might not. Oftel gives no reason to suppose that it does. An alternative explanation is that the entrants have chosen to compete on volume first, perhaps because they perceived that as easier or more important to ultimate success. No reason is given why entrants might not in due course challenge the initial incumbents for the higher valued customers.

Whether one looks at volume or value, the changes in market shares are striking. Over the last three years Vodafone's share of subscribers is down from 38 per cent to 30 per cent and BT Cellnet's share is down from 34 per cent to 25 per cent. Over the same period, One2One's share is up from 13 per cent to 21 per cent and Orange's is up from 15 per cent to 24 per cent. The changes are similar in terms of value. Even if Vodafone and BTCellnet were at one time better able to retain

[41] Nor were the recent bidders for 3G licences to compete with future technologies.

high value customers or charge higher prices, any such market power is evidently eroding very quickly. Such a policy would not be viable for long if it meant losing customers at that rate.

More recent Oftel evidence for June 2001 (with slightly different definitions) suggests that the above trends have continued. Vodafone's share is down to 25 per cent, BTCellnet is about the same at 25 per cent, One2One is up to 22 per cent and Orange is up to 28 per cent. So Orange, the last network to start service, is now the largest. It would be difficult to imagine more convincing market share evidence in favour of the effectiveness of competition.

18. Supplier behaviour

Oftel has two main concerns on supplier behaviour, namely profitability and high static prices for some services.

Profitability

Oftel says that in a competitive market it would expect prices and consequently profits to reflect efficiently incurred costs plus an adequate return on capital. "Profit levels which consistently and substantially lie above the cost of capital can be considered excessive." (para 2.67, p. 21) Oftel calculates the cost of capital at just over 13 per cent.

BTCellnet's return on capital employed (ROCE) increased from 29 per cent in 1992/3 to 39 per cent in 1995/96 before falling to 19 per cent in 1998/99 and to around 12 per cent in 1999/2000. Oftel calculates that Vodafone's ROCE increased from 59 per cent in 1992/93 to 71 per cent in 1998/99. It also notes Vodafone's own calculation of ROCE, which fell from 69 per cent in 1997/98 to 59 per cent in 1998/99 to 49 per cent in 1999/2000.

In contrast, Orange reported for the first time a positive operating profit in 1998, and an increased operating profit in 1999. However, after including exceptional and goodwill items, it made accounting losses of £60 m. One2One continues to report accounting losses.

Oftel then argues as follows.

> … on the whole, BTCellnet's prices are similar to those of Vodafone. Since it appears that Vodafone is possibly pricing above the competitive level, as evidenced by its profit levels, Oftel can infer that BTCellnet may also be pricing above the competitive level…. Both

> Vodafone and BTCellnet may therefore continue to possess market power, since they are both able to raise prices above the competitive level for a non-transitory period without losing sales to such a degree as to make this unprofitable….
>
> Orange and One2One generally set prices below those of Vodafone and BTCellnet. However, their prices do not generally reflect the competitive level. [The market structure] may result in prices for all mobile operators that are above the competitive level. (pp. 22-3)

From a static perspective, rates of return above cost imply monopoly and market power, as discussed earlier. There is no other explanation. From a dynamic perspective such an outcome is possible, if the firms concerned have access to some resource that cannot be duplicated by other firms. But from this perspective the observations are equally compatible with a competitive process that is not yet complete – specifically, with innovation that has not yet been matched by competitors.

Oftel begins to explore this issue. It says that Vodafone has lower costs, but these may derive from a number of sources, some of which may be capable of replication by other operators and some not. Oftel proposes further work to assess profitability and efficiency, and its later Competition statement treats this issue more fully. Further discussion is therefore deferred to the end of this Part of the paper.

High static prices for some services

Oftel says that prices are falling overall, and there is evidence of price competition on access (including handsets) and outgoing calls. However, "the UK consumer does not appear to get a good deal on international roaming and off net mobile to mobile calls[42]". (para S.4) Prices have remained broadly constant here, and not fallen as they have for other products. This suggests to Oftel that competition on price is not active.

[42] Overseas roaming refers to making calls on overseas networks. The present paper does not deal with this rather more complicated issue. It appears not to be crucial to Oftel's analysis and other policy conclusions. Off-net mobile to mobile calls are calls to a mobile network other than the one to which the subscriber belongs. Calls to a subscriber on the same network are referred to as on-net calls.

Oftel explores some reasons why this has been the case, but for the most part this is the subject of its second consultation paper, discussed in Part Five below. One of its arguments is usefully discussed here, however.

> It can be argued that if the overall retail market for outgoing calls becomes effectively competitive then any excess profits from off net calls will be used by network operators to compete for consumers in access and other types of mobile service (eg by lowering hand-set and call charges). As a result, what the mobile subscriber loses on off net calls they may gain on access or on net calls (or other services and call types).
>
> One reason against using the above argument is related to distributional concerns grounds. If subscribers incurred the cost of higher prices for off net calls but did not benefit from the lower prices in them ore competitive segments then it might be argued that the 'swings and roundabouts' argument outlined above does not hold. … Another argument against saying that any losses will be offset by gains elsewhere is that asymmetric prices for on- and off-net calls may tend to reinforce differences in size between the networks. (para A6.17-19, p. 85)

Oftel's arguments in both these paragraphs are essentially correct. However, the arguments in the second paragraph do not negate those in the first. That is, the second paragraph may identify valid reasons for being concerned about the structure of prices as well as the overall level. However, focusing on these issues tends to miss the economic logic of the first paragraph and hence understate the nature and extent of competition.

As regards the first paragraph quoted, it would be more accurate to say that any excess profits from off net calls "would be an incentive to" network operators to compete on access and other services, rather than "would be used by" such operators. Pricing policy on access and other services is not a discretionary means of disposing of excess profits already achieved. Rather, it is a means of securing such profits in future. Moreover, such profits can only be achieved by competing successfully against other network operators, each trying to persuade customers to join and stay with their own networks. So the offers have to be attractive. In the limit it is worth offering a new (or existing) subscriber up to the value of the additional profits that this subscriber brings in from additional termination charges.

In other words, even though each operator may be able to set the termination charge to its own network above cost, competition between operators to attract customers to their networks and

retain them can be expected to drive down access charges and other related prices. This in turn will tend to drive down overall profit rates. The overall profit rates cited by Oftel suggest that this has indeed happened. The average return for the industry as a whole is around Oftel's estimated cost of capital, and the return is now actually less than the cost of capital for two or even three of the network operators. To the extent that price competition is not effective for termination charges, it has been diverted to access charges and call charges. Overall, price competition does seem to be very effective.

19. Is tighter regulation really indicated?

Oftel thus found numerous respects in which competition seems to be working in the mobile sector, including falling prices, improving quality, and high customer satisfaction, including against European benchmarks. Against this it instanced a number of allegedly crucial factors suggesting that the mobile sector still falls short of effective competition. These included the lack of well-informed consumers, the concerns about barriers to entry and market shares, and the unsubstantiated suggestion that prices are set above the competitive level.

It has been suggested here that most of the alleged indicators of inadequate competition do not stand up to closer examination. The evidence for prices above the competitive level really boils down to a single finding, that one company's profit rate is significantly higher than those of other mobile operators. Oftel's Competition consultation defers further examination of the reasons for this difference. Its argument in its subsequent Competition statement is scrutinised in the following section of this paper.

The reasons for the relative lack of competition in setting call termination charges, and the identification of appropriate policy thereto, also need further consideration. These are dealt with in Parts Five and Six below. However, there is reason to believe that competition in the market as a whole will tend to compete away any monopoly profit on termination charges via reductions in the prices of other services. There is also evidence that this has happened.

The overwhelming impression that Oftel's consultation document gives is of a remarkably successful and competitive sector of British industry. There cannot be many sectors that have such a satisfactory record in recent years. This is not to say that there might not be scope for some improvement in the framework of the mobile telecommunications industry. But taking the big picture, it would be surprising if one were to conclude that here was a sector of the UK economy in

need of more or tighter regulation. On the contrary, one might wish that other sectors were equally as successful. In general terms the kind of regulatory framework that one might expect in future would be one that enabled the existing competition in mobiles to continue to develop, rather than one that sought to replace or second-guess this competition by means of tighter regulation.

20. Oftel's conclusions on competition

Having considered submissions on its February consultation documents, Oftel gave its views in September. Its Competition statement embodied its conclusions and policy proposals on competition in the mobile market generally, which are dealt with here. Its Price control statement concerned the price control on mobile termination charges, dealt with in Parts Five and Six.

Oftel's Competition statement essentially confirms the views expressed in its Competition consultation. A number of positive indicators suggest that the market for mobile services is prospectively competitive. However, there remain some problem areas that show that the market is not yet effectively competitive. Competitive pressures should emerge to remove these problems and erode the ability to price above the competitive level. Oftel proposes further "co-regulatory initiatives" to encourage this, including steps to improve tariff consistency, reduce or remove SIM-locking, and improve number portability. It will also work with the EC to address international roaming rates. Finally, Oftel proposes to remove the designations of market influence from Vodafone and BTCellnet. This removes the obligations on them not to discriminate in their dealings with service providers, which obligations Oftel considers hinder their ability to compete. The two companies will continue to be designated as having significant market power (SMP) but Oftel does not intend to impose any access obligations on them.

Oftel's assessment of profits and market power

Oftel's main concern was that some operators were pricing above the level that would obtain in an effectively competitive market. During the consultation period it commissioned NERA to measure the profitability and efficiency of the UK mobile network operators[43]. Table 1 shows the HCA return on capital employed.

Table 1 Return on capital employed (per cent)

[43] The profitability and efficiency of the UK mobile network operators, NERA, London, August 2001 (henceforth NERA Report).

Company /Year ending		1998	1999	2000	2001
Vodafone	92.3	76.0	53.2	50.1	
BTCellnet	20.5	11.9	8.2		
One2One	-18.4	-4.6	-22.9		
Orange		4.6	4.6	9.9	
Industry Average	20.3	18.7	10.8		

During the consultation, Oftel estimated the cost of capital to be in the range 13 per cent to 17 per cent, mid-range 15 per cent. It concludes that Vodafone's ROCE has consistently and substantially exceeded the cost of capital. It says that unless there are other factors that can explain this, the persistence and scale of Vodafone's profits are a strong indication that the mobile sector is not effectively competitive and prices are above the level that would be found in an effectively competitive market.

Oftel considers three possible explanations for Vodafone's higher profit: higher prices than rivals, lower costs that cannot be replicated, and lower costs that in principle can be replicated.

Oftel calculates that Vodafone's and BTCellnet's prices are above the industry average. There is some difference of view between regulator and companies as to how far the differential prices reflect differences in customer mix (e.g. proportions of peak, roaming and contract customers). However, Oftel accepts that the prices set by these companies declined towards the industry average by end 2000/01.[44]

Oftel suggests that Vodafone might enjoy some advantages that are not replicable by others, including economies of scale and the relative efficiency of its GSM 900 network compared to the GSM 1800 network used by the two newer entrants. It quantifies these and finds them small.

Oftel considers whether Vodafone's higher profits might derive from continuous innovation that competitors have not yet matched, or from some Vodafone-specific cost advantage. It finds no evidence for this.

[44] It was noted above that the market shares of these two companies have continued to decline, so that even if their prices were above the industry average they could not afford to continue such a policy for long.

What remains are two benefits that Oftel says are in principle are available to other operators – a superior traffic profile and superior efficiency from a previous innovation or efficiency gain. Oftel concludes that these are the sources of Vodafone's excess profit. Surprisingly, it then concludes from this that Vodafone's higher profitability must therefore reflect market power.

NERA's analysis

NERA's analysis provides further insight into the situation. It summarises its conclusions as follows:

- the profitability of the longest standing operators, BTCellnet and Vodafone, declined substantially over the period under review; …
- the profitability of all the companies apart from Vodafone was below the cost of capital cited in Oftel's consultation document. So too was the combined industry profitability.

… Vodafone had an average level of revenue per subscriber, a below average level of costs per subscriber and a much lower than average level of mean capital employed (MCE) per subscriber. It is the latter factor which provides most of the explanation of Vodafone's higher profitability. If Vodafone's level of MCE per subscriber were increased to that of the next best performer, BTCellnet, its profitability would be more or less halved.[45]

NERA's efficiency analysis compares the four UK companies against a total of 26 European mobile operators, using a variety of statistical and mathematical programming techniques. It summarises these results as follows:

> Vodafone consistently ranks as one of the most efficient operators in our sample. [2nd or joint 1st] One2One is placed at either 7th or 18th position, with BTCellnet at 9th, whilst Orange appears to be the least efficient of the four operators at between 15th and 19th position[46].

In 1998, the Monopolies and Mergers Commission (see next section) calculated the cost of call termination in 1997/8 to be 11.48 pence per minute for Vodafone and 17.62 pence per minute for BTCellnet (Cellnet and Vodafone, para 2.291). It said "we believe that the differences between the costs of call termination on the Cellnet and Vodafone networks are accounted for largely by differences in efficiency rather than by differences in their product or volume of traffic". (Cellnet and Vodafone, para 2.308) The NERA Report seems to confirm that this is still the case.

[45] NERA Report, pp. 47-8.
[46] NERA Report, p. 79

21. Critique of Oftel's conclusions on competition

Oftel discusses the nature and implications of static and dynamic approaches to competition.

> Oftel would argue that the approach adopted in the review is not completely static; the review has attempted to present a balanced assessment of static and dynamic indicators. Oftel places considerable emphasis on changes in market conditions and has explicitly considered whether the persistent high profits earned by Vodafone result from innovation or other efficiencies or from market power. Moreover, no operator has presented any evidence that Vodafone's high profit results from a good record of innovations. Indeed, Vodafone suggests that any cost advantages it possesses are equally achievable by all operators. (Annex 8, para A8.5)

Oftel essentially agrees with Vodafone on this point. Having eliminated other factors, Oftel concludes that Vodafone's higher profit reflects factors that in principle are available to other operators. The surprising next step is the conclusion that this reflects market power. This may be the only explanation left in the static world of neo-classical economics. But surely a more plausible conclusion is that this profit reflects market ignorance rather than market power. Other operators would presumably like to have Vodafone's better traffic mix and lower costs. There is nothing actively stopping them, as Oftel recognises, but they have not yet discovered how to achieve this.

This is an example of the entrepreneurial market process that is central to the Austrian concept of competition. In due course competitors will no doubt discover how Vodafone does it and match or beat that company. However, it is a measure of Vodafone's innovation that, to date, the knowledge necessary to do so has eluded them[47].

Speed of response

Oftel says that its "conclusions rest on the persistence and scale of Vodafone's profits" (p. 24). It says "In a competitive market, Oftel would expect other operators to copy quickly any innovation that resulted in lower costs." (p. 25) But how quickly is it reasonable to expect such copying?

[47] This is undoubtedly not an exceptional case. I recall an executive of one firm appearing before the MMC, and commenting of the market leader "We know their quality control is better than ours but we just don't know how they do it."

Catching up may take time, particularly if some of the cost advantages reflect the way that the network has been constructed.[48] NERA finds that Vodafone is one of the two most efficient operators in Europe, and the other UK operators range from 7th to 19th. In such a new industry, where technology is relatively unfamiliar and still developing, is it really surprising that the various competitors have such different costs and profit rates? Is it realistic to expect those who have just entered the industry to match the leading operators in Europe within the two years since the last price control was set?

Surely the profit evidence is consistent with all the other evidence about the mobile sector. There is effective competition on price and quality of service, leading to falling prices and improving quality of service. This has led to falling rates of return in the sector as a whole, to the point where the average return is now below the cost of capital. One company is making a significantly higher profit rate than the others, although this too is falling. But this higher profit is not the result of monopoly or market power. It is the result of significantly greater efficiency that its UK competitors have not yet been able to match[49].

Conclusion on the mobile market

To claim that an industry with differential profit rates over a period of time is not effectively competitive is to introduce a new requirement of competition: that the firms must all be of about the same efficiency, and that one firm must not get far ahead of the others for too long. If one firm does become more efficient, and the others do not catch up soon enough, the industry as a whole must be regulated. Is this really the most sensible way ahead? Is it not counter-productive to penalize the leader for innovating, and the followers for being unable to catch it "quickly" regardless of the technical and economic circumstances of the industry? In the longer term such a policy would discourage rather than encourage significant innovation and the development of further competition. Ultimately it would impact adversely on customers.

PART FIVE PRICE CONTROLS ON MOBILE TERMINATION CHARGES

22. Off net mobile calls and mobile termination charges

[48] For example, one suggested factor is a better location of cell sites through better radio planning.
[49] For earlier empirical evidence on the competitive process taking place over time, see Yale Brozen, "The Anti-Trust Task Force Deconcentration Recommendation", Journal of Law and Economics, October 1970, Yale Brozen, "Bain's Concentration and Rates of Return Revisited", Journal of Law and Economics, October

Oftel's consultation on competition in mobiles was accompanied by a more specific consultation on the existing price controls on the charges for terminating calls to the mobile networks owned by Vodafone and BTCellnet. This provides a further illustration of how the perspective on the nature of competition can impact on price control policy.

In 1998 the Monopolies and Mergers Commission (now the Competition Commission) investigated the mobile termination charges of Vodafone and BTCellnet. It concluded that there was insufficient competitive pressure to constrain these charges, that the then-prevailing charges were substantially in excess of the costs of an efficient operator, and that this was against the public interest[50]. It recommended price reductions in the termination charges, averaging 25 per cent for 1999/2000 with subsequent reductions of RPI-9 per cent for the years 2000/01 and 2001/02. These were duly implemented.

Oftel's Price control consultation[51] asks whether these price controls should be continued or removed, or if some other regulatory action is appropriate. Oftel's preliminary view is that the relevant costs have since decreased since the time of the Commission's report because outputs have increased more than the Commission projected[52]. It says that there is limited incentive for the mobile operators to reduce charges to the competitive level because of the 'caller pays' principle[53]. Oftel considers that termination charges may be excessive and that there may be a case for continued regulation.

Price control consultation considers four options for regulatory action if Oftel finds that the mobile call termination market is not effectively competitive, and competition is expected to remain insufficient. These options are (1) not to regulate termination charges, (2) to increase competitive constraints, (3) to tie termination charges to charges for competitive services, and (4) direct control of termination charges. The rest of this Part of the paper evaluates these options in turn.

1971. Harold Demsetz, "Industry Structure, Market Rivalry and Public Policy", Journal of Law and Economics, April 1973.

[50] Monopolies and Mergers Commission, Cellnet and Vodafone, London, December 1998 (henceforth Cellnet and Vodafone).

[51] Unless otherwise indicated, quotations and references in this Part are to this document.

[52] "The out-turn of much greater traffic than the Competition Commission had forecast means that the current charges are likely to be significantly above costs, as analysed by the Competition Commission." (para 1.9)

[53] In some countries mobile phone calls are or were priced on a 'receiver pays' principle.

23. Oftel option 1: Not to regulate termination charges

Oftel recognises that, once the present control ends, it would be inappropriate to continue to regulate call termination charges further if there were sufficient competitive pressure on those charges. It says that this option might also be adopted even if there is not sufficient competitive pressure at present, if that pressure was nonetheless increasing sufficiently over time.

Oftel also says that, alternatively, it might be appropriate not to regulate if the consequences of higher termination payments were lower charges for other services (such as access and call origination), and if the excessive profits on the termination charges were competed away in these other markets. However, it indicates that it would be unlikely to accept this option if it found that other mobile markets were some way from being effectively competitive, "because it would not be guaranteed that higher termination charges would flow through into lower charges for other mobile services". (para 7.6)

It has been argued above that higher termination charges are indeed likely to induce lower charges for other services, that excess profits tend to be competed away, that this is consistent with experience reported by Oftel, and that the concerns about competition not being effective in the other mobile markets are largely unpersuasive.

In general, Oftel's conditions for not regulating termination charges seem unduly severe. If the competition that Oftel acknowledges in other areas is still continuing to develop and is flowing through into lower charges for other services, then customers are getting an increasingly good deal as long as termination charges are not increasing, even though they are not decreasing. If necessary, assurances that termination charges would not increase could be sought from the companies. The case for the "no regulation" option is surely stronger than Oftel acknowledges, especially if (as suggested below) some of the alternative options that Oftel proposes could have detrimental effects on the growth of competition.

24. Oftel option 2: Increase competitive constraints

Oftel discusses the possibility of increasing competition as follows.

competition in the most direct manner could occur only if another party were to offer termination services for calls to subscribers on a mobile network. This other party might be a personal operator,

a virtual mobile network (a company providing mobile services but not owning spectrum[54]) or another Mobile Network Operator (MNO). Regardless of their identity, however, they would need to have access to the SIM card[55] details for the subscribers' calls to whom they wished to terminate….Thus, any such party would have to conclude agreements with the mobile owner's MNO before it could offer termination of calls to them. It is possible that Oftel might be asked to intervene in the negotiations between such other party and an MNO, and in doing so Oftel could consider appropriate action. (para 7.10)

This seems to be the heart of the monopoly issue. Each network has a monopoly on offering termination services to its own customers. The inability of other networks or service providers to compete in this service, other than by attracting a customer to change network, stems from this control over access. This is the kind of monopoly that both the static neo-classical and the dynamic Austrian approaches recognize as having short-term disadvantages.

The Austrian approach is more conscious that there may be potential longer-term advantages to such a monopoly. For example, the prospect of a monopoly over termination of calls to an operator's own network may have been an incentive for that operator to enter the business in the first place. The prospect of revenue from termination charges is an incentive to develop the network so as to attract more subscribers, including by offering more attractive terms for using it. Consequently, it is necessary to recognize the potential disadvantages as well as the advantages of removing this monopoly, in terms of the possible impacts on future investment, innovation and pricing strategies.

Oftel identifies access to SIM card details as necessary for direct competition in call termination services. Lack of such access is what constitutes the barrier to entry and competition. Removing it would presumably facilitate competition in termination services. This deserves further exploration, to clarify exactly what is involved and what the implications are. Access to the SIM card may be only part of the story. The technical solution may not be straightforward and further investment may be needed in order to link visitor location registers.

If it is held that the inability to compete on termination services on balance restricts or distorts competition or is otherwise against the public interest, then seeking to enable such competition

[54] Known as a Mobile Virtual Network Operator or MVNO.
[55] Oftel defines the SIM or Subscriber Identity Module as a small smart card type device that has details of the mobile subscriber including public telephone number and the numbers required by the network to recognise and authenticate the subscriber.

seems an obvious way to proceed. Even though it might involve some extra cost, the possibility or even just the threat of a technically and economically viable alternative to paying present termination charges could represent a valuable competitive check on those charges. A technical alternative, or even easier access to existing services, could enable existing and new operators to compete by offering new services. This would seem preferable to alternative policy options that would do nothing to resolve the underlying problem, and in practice would reduce incentives and opportunities to compete.

Customer information

Oftel discusses options for promoting competitive pressures on call termination by improving consumer information in customer bills. It suggests that this would be a relatively simple, low cost measure. This is possible, although more billing information might also confuse rather than assist customers, and presentation might not be straightforward. There is also a potential adverse effect on competition, as noted by another regulatory office in the context of electricity supply competition[56]. Moreover, Oftel admits that "clearly, this would not solve the intrinsic problem".

25. Oftel option 3: Tie termination charges to other charges

Oftel suggests that "if the market for call origination, say, were competitive then it might be possible to tie charges for call origination with charges for call termination, and thereby use the competitive pressures on the former to constrain the latter." (para 7.13) It notes a proposed Australian solution that involves setting all mobile termination charges equal to the lowest currently existing charge, then benchmarking subsequent changes against changes in a weighted average of other mobile charges.

Oftel notes several potential disadvantages of such proposals: they could distort competition in the markets to which the termination charges were tied, they would involve an extension of regulation into new areas, there could be a departure from the principle of cost-reflective charging, and there would be practical measurement problems with the proposed Australian solution. It is not clear what such a tying mechanism would imply for the constraint on termination charges. There must be some

[56] "Standardised labeling of retail electricity products and services may be beneficial to consumers and competing electricity suppliers, as long as it allows suppliers to provide additional information as they begin to offer innovative services and products to customers. … Excessive disclosure requirements, however, may discourage the provision of information, particularly in advertising." (Federal Trade Commission Report, pp. vi-vii)

uncertainty as to how these other charges would move in future. They could continue to go down, as they have in the past. On the other hand, if the mobile sector is presently earning a return below the cost of capital, and if these particular charges are presently below cost, they must be candidates for an increase. A tying constraint could also make it less attractive to reduce them and more attractive to increase them. Australian experience will no doubt shed light on all these issues.

A non-discrimination principle One possible option is not discussed in the consultation. Oftel points out that mobile network operators have a monopoly over access to their own networks, but that access by other operators is needed in order to enable full competition over mobile networks generally. Elsewhere in utility regulation, such situations are typically dealt with by means of an obligation to provide access on a non-discriminatory basis. That is, each mobile network owner-operator could be required not to discriminate in its call termination charges as between its own network and customers, and the networks and customers of other operators.

This option would meet Oftel's concerns just mentioned. It would continue to restrict regulation to the area of termination charges where it has hitherto been enforced. It need not involve controversial calculations of costs. To the extent that it led to modified charges to a network's own customers, it would tend to reduce a present distortion rather than introduce a new one.

This approach would be consistent with a well-established principle and practice of competition policy. Article 6 of the EC Interconnection Directive requires that "operators must adhere to the principle of non-discrimination with regard to interconnection offered to others and must offer the same terms to other operators as they provide to themselves." (Competition consultation, para A3.4) At present, this obligation applies only to those operators deemed to have significant market power, but Oftel's assumption is that each operator has significant market power with respect to access to its own network[57]Admittedly a network operator might initially find it difficult to impute its own interconnection charge, particularly for bundled packages, and might have less marketing flexibility. But there would be corresponding advantages to other operators. Against a possibly reduced incentive to offer improved on-net charges to attract customers, there would be correspondingly greater incentive to encourage off-net calls. So there is a balance to be sought

57 It might be suggested that operators could get round such a non-discrimination obligation by charging themselves a high price for connection, which would not bother them because their own money would simply go out of one pocket and into another. If this did happen, it would be possible to consider applying Article 7 of the EC Interconnection Directive, which requires that "charges for interconnection must be cost oriented and unbundled, based on information drawn from cost accounting systems which are approved by the NRA57 for the purpose." (Competition consultation, para 3.5) This would, of course, tend to draw the regulatory authority into more problematic issues associated with determining cost.

between the effectiveness of competition between network operators in the broadest sense, and introducing competitive pressure on termination charges where it is presently rather lacking.

26. Oftel option 4: Direct control of call termination charges

Oftel's final option is a continuation of direct control of termination charges set by BTCellnet and Vodafone, and possibly their extension to other Mobile Network Operators. It is likely that the controls would be tightened under this option since, as noted above, Oftel calculates that costs have fallen since the time when the Monopolies and Mergers Commission set the last controls.

Rebalancing of charges Oftel notes that "forcing call termination charges down might drive up charges for other services." (para 7.19) This seems a plausible outcome. As argued above, the higher margin on termination charges provides an additional incentive to reduce the price of access and on-net calls, so as to attract more subscribers. Termination charges do not stand alone: it is the aggregate revenue - from access, outgoing calls, incoming calls and charges for other network services – that drives a network producer's output and investment decisions.

The consultation documents explain that charges for incoming calls (that is, termination charges) have hitherto been increased and charges for outgoing calls and other services have been decreased, relative to cost. If there were a requirement significantly to reduce prices on incoming calls (i.e. termination charges), it seems likely that a consequence could be some increase in other charges or in prices of outgoing calls. This in turn could impact on the growth of subscribers and usage, in a way that is not entirely predictable beforehand. It might be argued that if other prices are increased when termination charges are required to be reduced, this proves that the mobile operators have market power in call origination, and therefore the market is not competitive. Such a conclusion would not follow. Ability to decide where to take one's profits may be an indication of market power in some circumstances, but there are other factors here. An analogy is with joint costs, familiar in the economic literature. A price cap on one joint product could reduce the competitive level of output and increase the competitive price for the other joint product(s). So if other prices are increased when termination charges are required to be reduced, this does not in itself imply monopoly power. Such an outcome is potentially consistent with a competitive market.

Oftel suggests that its proposed price control would save consumers approximately £800 million over the four years, whilst the estimated reduction of revenue from operators would be about £600 million. The difference would reflect profits on additional call volumes generated by the price

reductions. It is not implausible that rebalancing of prices to more closely reflect costs could increase benefits to customers generally.. It would seem implausible, however, to assume that termination charges would reduce without a corresponding increase in other charges. There could indeed be substantial transfers of revenue, but this seems more likely to be predominantly from users of some call services to users of others, and hence from some consumers to others, rather than from operators to customers. It is not clear what Oftel's calculations assume in this respect.

Could such a price control have benefits?

Oftel says there could be significant benefits from this type of regulation.

By setting a maximum charge, Oftel would be certain of achieving the required result in terms of cost-reflective termination charges and ultimately fair consumer prices for calls to mobiles. Further, there is no reason why this maximum charge should necessarily discourage competition on call termination charges since Mobile Network Operators would be free to set charges below the price cap. (para 7.19)

A rebalancing of charges is not in itself undesirable, and may indeed be desirable, if the previous economic arrangements have led to a distortion of competition and of relative prices. But if the rebalancing is done by means of a price control, rather than by a more competitive market, it makes the outcome potentially sensitive to the setting of that control. In turn, it becomes sensitive to the calculation of the costs of call termination if that is the basis of the control. This, as suggested below, is likely to be particularly difficult and controversial. Oftel's assessment seems optimistic, for several reasons.

Cost reflective and fair?

First, there are differences of view as to what principles or methodologies to use in calculating costs in order to set such a maximum charge. An example is the decision of the Monopolies and Mergers Commission to use Fully Allocated Costs (FAC) in 1998 despite Oftel's preference for Long Run Incremental Cost (LRIC)[58].

[58] Oftel plays down this difference, saying "The CC [Competition Commission, formerly MMC] agreed that LRIC was in principle an appropriate costing methodology for setting termination charges. However, in the CC's view, there had been insufficient work at the time for them to base their recommendations on a LRIC approach." (para 1.14) The MMC in fact said "In principle LRIC costs are likely to correspond more closely than FAC costs to the level of charges that might be expected in conditions of effective competition. However,

Second, call termination is one of several joint products provided by a network, and there are conceptual difficulties in allocating costs between joint products. For example, after many years of debate, economists agree that in a competitive market joint costs are not allocated on the basis of cost or output alone, but reflect differences in the level and elasticity of demand for each product.

Third, there are practical difficulties in obtaining the relevant data. These difficulties are serious enough where the industry or product in question is a relatively stable one, where costs and technologies are changing only slowly, and where past experience is a good guide to the future. They are compounded where the industry is changing rapidly and subject to innovation.

It is of course possible in any situation to make a set of assumptions, collect some data, and set maximum price caps. But any confidence that these price caps would be cost-reflective and fair in any objective or uncontroversial sense would seem misplaced. No adverse effect on competition? It would similarly be over-optimistic to believe that

No adverse effect on Competition?

maximum call charges would have no adverse impact on competition. Again, there are numerous dangers here.

First, the level of the charge could inadvertently be set too low. This might discourage operators from providing appropriate facilities for call termination, or at an acceptable or improving standard of quality. It could have an adverse effect on operating procedures or on further investment.

Second, lower termination charges will reduce the incentives of competitors, who may include some of these operators themselves, to look for and develop new or better methods of competing more effectively. Oftel (chapter 5 and Annex C) describes a wide variety of demand-side and supply-side substitutes that, to a greater or lesser extent, do or could exert competitive pressures on termination charges. Yet other possibilities are becoming available[59]. Development of these and other

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the DGT is still developing his ideas for the use of LRIC in relation to the mobile networks. There are a number of quite significant methodological issues which need to be resolved before it can be concluded that LRIC can in practice be used for assessing mobile charges." (Cellnet and Vodafone para 2.192)

[59] For example, there are now handsets that have a dual SIM (Subscriber Information Module) capability whereby customers can switch between networks on a call by call basis. It is possible to envisage customers using the SIM card of the network that has the cheapest termination rates and then switching to the SIM card

possibilities not yet explored will be less worthwhile if the benefits of successful innovation are reduced.

Third, it is not just the level of the charge that has a disincentive effect; it is also the very fact that price control is continued in an active way. This tends to establish the principle that the regulator will step in to ensure that termination charges continue to reflect termination costs, even or especially as the latter change over time. This introduces additional uncertainty about what services will be price controlled in future and at what levels those controls will be set. In turn, this reduces the incentives to discover and supply competitive alternatives to the present charges. It also reduces the incentives for consumers to encourage and adopt such alternatives if the regulator can be expected (and lobbied) to do something about the situation instead.

Difficulty of ending the controls

The proposal is to revise downwards the controls on termination charges to reflect changes in costs, rather than to continue the controls at their present levels. As with the analogous changes to transitional controls on electricity suppliers, this would make it more difficult to remove the controls in future. There are at least three reasons for this. First, as just noted, there will be less growth in the use of substitute services than there otherwise would have been. The qualititative and innovative aspects of competition will thus be artificially reduced. Second, the extent of any reductions in termination charges that would otherwise have been made as a result of competitive pressures over the next two years of the control will be reduced and may not be apparent at all. Indeed this may already have happened with the present controls. It has been argued that there is evidence of competitive reductions in termination rates in some unregulated markets[60]. However, any evidence that competition would have reduced termination charges over the last two years in the UK has already been obscured or prevented from emerging by the existing price caps.

Third, the longer that the price controls stay in place, and the more often the case for them is argued, the more difficult it becomes to argue that they are not necessary. The failure to acknowledge any competitive drawbacks to them makes it even more difficult to rebut the argument for continuing them "just to be on the safe side".

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of another network to originate calls if it is cheaper to do so. This could put pressure on termination rates as network operators compete to terminate (and originate) calls to individuals.

[60] "The TelCom analysis also reveals that, over time, call termination charges have fallen as far and as fast in those markets where competition in call termination charges has begun to work as in those where regulatory intervention has pre-empted any such development." Vodafone's Response, para 6.5.3, p. 60.

27. Interim conclusions on termination charge policy options

To summarise, Oftel's Price control consultation identified four options for policy if it were to find that the mobile call termination market is not effectively competitive.

The first of these options is not to regulate termination charges after the present control ends. It is argued here that this option deserved further consideration if the mobile telecommunications market as a whole is developing well and the level of termination charges is not increasing.

The second option is to increase competition, notably by facilitating access to SIM card details. It is argued here that this option deserved further exploration. The third option is to tie termination charges to charges for more competitive services, such as other mobile services. It is argued here that the outcome of this would be somewhat uncertain. A preferable option to consider is a non-discrimination rule. This is a normal approach in utility sectors where competitors need access to utility networks in order to enable competition to take place. The fourth option is continued direct control of termination charges, at a lower level than at present. Although this could have potential advantages in terms of rebalancing prices, it is argued here that it would mean increases for other mobile charges as well as reductions in termination charges. It would also be more problematic than Oftel suggests in other respects – for example, in terms of calculating an appropriate level of cost and maximum price, distorting or discouraging competition, and exacerbating the problem of removing the control in future.

Rolling over the present controls

Oftel refers to "rolling over" the present controls at their present level until a potential Competition Commission investigation is completed. (para 1.16) There could be a case for "rolling over" the controls in this way for a longer period, say for the next two years. The present level of control is what the Monopolies and Mergers Commission established. There would be no intention to establish the principle that Oftel should regularly update this price control, and no extensive exercise to recalculate the costs involved.

The purpose would be to reassure customers that they would continue to be protected with respect to termination charges while the forces of competition continue to develop, and as Oftel takes further measures to promote competition. The focus would then usefully be on what measures

would best promote competition for mobile termination charges, and what effects they would have. This could be monitored and further action taken if necessary in future.

PART SIX APPRAISAL OF OFTEL'S DECISION ON PRICE CONTROLS

28. Oftel's conclusions on termination charges

The difficulty of competition for termination services is a narrower issue than that of competition in the mobile sector generally, but it is a real and more challenging one. What if anything should be done about competition for termination services? This Part of the paper deals with this question.

Oftel's Price control statement[61] says that competitive pressures do not currently exert sufficient constraints on termination charges nor are they likely to do so in the near future. There is little incentive for operators to reduce their termination charges – callers cannot take their business elsewhere. Each operator has market power on mobile termination to its own network. Oftel concludes that regulatory action is therefore justified.

Oftel instances various factors that have potential to put pressure on termination charges, including closed user groups, consumers switching to other networks, substitution of other calls, and countervailing power of purchasers. However, it finds no evidence that these factors would constrain termination charges to a competitive level now or in the near future, "though it remains possible that such competitive pressures may develop later" (p. v). It considers that tying call termination charges to competitively constrained charges for other services would be risky. It concludes that direct control of termination charges is the most appropriate solution.

Oftel suggests that present termination charges are substantially above cost. It says that Vodafone and BT Cellnet charges are now 10.2 pence per minute (ppm) versus an estimated LRIC of about 6 ppm. Operators argue that termination charges form part of the whole package and are offset by lower prices for calls, which has led to higher overall growth and no overall excess profits. However, Oftel considers that termination charges significantly in excess of costs are not economically efficient or fair. Since the mobile sector as a whole is not effectively competitive Oftel cannot assume that higher profits on incoming calls are competed away in lower prices for outgoing calls.

[61] Unless otherwise indicated, quotations in this Part of the paper are from this document.

Oftel's proposal is a price cap on termination charges at the rate RPI-12 per cent for four years (2002 to 2006), for all four operators. It considers this appropriate to enable customers to get value for money. It says that termination charge controls will protect consumers and provide regulatory certainty, and also allow a degree of flexibility in that company efficiency will be rewarded. The proposed control will yield savings to customers of £800m and reductions in company revenues of £600m. The difference reflects profits on additional call volumes generated by the price cuts. Oftel proposes to review the situation after two years to see if the controls are still appropriate.

29. The scope for increasing competition

The nature and extent of competition could impact on prices and hence have implications for the nature and extent of regulation. Oftel examines this. But there is no apparent consideration of the reverse effect: of regulation on the nature and extent of competition. This is surprising because the Director General's statutory duties pertain to both. He has a duty "to promote the interests of UK consumers in respect of prices". However, he also has duty to "maintain and promote effective competition between telecommunications providers in the UK". In addition, which may not be irrelevant here, he has a duty "to promote research into and the development of new techniques".

Oftel accepts that in principle it would be preferable to take measures to increase competitive pressures on call termination. However, it does not seem fully committed to the firm action that might be necessary to promote such competition. This section examines in turn the three main ways that Oftel identifies.

<u>Mobile Virtual Network Operators (MVNOs)</u>

The first option is described as follows.

> The first possibility is for Oftel to encourage developments such as MVNOs that would allow a party other than the mobile subscriber's network operator to offer call termination. (p. 26)

Oftel says that MVNOs could increase competitive pressures by routing calls via themselves rather than via operators and by controlling how incoming calls are delivered.

> It is possible that, in the future, MVNOs will have the above capabilities. However, … the Mobile Network Operators will have little incentive to conclude the necessary agreements to allow an MVNO to operate in this way. … MVNOs therefore may have the potential to

> increase the competitive pressure on call termination charges but a number of significant developments need to occur. It would be inappropriate for Oftel to condition a regulatory response based on speculation that such developments would occur. (p. 16)

Such a passive line is surprising. Oftel considers that there are "significant developments" that need to occur in order to provide the potential to increase the competitive pressure on call termination charges. (Such pressure could come from the mobile operators themselves, of course, as well as from MVNOs.) The key to these developments is that the mobile network operators should "conclude the necessary agreements". This is evidently within the sphere of regulation. Why then is Oftel not proposing to take steps to secure this? No doubt it might require technical arrangements involving the sharing of customer location information by all networks with the MVNO. But would a licence obligation not facilitate this?

Oftel's unwillingness to act on this matter seems to be related to the stance it has taken on the mobile sector as a whole.

> Oftel considers that mandating MVNOs is not justified when considering the state of competition in the broad mobile sector. In the *Effective competition review: mobile* statement, Oftel proposes removing the current Market Influence regime in favour of allowing commercial negotiation to shape the future of service provision and innovative access to mobile networks. (p.26)

It is difficult to follow Oftel's argument here. It proposes to relax obligations on mobile operators because of the improved state of competition in the mobile sector as a whole. But the lack of effective competition for termination services necessitates a price control on termination charges. Mandating MVNOs could be a key to increasing competition for termination services. But Oftel is precluded from doing this because of its conclusion that the mobile sector is too competitive to put further obligations on the mobile operators. This seems to raise a question about the mutual consistency of Oftel's proposals.

<u>Multiple Subscriber Information Module (SIM) devices</u>

Oftel's second possibility for promoting competition relates to SIM cards.

> Another possibility would be for Oftel to encourage the development of phones that have more than one SIM card (or that operate with the network of more than one MNO). (p.26)

However, Oftel's discussion in Chapter 3 is not optimistic.

> It is possible that multiple SIMs might increase the chance of substituting an on-net mobile to mobile call for an off-net mobile to mobile call or for a fixed to mobile call. However, with the prevalence of SIM locking in the UK and with low consumer awareness and poor consumer information on SIM locking, it may be some considerable time before multiple SIM devices have any possible impact on call termination. (p. 15)

Oftel concludes on a pessimistic note, distancing itself from the proposal.

> As discussed in Chapter 3, some argue that there is potential for substitution of on-net calls for other voice calls to be facilitated. However, such a development would not necessarily create effective competition constraints. There are material problems that might frustrate effective competition, such as the difficulty for the mobile owner in coordinating the networks being used for origination and termination. In addition, it is far from clear that significant competitive pressure would be brought to bear on termination charges. This is not least because each SIM card provider would face the same incentives as MNOs currently face, namely to set relatively high termination charges in order to have relatively lower prices for other services which mobile users value more highly. (p.26)

All this seems unnecessarily defeatist. The difficulty of the mobile owner in coordinating networks does not seem insuperable. If a handset can now accept two SIM cards, is it technically or economically implausible that handsets could be designed to accept SIM cards for all four or more operators simultaneously? And that they could be programmed automatically to switch to whichever operator had the cheapest rate for each incoming and outgoing call in turn? If Oftel were to indicate an intention to remove the barriers to the SIM card details, it would be very surprising if innovation and competition were not stimulated to secure a part of the £600 to £800m in excessive prices that Oftel calculates to be at stake over the next four years.

The concern that each SIM card provider would have the same incentives to set high termination charges as the mobile operators currently face is not obvious. As explained earlier, the causality probably works in the opposite direction: operators find it profitable to set lower prices for other services because they have high termination charges. If multiple SIM cards became standard, so that off-net calls could be transformed into on-net calls, the advantage in setting high termination charges would be eroded.

As regards the other postulated obstacles to competition, Oftel itself has concluded that "SIM locked handsets are a barrier to switching", and that "there are clear weaknesses in current practices concerning fees, unlocking duration, customer awareness and retail advice". Oftel proposes to deal with all these issues as part of its "co-regulatory initiatives". Indeed, "Oftel is sufficiently concerned about such issues that, if they persist, it will investigate with a view to taking appropriate legal action." (p. 63)

This is a welcome declaration of Oftel's intent. But will it really take four years (the proposed duration of the price control) for Oftel's pro-competitive measures to have a significant competitive effect? It would be unfortunate if competition were frustrated and a price control imposed because regulatory action had not been taken early enough, or were not pursued vigorously enough in future. If Oftel calculates that there is so much at stake that it necessitates a renewed and tighter price control, would it not be appropriate to consider upgrading its "co-regulatory initiatives" to a pro-competitive licence obligation? And if it did so, would the aggressive price control be necessary or helpful?

Improved consumer information

Oftel examines a number of ways of increasing competitive pressures via improved consumer information. It comments, "neo-classical analysis does not suggest that action to inform customers about available choices is a useful policy. By contrast, seeking to improve customer information is a major area of work for Oftel." (Competition statement, para A8.6) Nonetheless, it concludes

> Oftel believes that it is not possible to rely on increased consumer awareness alone to generate sufficient competitive constraints on termination charges. However, Oftel will continue to encourage and monitor self-and co-regulatory work to increase consumer awareness where possible." (p. 27)

This seems a realistic assessment if policy on competition remains unchanged. However, a more active promotion of competition to provide termination services would enhance the achievement of Oftel's aim of increased consumer awareness. The competitive market process would disseminate information about new alternatives and available price reductions. Competitors have an incentive to

bring such innovations and opportunities to the attention of customers, and the latter would soon become aware of them.

30. Tying call charges and non-discrimination

Oftel considered further the idea of tying year-on-year changes in termination charges to the average change in the prices for retail mobile services as being implemented by the ACCC. It remains of the view that this kind of regulatory intervention would be inappropriate, for the reasons set out in the consultation document.

> Briefly, these were that this solution has the potential to distort the more competitive market to which termination was tied and that by tying a non-competitive service to a more competitive service Oftel would effectively be regulating both services and in doing so there would be a significant risk of reducing competitive pressures in the more competitive market. (p. 28)

<u>Non-discrimination is not the same as tying call charges</u>

Oftel then considered the non-discrimination policy option described earlier in the present paper. Briefly, this would provide that mobile operators may not discriminate in their call termination charges as between those notionally charged to themselves for on-net calls and those charged to other operators, both fixed and mobile. Oftel summarises the advantages and disadvantages of the proposal as follows.

> The potential advantage of the proposal is that because of the tying, an MNO setting a relatively high termination charge would also need to set a relatively high price for on-net calls to satisfy the non-discrimination rule. This could result in those mobile operators with relatively high termination charges losing customers to those with lower termination charges, thus putting pressure on them to reduce their termination charges.
>
> The disadvantage of this approach is the same as that for the ACCC solution, in that it risks distorting the more competitive market. To tie a service which is non-competitive to a service which is an important means of competition among networks at the retail level risks transferring the reduced competitive forces in the non-competitive market to the more

competitive market, rather than the other way around. For these reason, Oftel rejects this approach.

The association of the non-discrimination policy with the ACCC solution is unfortunate and inappropriate, since the two proposals differ in several crucial respects. The ACCC proposal is essentially a price control, not a non-discrimination rule. It starts by constraining all termination charges to the lowest currently existing termination charge of any operator. It then relates changes in those termination charges to changes in a weighted average of a variety of mobile charges, including for call origination, across the whole industry. The non-discrimination rule is none of those things: it is not a control on the level of prices, it does not tie one operator's charges to those of another operator or of the industry as a whole, and it does not tie charges for one service to charges for another service.

Exploitation by discrimination

Oftel seems to overlook that the exploitation of market power can take at least two forms: the setting of higher prices to customers and the setting of differential prices to customers. In either case, the customers could also be competitors, as they are here. If Oftel identifies each operator as having and exercising market power over its own termination charges, it follows that each operator is also using this power to discriminate between market operators, specifically between other operators and itself. If the higher termination charges are held to be inefficient and inequitable because they restrict output at the expense of customers, it is not clear why the differential termination charges are not equally unacceptable because they restrict and distort competition.

Oftel in fact provides considerable evidence of the potentially restricting and distorting effect of discriminatory termination charges. They lead to lower prices for on-net calls and higher prices for off-net and fixed to mobile calls. This encourages calls within networks at the expense of calls between networks. They also tend to favour existing rather than new networks. This may have a restrictive effect on potential competitors such as MVNOs that do not have networks of their own.

Non-discrimination conditions

Whether these are serious distortions, and whether each operator does have and exercises such significant market power over termination charges as to warrant regulatory intervention, are perhaps debatable questions. But where it is held that operators do have and exercise such market

power as to justify a significant price control – as in the utility sector - then non-discrimination is a standard requirement.

Non-discrimination obligations apply to transmission and distribution network charges in electricity and gas, for example. The aim is to ensure that all competitors are treated equally. In particular, a supply business in the same ownership as a network business must not be favoured at the expense of competing supply businesses that need to have access to that network. (These other supply businesses may or may not be associated with other networks.) As long as access to the network is held to be integral to competition, then non-discrimination would seem to be an appropriate policy. This is also an established principle of European competition policy.

31. Direct control of termination charges

Oftel concludes that direct control of termination charges is the most appropriate form of regulation. "Although this type of regulation is intrusive, it protects consumers from excessive prices whilst at the same time providing flexibility to the regulated firm." (p. 29) Oftel proposes to extend this form of control to all four major mobile operators (whereas the previous charge controls applied only to the two largest), and to extend the duration of the control to four years (whereas the consultation envisaged two years).

The Price control statement makes reference to the proposed control maintaining the incentive to efficiency. This is evidently in a short-term context. There is no discussion of the potentially adverse impact of such regulation on longer-term incentives to innovate or compete via the avenues discussed above.

The Price control statement says, "Having made an assessment of the competitive constraints on call termination, Oftel does not anticipate that call termination charges will be constrained at a competitive level in the near future." (p. 30) However, on Oftel's assumptions and under its proposed policy, it is not clear that it could ever be anticipated that the termination charges would be constrained at a competitive level, even in the longer term. Since the controls would actually reduce the incentive to innovate, enter and compete, it is not clear how they could ever be removed.

Criteria for setting charge controls

Oftel identifies a 'target' termination charge in 2005/06 and calculates the percentage (X) by which the charge would have to fall each year from its present level.

> Oftel's view is that the most appropriate and economically efficient basis for regulatory charge control charges is forward-looking LRIC [Long Run Incremental Cost]. This corresponds more closely to the charges in an effectively competitive market and so provides a better measure of economic costs than the cost base in the current charge controls (fully allocated costs (FAC) using historic cost accounting (HCA) information). It is a fundamental goal of price regulation to mimic the effects of a competitive market and this consideration underpins the use of LRIC. (p. 34)

Participants in a competitive market do have to consider forward-looking costs. However, earlier discussion in this paper has questioned whether market prices are normally equal to such costs. The dynamic or Austrian view is that market prices may tend in that direction over time, but are constantly in course of change in many respects. So "to mimic the effects of a competitive market" would involve mimicking a process rather than a particular level of price.

Oftel argues that the policy options implied by static neo-classical analysis would differ substantially from those advocated by Oftel. For example

> …if a regulator attempted to replicate the conditions of perfect competition it would be appropriate to intervene to reduce price to cost. A tough price control with an immediate one-off downward adjustment of prices to eliminate any profits in excess of the cost of capital would be necessary. Yet Oftel has never advocated this approach because of its very poor dynamic incentive properties. Oftel has made it clear that any regulation that is likely to distort investment incentives is disproportionate in the mobile industry. (para A8.6)

Oftel's acknowledgement of the importance of dynamic incentive properties is welcome. However, does spreading an enforced price reduction over four years really increase incentives and meet the Austrian concerns? The competitive market process is about more than bringing price of a given service down to the level of cost, and incentivising producers to reduce their costs. It is also about finding which products and services are most preferred by customers and which producers are best at supplying them. It is about providing incentives to new producers to enter the market and less efficient existing producers to exit. It is about discovering new and better products and services.

Any regulation of prices has to be consistent with this broader concept of competition. In other words, a regulatory policy needs to go beyond the relationship of price to cost and the immediate

effects on customers and even on company efficiency. It needs to consider also the longer-term effects on competition and innovation and the development of new techniques. As, indeed, Oftel's statutory duties require.

Reassuring customers and investors

From this perspective, even if a price control is adopted, it is no longer obvious that the aim should be to secure price equal to any particular level of cost by the end of the control period, let alone that LRIC is the most appropriate calculation of that cost. The first RPI-X price control was introduced when British Telecom was privatized in 1983. The initial X of 3 was not set to achieve any such aim. It was set primarily to reassure and protect customers, and to offer them some tangible benefit, while ownership changed and competition developed. It also offered some reassurance to investors as to what level of pricing would be acceptable during this period, which in turn gave them the confidence to invest.

For purposes of reassuring customers and investors, a control based on LRIC would be no more advantageous or defensible than one based on FAC. But is it sensible to use any particular cost as a base? That implies a continuing commitment periodically to adjust the price control to secure price equal to that cost. That introduces unnecessary regulatory uncertainty, quite apart from discouraging investment and innovation.

Instead, the continuing regulatory commitment ought to be to secure a competitive market where a price control will be unnecessary. That requires facilitating new entry, both by removing barriers and by retaining the incentives on competitors to discover more effective ways of competing in those areas where prices are in excess of costs. While such regulatory and discovery processes take place, simply holding termination charges at present levels, in real or nominal terms, would provide the necessary assurance to customers and investors.

32. Network externalities

Oftel calculates LRIC under various scenarios, plus a markup for the recovery of common costs. It obtains values of around 4 pence per minute. Then there suddenly arrives a concept that has not previously made an appearance in these Oftel consultation papers. Oftel argues that there are "network externalities" that should modify this LRIC figure.

> Since callers to mobiles benefit from the called party's decision to subscribe to a mobile network, it is appropriate that the charge they pay for the call should reflect this benefit. This is done by adding a further mark-up to the termination charge paid by the calling parties in order to reflect the value of this network externality. (p. 37)

Oftel calculates the value of this network externality to fall in the range of 1 to 3 pence per minute. It uses a midpoint externality value of 2 pence. Added to the LRIC of about 4 pence this makes a total target termination charge of around 6 pence.

Oftel explains its thinking on externalities in the longest annex in its Price control statement, over 14 pages. This is certainly redolent of the neo-classical welfare economic optimal pricing literature of the 1970s.[62] But is it relevant to the protection of customers and the promotion of competition? Further examination suggests that it is potentially harmful.

Background on network externalities

The concept of network externalities in telecommunications was developed while AT&T was still the prime monopolist in the US industry. Its margins on long distance calls were high and increasing, as consumer demand increased rapidly while a series of technological developments reduced costs. The long-distance market was an obvious attraction for competitors, but in general new entry was not allowed into what was then a regulated monopoly.

Was there any justification for not allowing such competition? At that time telephone penetration was far from complete, and it was in AT&T's interest to attract more subscribers into the system. They would make calls themselves and encourage more calls from existing subscribers. A way of attracting these additional subscribers was to subsidise monthly rental charges to residential users (and to a lesser extent small businesses). AT&T argued that this was socially desirable, but was only possible because it could be financed by high margins on long-distance calls. If competition were allowed on long-distance routes, the margins on those calls would fall towards cost, and subsidizing subscribers into the system would have to be abandoned. On this argument, a social benefit would be lost. Better not to allow competition that would have this disadvantageous consequence.

[62] See for example the central role of the "Rohlfs-Griffin factor" – the ratio of marginal social to marginal private benefit.

Ultimately, this argument did not prevail, new entry was allowed, and competition flourished. However, regulatory pressure since then seems to have held down monthly rental charges for residential lines below cost, at the expense of keeping call charges higher than they otherwise would have been. It has been estimated that the distortion caused by doing this has a welfare loss in the range $2.5 billions to $7.0 billions per year[63], and that welfare losses to business subscribers might be even higher. Externalities were considered in this calculation, but any welfare loss from not subsidising rentals was far outweighed by the gains from cheaper calls.

Oftel's previous stance

Oftel's previous stance at the Monopolies and Mergers Commission was not in favour of a significant allowance for externalities.

> The DGT said that while he accepted that such externalities might exist, he did not believe that they constituted a reason for departing from termination charges based on cost. He said that there were very considerable uncertainties as to the quantification of externalities; that at best they were likely to be insignificantly small, in a range that included negative adjustments as well as positive ones; and that there was no assurance that any allowance given in the form of higher termination charges than otherwise would feed through to lower costs for new subscribers acquiring mobile phones. (Cellnet and Vodafone, p. 60)

The MMC's view

The MMC considered externalities only in the course of its assessment of marketing costs, which it viewed rather sceptically.

> Marketing costs do not necessarily benefit anyone other than shareholders; but to the extent that they inform customers of the products and services available and the prices at which they can be obtained there is a clear benefit to customers. However, this would seem almost

[63] Crandall Robert W and Leonard Waverman, Who pays for universal service when subsidies become transparent? Washington DC: Brookings Institution, 2000. Cited in Robert W Crandall and Jerry A Hausman, "Competition in US Telecommunications Services: Effects of the 1996 Legislation", Chapter 2 in Sam Peltzman and Clifford Winston (eds.), Deregulation of Network Industries: What's Next? AEI Brookings Joint Center for Regulatory Studies, Washington DC: Brookings Institution Press, 2000, at p. 78.

> entirely to be the subscribers to mobile networks rather than callers to mobiles, who to only a very limited extent so far appear to have been the target group for the MNOs' marketing effort. ...
>
> we are not convinced that, in terms of efficient cost allocation, there is a case for any service provider incentives or marketing costs to be recovered in the MNOs' termination charges. (Cellnet and Vodafone, p. 59)

Two of the operators argued that externalities should be taken into account in deciding how to handle marketing costs. The MMC declined to be drawn into a wide-ranging investigation of externalities and how they should be factored into prices.

> Our more limited objective is to determine whether the external benefits of subscriber growth in mobile telephony provide a justification for allocating some part of marketing costs and service provider incentives to fixed to mobile calls. (Cellnet and Vodafone, p. 61)

After some deliberation the MMC judged it appropriate to allocate 0.5 pence per minute of service provider incentives and marketing costs to calls to mobiles, but warned that the externality argument for doing so "only holds if it is used to subsidize new subscriber acquisition". (Cellnet and Vodafone, p. 62)

Critique of Oftel's present proposal

The MMC's allowance of 0.5 pence for externality-justified marketing costs was in the context of calculated call termination costs of about 11.5 pence for Vodafone and 13 pence for BT Cellnet. The externalities allowance thus constituted an increase of about 4 per cent on the previously calculated cost. In contrast, Oftel's present proposal, making no reference to marketing costs, is for an additional 2 pence on a cost of about 4 pence, an increase of about 50 per cent. This is a remarkably large adjustment to hang on such a controversial issue, particularly where the arguments are so often reminiscent of angels on pinheads.

A dynamic perspective on competition needs no appeal to externalities in order to justify an element of marketing in a calculation of costs. Only in an unrealistic static world with perfect information would these marketing costs be ignored. The MMC recognized that competitors need to incur costs in order to inform customers what they have to offer. As to how these might be assessed, the diverse assumptions about cost allocations and cross-elasticities of demand are striking but unpersuasive. It is difficult to see any more plausible basis for allocating marketing costs than some broad averaging of them across the main activities and services of each business.

The more serious concern is that the externalities argument threatens the emergence of competition. Competition will tend to drive each dimension of price towards cost, provided there are no barriers to entry. However, suppose it is accepted that termination charges have to be kept 50 per cent above the cost of providing termination services in order to secure alleged external social benefits from subsidizing handsets and originating calls. Then it is only a short step to concluding that competition for termination services would not be a good idea after all. Some will argue that the barriers to entry here are actually helpful, and ought not to be removed. Some will conclude that operators should be prevented from reducing their termination charges below the prescribed level. All this would be inconsistent with the promotion of competition and protecting the general interests of customers.

33. Conclusions on termination charge policy

Oftel has concluded that competitive pressures are insufficient to restrain termination charges to a competitive level. It would prefer to take measures to increase competition, but considers that these would not be effective in the foreseeable future. Tying termination charges to the prices of other services would be risky. But something must be done because the excess of price over cost is economically inefficient and unfair. Oftel therefore considers that a continued price control is necessary. It proposes to reduce termination charges to its estimate of Long Run Incremental Cost plus Externality over a period of four years, by requiring the companies to reduce charges by RPI-12 per cent per year.

It has been argued here that there seems to be greater scope for promoting competition in termination charges than Oftel allows. Both the routes that Oftel identifies - Mobile Virtual Network Operators and multiple SIM cards – could be facilitated by obligations on network operators to provide relevant information and access.

Oftel highlights the disadvantages of market power used to raise price but seems to overlook the disadvantages of such power used to discriminate in price. Such discrimination can restrict and distort competition. Where competition to provide services over networks requires access to those networks, it is standard policy in other utilities to require network owners not to discriminate in their charges between their own businesses and those of their competitors. A similar approach could be adopted here.

A price control that reduces one dimension of price closer to cost can increase one aspect of economic efficiency, but only by acknowledging that prices of other dimensions are likely to be increased closer to cost. Moreover, identifying the level of that cost in practice is problematic. Insufficient account seems to have been taken of the wider aspects of the competitive market process, including the need to consider the potentially adverse impact of severe price controls on the incentive to innovate, enter and compete in future. Holding termination charges at the present level while promoting competition would be a way of maintaining incentives while continuing to reassure customers and competitors.

Oftel's proposal to increase LRIC by 50 per cent on account of externalities is remarkable, and in contrast with Oftel's previous stance and with the Monopolies and Mergers Commission's previous allowance of 4 per cent to cover marketing costs. The concept of network externalities associated with mobiles is of doubtful theoretical and empirical validity as a basis for policy. Most importantly, the concept itself threatens the emergence of competition. If termination charges have to be held above the cost of providing termination services, by any amount let alone 50 per cent, in order to subsidise access charges, then it is but a short step to arguing that competition to provide termination services would be undesirable.

34. Summary and conclusions

All around the world, countries are increasingly facing the transition from statutory monopoly to a competitive market in a variety of different sectors especially energy and telecommunications. How best to deal with this transition?

Regulators are typically given two main duties: to protect customers with respect to price, and to promote competition. In the early stages of a market, a price control may be appropriate to protect customers while competition develops. Yet regulators are often tempted or pressed to conclude that a further period of price control is necessary because the market is still not quite competitive. Both initially and later, they are faced with the argument that such a price control should be set equal to the cost that the most efficient firm or firms would incur, because that is what effective competition would mean. This would ensure that customers are not exploited. A further twist to the argument is the claim that competitors would and should emerge only if they can provide the service more efficiently than the regulated incumbent(s).

This paper has argued that this is not a realistic characterization of the nature of competition. In the real world, competitive markets are not characterized by all firms having the same costs, products and prices. This is a description of a hypothetical equilibrium situation, not a description of the competitive process that actually goes on at any time. The essence of the competitive process is the discovery of lower costs, better products and more informed prices. The phrase “more informed prices” is shorthand here for the outcome of a much broader process. Customers switch from higher price to lower price suppliers of a given product, so high price suppliers find they need to reduce their prices and low price suppliers find they can increase them. The constant pressure of productivity improvements and the development of new and better products tends to reduce prices over time, but there is a constant need to anticipate and adjust to underlying shifts in supply and demand.

At any one time, costs, products and prices differ from one supplier to another, and from one customer to another. Those suppliers that make successful judgments and anticipate the market well, make higher profits than others. These profits are an incentive to others to emulate and surpass them, not least by finding new products or services that will appeal better to customers. This is not to rule out the possibility of profits due to monopoly. But the benchmark against which profits are to be judged at any time is not simply the cost of capital, on the assumption that this is the return that all participants in a fully competitive market would receive.

It follows that there are severe disadvantages to a policy of setting a price cap equal to the cost of the most efficient firm(s). It focuses unduly on the short-term, and on only one part of the competitive process. It reduces the incentive for competitors to enter and for customers to exercise choice. If incumbents’ prices are reduced by regulation there is correspondingly less evidence of the potential effects of competition. There is less justification for removing the price control in future.

To argue that competition is unnecessary because regulation can deliver the same benefits is short-sighted. Regulation cannot deliver the innovation in products and techniques on which the welfare of customers ultimately depends. There is also widespread evidence of regulation being influenced by interests other than those of customers.

Policy on transitional price controls

It has been argued in this paper that a different approach should be taken. There is a general presumption that over the long run a competitive market will provide a better deal for customers

than regulation. Whilst adequately protecting customers during the transition, the aim should be to provide the conditions most conducive to the emergence of competition. In general this does not mean setting a price cap equal to the cost of the most efficient producer. Static neo-classical economics gives the wrong steer here. As just noted, in real competitive markets, prices tend toward cost, but producers have very different efficiencies at any time. The higher cost producers seek to emulate the lower cost ones, and if they fail to do so tend to be eliminated. But this is a process that takes time, and is never completed since conditions are always changing.

A more appropriate approach is to use a price cap simply to "hold the fort" in terms of prices. In general, this might be at previous levels, so that customers are no worse off as competition is introduced. In some limited cases there may be an opportunity to reduce prices and pressure to do so – for example to reflect a significant achieved and continuing cost reduction. In other cases provision may need to be made for a price increase that would have been necessary anyway. Whatever the situation, there is advantage in letting competition rather than regulation bring to customers the benefits of efficiency improvements and keener purchasing. In setting the level of the price cap, the trade-off is not simply between the interests of customers and producers, it is also between the short-term and long-term interests of customers. The interests of customers lie in being able to exercise choice in the market now and in new suppliers having the incentive to enter the market with better prices and products in future.

At the same time as "holding the fort" on prices, the regulator needs to take active steps to remove barriers to entry and to promote the emergence of competition. This will provide the ability and incentive for competitors to enter the market and for customers to exercise choice. Benefits will then accrue to customers through the development of competition.

Illustrations from retail competition in electricity supply

Regulatory policy in the UK electricity sector has emphasised two considerations: the need to remove barriers to the entry of new competitors in retail supply, and the need to set price controls that encourage the development of competition in the market as well as protect customers. At the time of renewing the retail supply price control there was a debate as to what level of the control would best achieve this balance. In the event the outcome was a control that enabled competition to develop. There is now every prospect that the control will be removed in April 2002, and that customers will henceforth be better protected by competition.

Regulatory policy in Victoria, Australia, seems to have reflected these lessons. The ORG has actively sought to remove barriers to entry and facilitate the transition to competition. In advising on the levels at which incumbents might be allowed to set prices, it has recognised not only the prospective increases in costs but also the implications for competition. However, it seems that the State Government has taken a shorter-term view, and imposed significantly lower caps on the price increases. It remains to be seen whether these are consistent with the development of competition, let alone the ultimate removal of these controls.

Regulatory policy in the USA has been mixed. In setting price controls and "shopping credits", some jurisdictions seem to have sought to encourage competition, others to have discouraged it. Yet others have tried to obviate or minimise the need for retail competition by requiring incumbents to set retail prices directly reflecting wholesale prices. In general, however, there seems to have been only limited concern to remove barriers to entry, to make explicit the calculations of price controls, and to facilitate retail competition. As a result, such competition seems to be decreasing rather than increasing. There seems little prospect of the price controls being removed in the near future. In California the very concept of competition in retail supply has been abandoned as a result of State Government policy. There are obviously many reasons for the difficulties in the US electric power sector, but government and regulatory policy on retail competition has undoubtedly been a significant factor.

Illustration from mobile telephones

In the past, the UK regulator Oftel has set price controls on termination charges for mobile telephones because it has found no evidence of competition for that service between the then-two operators. The number of operators has now increased to four. However, Oftel has concluded that the termination charges of all four operators are excessive in relation to cost, and that there is still no prospect of effective competition for termination services. It has proposed that termination charges of all four operators should be subject to a RPI-12 price cap for the next four years.

Oftel's assessment of this issue has unfortunately been clouded by its review of competition in the mobile sector generally. As to the latter, Oftel acknowledges that prices in general have been decreasing, quality of service has been improving and there is evidence of general customer satisfaction. Oftel's conclusion that competition is still not fully effective in this market depends essentially on its finding that one company's return on capital has been persistently high, which Oftel attributes to market power.

The more plausible interpretation of the cost and profitability data is that the differential profit rates reflect different efficiencies. Oftel's consultants have found the profitable company to be one of the two most efficient companies in Europe. The failure of its UK competitors so far to match it is more consistent with market ignorance than with market power. They would like to be as efficient but have not yet discovered how to do this. But this is the typical situation in any market. Costs tend towards more efficient levels as companies learn, and prices tend to efficient costs, but all this takes time, and the situation is likely to change before they get there. The fact that at one point in time rates of return differ significantly, even for several years, does not indicate that competition is ineffective. There are many other indications in the mobile market of the effectiveness of competition.

It is true that each mobile operator has a monopoly on call termination to its own customers, and mobile operators appear to have set termination charges above termination costs. However, since there is competition to provide the overall package of services, including handsets, call origination and call termination, the high margins on termination services have induced operators to set other charges below cost in order to attract such call terminations. The overall outcome has been declining rates of return, which are now on average below the cost of capital.

The consequence of these apparent distortions in price is that there have been more calls within each network, and fewer calls between networks, than there would have been had each company not had a monopoly over termination to its own customers. There are presumably gains to be made by relating prices more closely to costs. However, Oftel's calculations of this are not explained and cannot be taken at face value. For example, it is not clear what assumptions it has made about increases in charges for handsets and call origination to offset the prospective reductions in termination charges, and how far this rebalancing is assumed to lead to fewer mobile subscribers.

Whether it is worth taking steps to deal with this situation is unclear. Given the record of competitive achievements in this market, and the prospect of continuing improvements, it is not clear that any future regulatory changes are necessary or appropriate.

However, if regulatory action is deemed to be necessary to deal with the distortion, a severe tightening of the price control on termination charges is unlikely to be the best way forward. That would have long-term disincentives to innovation and competition, and make it more difficult to remove the controls in future. It would presumably cause problems for those operators that have

not yet discovered how to match the low costs of the most efficient company. The calculation of the relevant cost base for the control would necessarily be somewhat arbitrary. Oftel proposes that target termination charge should be some 50 per cent higher than termination cost on account of network externalities. This is inconsistent with competition in termination services, and sets a dangerous precedent by implying that it may be necessary to restrict such competition.

If the present level of termination charges is considered unacceptable, it would be better to deal with the source of the problem by facilitating competition to provide termination services. Oftel identifies competitive possibilities associated with Mobile Virtual Network Operators and multiple SIM (subscriber information module) cards. It explains that removing the barriers to such competition would require competitors to have access to the SIM card details of subscribers to other networks. It proposes regulatory action in this respect, but apparently without the commitment necessary to secure it in a timely way.

In other utility sectors where competitive provision of services depends on access to some necessary input such as a network, the norm is to require network owners to provide such access on a non-discriminatory basis. This could presumably be done here. In the meantime, maintaining the caps on termination charges at their present level would reassure customers that they continue to be protected while competition develops.

In short, in mobile telecommunications, as in electricity and no doubt other sectors too, transitional price controls have a role to play while steps are taken to promote competition. In setting and resetting these controls there is a choice to be made. Tighter price controls may seem to have benefits for customers, but these are essentially short-term, and at the expense of competition. Longer-term benefits can generally best be secured simply by holding prices to reassure customers, while taking active steps to enable competition to develop.

Some suggestions for further reading in Austrian economics and the competitive process

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