8 Views of the DGT

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Introduction

8.1. The DGT sent us a main submission—which he also made public—as well as a number of supplementary ones and detailed responses to our questionnaire. We also held five hearings with the DGT and his colleagues from OFTEL. This evidence related to the three references made by the DGT relating respectively to the termination charges levied by Vodafone and Cellnet and to BT's retention on fixed-to-mobile calls. As explained in Appendix 1.1, the investigation for all three references was conducted by the same Group of members in parallel, and evidence was not sought separately for each of them, but rather all evidence was considered in relation to each reference where relevant. In this chapter we summarize the DGT's underlying concerns in making the references to us and his views on the major issues relevant to our inquiry.

The DGT's concerns

Termination charges

8.2. The DGT told us that mobile phones were an increasingly important part of everyday life. Over 10 million people in the UK had a mobile phone and the combined revenues of the four MNOs were nearly £3 billion a year. Mobile phone ownership was growing by 20 per cent a year.

8.3. The issue of excessive prices for calls-to-mobiles had been raised during the review of BT's retail price control in 1996. Following complaints from business and residential customers of fixed networks that the prices were excessive, the DGT decided that a separate investigation into these prices was appropriate. As part of the investigation, the DGT also examined the practices of charging for recorded announcements for unanswered calls and diverted calls on Vodafone's and Cellnet's networks. The investigation focused, as regards the MNOs, on Cellnet and Vodafone, as they had between them about 75 per cent of mobile customers and their termination charges had always been higher than Orange's and One2One's.

8.4. The DGT took the view that call termination on a mobile network, as on any network, was a bottleneck service, ie calling customers had no choice but to use the network chosen by those they were calling if they wanted to make those calls. The DGT considered that the charges for call termination and indeed any service which was a bottleneck should, as a matter of principle, be cost-orientated, to protect the consumer. Furthermore, his view was that the cost methodology used should be LRIC, which he believed most closely reflected the way in which charges would be set in a competitive market.

8.5. In March 1998, in making the present references, the DGT published a Statement setting out the results of his investigation. He stated that he had concluded that the prices of calls-to-mobiles were, despite some reductions during the period of the investigation, still excessive in relation to cost. He took the view that the termination charge for 1998/99, on an FAC basis, should be 10.6 ppm instead of the 14.83 ppm the operators were proposing from August 1998. The DGT therefore considered that the level of Cellnet's and Vodafone's termination charges adversely affected the interests of consumers.

8.6. Further, while the charges set by Orange and One2One were not within the scope of the present references, the DGT said that he would be minded to propose modifications to their licences also, if this were to prove necessary, in order to bring their charges into line with the charges of Cellnet and Vodafone.

Single retail prices and termination charges

8.7. The DGT also considered that the retail price of calls-to-mobiles should be the same for calls to all the mobile networks after MNP was introduced in January 1999. Customers would, from that date, be able to change mobile networks without changing their mobile phone numbers, so people calling them would no longer know from the number which mobile network they were calling (see Appendix 3.2 for details of the proposed MNP arrangements). The DGT considered that callers from fixed networks should not face higher and unexpected charges for calling a mobile phone which had been ported with its number to another operator which charged more for call termination. It was unreasonable for consumers calling a ported number to pay more than the call charge for the number before it was ported, given that they had no way of knowing that they would be charged more than before and had no choice about ringing that network. Accordingly, although not covered by the present references, the DGT considered that there should be a single set of retail prices for each originating operator for all calls from that operator to all mobile networks (although the prices might vary by time of day and different originating operators could have different sets of prices).

8.8. The DGT believed that if there was a single set of retail prices, then there was a strong argument in favour of equal termination charges. Otherwise, the retention of the originating operator would vary according to whether that operator's customer was calling the customer of a high- or low-cost MNO. Equal termination charges set on the basis of reasonably efficiently incurred costs would also have the effect of forcing MNOs to recover any inefficiently incurred costs from their own customers, where there was a degree of competitive pressure, rather than from the customers of other networks. We were told that, in his 1991 determination of Cellnet's and Vodafone's termination charges, the DGT took this factor into account in dealing with the differential termination charges he calculated based on Cellnet's and Vodafone's costs: he rewarded Vodafone's comparative efficiency and penalized Cellnet's comparative inefficiency by setting a single termination charge between the figures based on the two operators' sets of costs. It was the DGT's view that the licence modifications for Cellnet and Vodafone and the proposed arrangements for Orange and One2One referred to above should provide for a single termination charge based on the costs of an efficient operator.

Unanswered and diverted calls

8.9. The DGT included in the Cellnet and Vodafone references specific questions relating to the two operators' practice of charging for recorded announcements on their networks (see paragraphs 3.49 to 3.51). He explained that a consumer who made a call on the fixed or mobile networks did not expect to pay when the call was unsuccessful. The practice in the fixed network generally, for fixed network calls to Orange and One2One and for calls from Cellnet and Vodafone to other customers on their own networks, was that callers paid only for a call which was completed. Although there were costs incurred in respect of unsuccessful calls, these were recovered by operators from their charges for successful calls.

8.10. However, where a consumer called a Cellnet or Vodafone phone and the call was not answered, nor a messaging service supplied, the consumer heard a recorded message which simply announced that the call could not be completed because the phone was switched off or out of range. BT's practice, under the interconnection agreements it had with Cellnet and Vodafone which required BT to make a payment to those MNOs for unsuccessful calls transferred, was to raise a charge for the duration of the recorded announcement at normal retail mobile rates, even though the consumer received no useful information. Consumers were often unaware that these unsuccessful calls were being charged for until they saw them itemized on their bills. Cellnet and Vodafone had set up their systems so that they did not distinguish between incoming calls answered by recorded announcements and those answered by a message-taking service. However, their digital GSM networks were similar to the PCN networks operated by Orange and One2One, which did not charge for uncompleted calls, so that they too could be configured to make this distinction.

8.11. The DGT recognized that unsuccessful calls incurred costs but said that it was unlikely, in the case of these types of call, that cost-reflective pricing would be economically efficient. For economic efficiency to result from pricing services according to their costs, it was necessary for price signals to be given to consumers in a way that allowed them to change their behaviour. The current complexity of charging arrangements for calls-to-mobiles meant that most customers did not have a clear indication of when unsuccessful calls were charged for, or how they should modify their behaviour in order to reduce the costs they imposed on the system. While it might be argued that customers should obtain such information as would enable them to know when and for what they were being charged, it was probable that the costs and inconvenience for most customers of acquiring this information would outweigh any gains that they could expect to make from applying it. Furthermore, even if they understood the price signals sufficiently, it was unlikely that customers could change their behaviour effectively: in many cases, calling customers had no idea as to whether the call would be successful or not and so were unable to change their behaviour in a way that reduced the probability of unsuccessful calls being made.

8.12. It appeared to the DGT, therefore, that there was little or no merit, from an economic efficiency point of view, in charging for unsuccessful calls. The practice served little purpose and was objectionable on the grounds that customers found themselves, often unexpectedly, paying for services they were not aware of having consumed—or did not regard as a service at all. In the DGT's view, the practice was against the public interest and should cease. The charging arrangements for unsuccessful calls from fixed networks to the Cellnet and Vodafone networks should be changed to reflect the current charging arrangements, with which most people were familiar, for fixed-to-fixed calls.

Diversion of calls from mobile to fixed phones

8.13. The DGT also had concerns over the charging arrangements for diversion of calls from mobile phones on the Cellnet and Vodafone networks to fixed phones. Normally, callers diverted from one fixed-line number to another were charged the standard rate for a call to the called number at that time, with the diverting consumer paying for the diverted leg. The same was true of callers to mobile numbers. However, on Cellnet's network, diverted calls were charged from the moment they were diverted back to the fixed network, and on Vodafone's network they were charged from the moment a recorded message announcing the diversion was played, even though the caller might then hear only a ringing tone or engaged signal. Thus, the caller paid at the high call-to-mobile rate to listen to a ringing or busy tone, even though the more costly switching functions of the mobile network used to locate handsets were not being used. Although Cellnet and Vodafone claimed that such charges had to be made in order to cover the cost of diversion to voicemail, the DGT believed it was unreasonable that callers should be charged for diverted calls before those calls had been answered—and at the high call-to-mobile rate.

The references

8.14. The DGT stated that he had a statutory duty under the 1984 Act to promote the interests of consumers and to promote efficiency and economy on the part of operators. He believed that the excessive prices for calls-to-mobiles acted against the interest of consumers. The prices were excessive in relation to cost and there seemed no compensating benefits to customers to justify this. In many cases calling customers would not be aware either that they were calling a mobile phone or how much the call cost. It was the mobile phone owners who chose the network and they generally made the choice on the basis of the charges they had to pay, ie for line rental and outgoing charges, not on the basis of what it cost to call them. In addition, the market for mobile services was not open to further competition because the Government had stated that it would not license additional 'second-generation' MNOs. The high prices for calls-to-mobiles could not therefore be undermined by additional competitive entry.

8.15. Faced with what he considered excessive prices the DGT said that it would have been open to him to have proposed licence modifications to the operators to put into place direct regulatory controls. However, he noted that the three operators directly involved had, in discussions, refused to reduce charges to the level he considered appropriate and that the MNOs had actually agreed higher rates with CWC which had prevented him from proceeding with a Final Order. It was clear to him that modifications to impose price controls would not be acceptable to the companies. To seek to proceed by agreed licence modifications would inevitably have led to further delay in the reduction of charges. If licence modifications had been proposed and then rejected by the companies the matter would then, in any event, have been referred to the MMC, but only after a further delay of several months.

8.16. In addition the DGT was aware of the major potential impact of reductions of the size he proposed on the operators' businesses, and did not feel it appropriate to make decisions on the narrow issues of prices for call termination without a fuller consideration of the wider public interest of the effects of such action. Accordingly, he referred the matter to the MMC to investigate how the public interest was affected by the high price of calls-to-mobiles and, if they considered it appropriate, to propose licence modifications to lead to a reduction in those charges (see Appendix 1.1).

Absence of competitive constraints on termination charges

8.17. The DGT said that MNOs, like all other network operators, had bottleneck control over the termination of calls on their own networks. This view derived from the fact that the caller paid for the call, but it was the called customer who made the choice of mobile network on which call termination took place. In normal markets, suppliers which raised the price of goods to their customers faced the prospect of losing sales as their customers reduced consumption and/or looked to move to other suppliers. With call termination, this was not the case. The customer of the terminating operator did not face higher prices if the terminating operator raised its charges for termination. These extra charges were borne by the calling party. Customers wishing to call the customer of a particular operator had no choice but to use the network to which the called party was connected if they were to make the call. While this would not be the case if the called party were a customer of more than one network, for most customers it was the case. The terminating operator therefore had considerable ability to raise charges for call termination without the risk of losing customers to alternative suppliers. This was different from call origination, where the charges were paid by the same individual making the choice of network.

8.18. It was not the DGT's view that calls-to-mobiles should be looked at in isolation from other forms of communication, but there did not appear to be any obvious close substitute that acted to constrain the price that could be charged for call termination on a mobile network. Generally, the fact that a call was being made to a mobile telephone was an indicator that the caller required contact to be made at that time, so that, for example, a call to a fixed line at some later time would not be a good substitute. The wide price differential between the two types of call would not be sustainable if it were a good substitute.

8.19. The DGT recognized that alternative forms of mobile communication, such as pagers, were available. However, he did not consider that pagers were good substitutes for calls-to-mobiles. Pagers did not allow immediate dialogue with the person called in the way that calls-to-mobiles could. Moreover, even if the use of pagers were considered a possible substitute for calls-to-mobiles, this would not restrict the ability of the MNOs to set termination charges at an excessive level, except where the customer had both a pager and a mobile and the calling party was aware of this and knew both relevant numbers.

8.20. As to private wire tariffs, the DGT said that for some corporate customers the consumption decision was about which mobile network to subscribe to for a large number of connections, in a situation where a good proportion of the calls-to-mobiles would be paid for by the corporate customer (an example of a 'closed user group'—see paragraphs 4.150 to 4.152). For these customers, the price charged for inbound calls through the private wire service was probably part of competitively-determined sets of prices. However, the private wire tariff was of interest only to larger business customers, and was not relevant to most residential and SME customers. The existence of the private wire tariff was evidence that in the market for large corporate customers there was a degree of competition in call termination charges for calls made within the customer's own group. But this had little relevance for the analysis of the role of competitive forces in setting charges for call terminations generally.

8.21. It seemed to the DGT that the private wire tariff was designed precisely to avoid, rather than encourage, the spreading of benefits of competitive pressure in the corporate customer market across to other groups of customers. The private wire tariff was a form of price discrimination, which allowed the MNOs to focus rather than spread the benefits from competition. If an MNO were prevented for some reason from offering a private wire tariff, and non-discrimination rules were enforced very strictly, then there might be something in the proposition that the private wire tariff helped to put competitive pressure on termination charges. If other MNOs already had a private wire tariff in the market, the new MNO would have to set prices in the corporate sector to compete with these. If no price discrimination were allowed, it would then have to set prices for other customers in a way that was consistent with this. However, this was not the situation which actually existed. Price discrimination was allowed (as long as it was not undue and tariffs were available to a broad class of customers, ie no bespoke tariffs), of which the most obvious form was the private wire tariff itself, and all MNOs price-discriminated by offering private wire tariffs.

8.22. The DGT thought that 'call-back' (see paragraph 4.165) might be viewed as a possible demand-side substitute for calls-to-mobiles, with the roles of the caller and the call recipient being reversed by mutual agreement. However, it was likely that a fairly significant differential between outbound and inbound calling prices could develop before call-back became a significant constraint on the price of calls-to-mobiles. In addition, the extent to which downward pressure on the price of incoming calls might be exerted would be heavily reliant on the willingness of the call recipient to bear the cost of calls that might have been neither solicited nor welcome. In the event that call-back took the form of outbound calls being replaced by lower-priced incoming calls, consumers would benefit and competition would be enhanced: outbound call prices were above cost (including a normal rate of return) and there would be pressure to bring these prices close to cost.

8.23. Another way in which the DGT saw that call-back could exert pressure on the price of incoming calls would be if the differential relative to outbound calling prices was sufficiently large to attract arbitrage operators willing to turn the incoming call into an outgoing call. Again, however, the DGT believed the price differential would have to be very significant, as such operators would need to cover their costs and make a profit from the differential.

8.24. The DGT told us that he was aware that an arbitrage opportunity existed that could make it cheaper to divert calls to the UK mobile networks via an international operator (ie international tromboning—see paragraphs 4.56 to 4.58). He did not believe, however, that consumers benefited significantly from such arrangements. An estimated 5 per cent of the total interconnecting traffic to mobiles in 1998/99 would be international traffic, not all of which would have been diverted from the UK. In any event the ability of operators to exploit this arbitrage opportunity was already coming under pressure through the awareness of this issue in international fora, combined with the commercial driver for a solution, and these matters were likely to come to a head in 1998 (rather than in a few years' time).

8.25. The DGT thought it conceivable that an increase in competition in the price of outgoing calls, resulting in a reduction in their price relative to incoming calls, could exert some indirect pressure on the price of incoming calls, but only if the price differential was of such significance as to encourage call-back. In general, the charges for outbound calls had little if any influence on calls-to-mobiles charges because of the MNOs' bottleneck control over call termination. Any competition that might exist between MNOs at the retail end of the mobile market tended to be focused on differences in coverage and offers on handsets rather than on competitive prices for termination services. More recently, the MNOs had started to compete by introducing more innovative tariffs, such as pay-as-you-go packages, but these focused on the price of outgoing calls rather than calls-to-mobiles. Any attempts to compete on call termination prices had proved unsuccessful, as evidenced by Orange's and One2One's attempts to attract more subscribers by initially offering lower termination charges than their rivals (see paragraph 4.101). The policy was abandoned by both Orange and One2One, probably because it did not have the anticipated effect of attracting new subscribers, as customers were not very price-sensitive in respect of inbound calls for which the calling party paid.

8.26. With regard to FNOs and their customers, the DGT acknowledged that these customers would certainly be expected to have a degree of sensitivity to the prices they paid, so that changes in termination charges could indirectly affect volumes of calls-to-mobiles. In this sense it was probable that FNOs were to some extent price-sensitive with regard to termination charges in so far as they reflected them in their retail prices. However, FNOs were not themselves price-sensitive, in the sense of being in a position to send more or less traffic to given termination destinations according to the charge made for delivery to those destinations: as the DGT had made clear, call termination was effectively a bottleneck so the originating operator had no choice but to send the call to the network to which the called customer was connected, and to pay the terminating operator the termination charge.

Universal Mobile Telecommunications System and Public Access Mobile Radio

8.27. The DGT pointed out that the Government's auction of additional spectrum in 1999 was for third-generation multimedia mobile services (UMTS) and not for further second-generation voice services. While the Government hoped to attract new entrants, the new services would not be available until 2003 and would clearly have little effect on competition in the immediate future.

8.28. In the DGT's view, PAMR was not a close or effective substitute for cellular mobile services. PAMR was aimed at specific groups of business customers and was not adaptable for the residential market. Nor was PAMR predominantly intended for use over the public network, but was more effectively applied as a command or dispatch facility to off-site workers who required regular contact for event- or location-driven work. It was unlikely that a cellular mobile service could perform this function as effectively as a mobile radio system. Furthermore, the limited spectrum capacity of PAMR meant that there was no prospect of PAMR operators competing in the mass mobile phone market.

Level of termination charge

8.29. The DGT reiterated his concern that the termination charges set by Vodafone and Cellnet were excessive, being substantially above cost, and that these levels of charge acted against consumers' interests.

Long-run incremental costs

8.30. The DGT believed the most appropriate and economically efficient basis for assessing the charges for a bottleneck service was that derived from forward-looking LRIC. Economic efficiency was promoted if prices reflected the incremental costs of relevant activities. Charges for call termination should therefore cover costs incurred in the provision of this service, including possibly some common costs, but should exclude costs which were driven by factors other than call volumes, such as subscribers' numbers. Forward-looking costs were based on a current, rather than a historic, valuation of assets. Charges set on this basis more accurately reflected the resource costs consumed by the provision of services, and corresponded to the level of charge which one would expect if a market were properly competitive. The key point of an FAC methodology (be it HCA or CCA) was that all costs must be allocated somewhere. This methodology was useful for ensuring full cost recovery but was not very helpful for setting economically efficient prices.

8.31. For several years the DGT had been discussing with the industry the need for interconnection charges to move from a basis of FAC to LRIC (see paragraphs 5.19 to 5.25). During the course of consultation over the last two years on revised arrangements for interconnection with BT, the DGT had made clear that his view was that, as BT's interconnection charges would in the future be set on the basis of LRIC, it was appropriate for other operators' interconnection charges to be on the same basis. Appropriate modifications were made to BT's licence, and to all other operators' licences, to remove FAC as the designated cost basis, towards the end of 1997.

8.32. In addition the EC had made clear its view that LRIC should be used as the basis of interconnection charges. The Recommendation of 8 January 1998 on *Interconnection in a Liberalised Telecommunications Market* (98/195/EC) included (in the seventh recital) the statement that 'the most appropriate approach to interconnection pricing is one based on forward-looking long-run average incremental costs, since this is most compatible with a competitive market'. Meanwhile, in the USA the Federal Communications Commission had likewise indicated that call termination charges should be set on an LRIC basis.

8.33. During the course of our inquiry, the DGT commissioned a firm of independent telecommunications consultants to develop models of MNOs' LRIC. The consultants reported to the DGT in September 1998 (see paragraphs 5.22 to 5.24).

Fully allocated costs

8.34. The DGT had calculated the appropriate level for the mobile termination charge for 1998/99 as 10.6 ppm on an FAC basis, as this was the form of costing specified in operators' licences at the time of the investigation. This level of charge compared to the rate proposed by Cellnet and Vodafone of 14.83 ppm from August 1998. (The DGT believed it probable that LRIC would result in a termination charge below 10.6 ppm—see paragraph 5.23.)

8.35. Prior to 1998, the interconnection condition of Vodafone's and Cellnet's licences had provided that interconnection charges should be determined on the basis of the FAC of termination, with an apportionment of costs, and taking into account relevant overheads and a reasonable rate of return on attributable assets, to reflect a fair balance between the interests of the MNO and the operator seeking interconnection. The DGT took the view that in order to give effect to the FAC licence requirements, it was appropriate that costs should be attributed to the services provided by MNOs. Direct costs should, clearly, be attributed to the service for which they were incurred. For indirect costs, such as marketing costs, an appropriate attribution methodology should be applied in order to allocate these costs across the relevant services. In the DGT's view there were three services which were relevant for this exercise: access, conveyance of incoming calls and conveyance of outgoing calls.

Access

8.36. The access service was defined by the DGT as the potential to make and receive calls. The DGT considered that access was a separate service provided by MNOs because there was a separately identifiable demand and an identifiable incremental cost for the potential to make and receive calls. There was an identifiable demand because customers attributed a value to, and were willing to pay for, the ability at any time and in (almost) any place to be in contact. They were able to make or receive a call, should this be necessary, and this was itself a service for which customers were willing to pay, irrespective of the number of calls they actually expected to make, or receive.

8.37. The starting point for the DGT's view of the cost categories relevant to a mobile network was an assessment of the cost drivers. The DGT said that there were three main drivers for the cost of a mobile network:

(a) the number of subscribers, which determined a number of cost elements such as handsets and handset tracking by the network;

(b) the need to achieve a geographical coverage of a chosen area; and

(c) the need to provide sufficient capacity to carry the expected volume of traffic.

8.38. In order to be reasonably economically efficient, the DGT believed prices should reflect the cost drivers which gave rise to the costs the prices were intended to cover. Cost driver *(c)* above was clearly related to the volume of traffic. Costs which were incurred in order to carry traffic should be recovered through traffic-related charges, while costs driven by the number of subscribers should be recovered by subscriber-based charges. In practice, it was not necessary to specify how handset costs should be recovered, since they were paid for directly by the customer. The costs of geographical coverage were not driven by either subscriber numbers or call volume. Under this approach of promoting efficient prices, the question of whether access was a service need not arise—the argument was simply that prices should reflect cost drivers.

8.39. In his work to derive a charge based on FAC, the DGT looked at both the cost and demand conditions on mobile networks. On the demand side, as noted, he believed there was a demand for the potential to make or receive calls, which was distinct from the demand for making or receiving a specific volume of calls. The security gained by knowing that, if a call was necessary, it would be possible to make (or receive) it was something that consumers attached a value to and were willing to pay for.

8.40. The combination of these demand and cost factors led the DGT to the view that access was a relevant service for the purposes of cost allocation. Further, having considered the nature of that service, the DGT took the view that the cost of geographical coverage, while fixed in relation to both subscriber numbers and call volumes, was most closely related to the provision of the access service.

8.41. The DGT's approach in his FAC work was to identify the services being provided and then to allocate the costs to those services in the way that seemed to be the most appropriate, bearing in mind the way in which those costs were incurred. He considered that this should result in a reasonably efficient form of pricing (though, as noted, he took the view that any form of pricing based on FAC was not likely to be properly economically efficient and had proposed that future charges should be based on LRIC). He saw the facilities necessary to provide the access service as consisting primarily of the minimal geographic network needed to give the potential to make and receive calls, and the handset. Since the handset was, in fact, owned by the customer of the mobile network, the access service provided by the MNO consisted of all those elements necessary to have the potential to make and receive calls, minus the handset.

8.42. In the DGT's view, since the costs of access were not variable with call volumes, an efficient pricing structure would not recover those costs through call-related charges. The most appropriate way of recovering subscriber-related charges would be through subscriber-specific costs such as the monthly subscription charge. The current tariffing structure of the MNOs did indeed seem to be structured so as to recover the access-related charges from subscriber charges. In addition, service provider incentives, which were often used to subsidize handsets, could be considered to be a form of access cost, and these were recovered through monthly subscription charges with contracts which committed customers to continue to take the service for a sufficient time for these outlays to be recovered. The DGT was aware that, under some circumstances, there could be a case for reflecting in termination charges some element of costs incurred in bringing extra customers on to mobile networks, because of a 'network externality' effect, but he believed regulatory intervention to correct for this effect would be inappropriate (see paragraph 5.82).

8.43. The DGT noted that the MMC's 'alternative model' dispensed with access as a service, or subscriber-driven costs. He believed this was a fundamental flaw in the model. Without access as a service, or subscriber-driven costs, the model was unable to cope with costs that were purely subscriber-driven rather than calls-driven—a problem that became apparent in the allocation of the processing costs of the HLR (see paragraphs 5.57 to 5.60).

8.44. The DGT drew our attention to a paper by Alfred Kahn (whom the DGT believed was considered perhaps the foremost regulatory economist in the world) and William Shew dealing with a number of questions related to pricing principles for fixed telephone networks, including the question of whether access was a separable service.[1] The authors concluded that access was indeed such a separable service, while noting that this question was somewhat one of semantics. What really mattered was the implication for pricing which followed from that. As the DGT had already stated, the key question was whether efficient pricing principles were followed, so that costs which were subscriber-driven were recovered through subscriber-based charges and costs which were call-driven were recovered through call-driven charges. This was the main burden of the article by Kahn and Shew. Although Kahn and Shew dealt with pricing issues on the fixed network, there seemed to the DGT no reason why similar principles should not apply in relation to mobile networks.

8.45. The DGT said that the main services provided by MNOs, apart from access, were inbound and outbound calls (there were other services such as PRS, but these were no more than inbound calls which did not use the mobile part of the infrastructure) and that all network costs other than those incurred to provide the minimum geographical coverage were driven by the volume of traffic (either call attempts or call minutes) over the network.

[1]Yale Journal on Regulation (volume 4, no 2, spring 1987).

Detailed cost allocations

8.46. The DGT explained that in making his calculations of charges based on FAC, he had had to make judgments about the appropriate treatment of a number of issues and categories of costs. (For some of these, judgments would also be needed about how the costs should be recovered under an LRIC-based charging mechanism.) The main areas, and the DGT's views on each, are described in Chapter 5. The DGT's views on the appropriate cost of capital are set out in Appendix 5.6.

Wider public interest issues

8.47. At the same time as Vodafone and Cellnet agreed higher termination charges with CWC, thus preventing the DGT from proceeding to a Final Order, as intended, to reduce termination charges to BT, the MNOs made representations to the DGT about the potential effect on their businesses and on the mobile industry as a whole of the then proposed reduced level of termination charges (12.3 ppm). The DGT told us that the impact of his current proposals on the MNOs' businesses would be significant. He calculated—on the basis of the volume of call minutes to mobile phones (currently about 5 billion minutes a year)—that the total annual reduction in revenues caused by reducing all four MNOs' termination charges to the level he proposed would, on a static analysis, amount to about £200 million. Furthermore, he said that this figure would probably be higher if there were a move to LRIC-based charges.

Impact on mobile subscribers

8.48. The DGT told us that the MNOs had raised a number of concerns relating to the consequential effects of reducing call termination charges to the level he proposed. They had suggested that the possible effects would be an increase in the price of calls from mobiles; a reduction in consumer benefits, such as the 'handset subsidy', as a result of a reduction in the financial incentives available to service providers; and an imbalance between incoming and outgoing call tariffs which would encourage subscribers to make short outgoing calls to fixed lines requesting a call-back, thus potentially limiting innovation in the pricing of outgoing calls.

8.49. The DGT did not accept these arguments, for a number of reasons. First, he believed the margins being earned by Cellnet and Vodafone in all parts of their UK mobile telecommunications businesses (see Tables 3.2 and 3.3) were more than sufficient to absorb the effects of reducing the charges for calls-to-mobiles in the way that he proposed. Regulatory financial information provided by the companies to OFTEL showed high returns on capital on the network element of their range of businesses. The DGT believed that callers from fixed networks to Vodafone and Cellnet mobile networks were making an unfairly high contribution to these returns.

8.50. The key point, in the DGT's view, was that call termination was a bottleneck and returns from call termination should therefore be controlled to ensure that they were reasonably related to cost of capital. If prices charged to mobile customers were increased from their current level in order to compensate for reduced returns on incoming calls, the DGT would wish to investigate this as part of his review of the overall state of competition in mobile telecommunications in 1998.

8.51. As to the handset subsidy, the DGT commented that this was recovered by the MNOs through a number of revenue streams, including contractually guaranteed charges paid by their subscribers over the term of the contract. It was not, therefore, the case that reducing the cost of calls-to-mobiles must have an effect on handset prices. It was, of course, possible that the MNOs would seek to recover any reduction in revenue by raising other prices or reducing the funds available for handset subsidies. While the DGT would not wish MNOs to exploit their own customers (and his review of competition in mobile telecommunications would consider the extent to which they found it possible to do so), he objected to arrangements whereby such customers received subsidies from customers of other networks. He would not regard a possible reduction in handset subsidies as a reason for continuing the situation when termination charges were set at excessive levels. It appeared to him unreasonable that callers (who had no choice but to use a particular network if the person they wanted to reach resided on it) subsidized handsets or the cost of gifts which were offered as inducements to new mobile subscribers.

8.52. The DGT accepted that substantial differences between incoming and outgoing prices for mobile calls could lead to call-back. However, there was no reason why the level of termination charges he proposed would lead to prices for inbound calls which were so far below the cost of outbound calls as to produce a major effect of this kind. Prices for outgoing calls were still likely to be below the price for incoming calls.

8.53. In any event, the DGT did not accept that call-back, if it happened, would amount to an adverse public interest effect which the MMC would need to consider in relation to outgoing call prices. The prices of outgoing calls from mobile phones currently exceeded the cost of making them. If inbound calls were priced reasonably in relation to cost, call-back would constitute an opportunity for mobile subscribers to substitute a call priced at cost for one priced above cost. This would put pressure on outgoing call prices and move them closer to cost. In these circumstances, call-back would benefit consumers.

Impact on newer operators

8.54. The DGT told us that Orange and One2One had made representations that a forced alignment of their termination charges with those for Cellnet and Vodafone would delay their coming into profitability and affect their financing the further build-out of their networks. The DGT recognized that both Orange and One2One were still in the final stages of completing their network coverage. Revenue earned from termination charges represented about 20 per cent of total mobile revenues and any reduction could affect the development of their planned levels of service. But with MNP available from January 1999, maintaining different retail rates for the newer operators would be confusing to the customer and would bear no relation to costs actually incurred in making the call. The DGT proposed to phase in over four years the move to a full LRIC-based efficient operator charge for Cellnet and Vodafone, and to do the same as regards Orange and One2One. He believed this would mitigate the impact of a single termination charge and that it was improbable that Orange or One2One would suffer any material loss on call termination were his proposals to be implemented.

Uniform termination charges and call patterns

8.55. The DGT stated that One2One had expressed concern that reducing the level of off-peak charges for call termination to that proposed would affect One2One's incoming call revenues disproportionately by comparison with the other MNOs, because of One2One's different call pattern. It was also argued that as One2One's peak traffic time was different from that of Cellnet and Vodafone, using their peaks as the basis for deciding when peak and off-peak periods should apply would disadvantage One2One.

8.56. The DGT believed the off-peak level of termination charge for calls-to-mobiles should be lower than the peak level to allow the best use of network capacity. Any reduction in revenues earned by One2One from call termination resulting from this was simply an inevitable consequence of the business strategy chosen by One2One. One2One's actual charges for the call termination services it provided would be the same as for other MNOs, ie the peak and off-peak termination charges should be the same for all four networks. If One2One's business strategy resulted in its supplying a different mix of service outputs (more lower-rate off-peak termination services and fewer higher-rate peak services) than its competitors, it should expect its average revenues to be different from theirs. This was not, in the DGT's view, a relevant public interest consideration.

8.57. The DGT also told us that One2One had argued that basing the timing of peak and off-peak termination charges on Cellnet or Vodafone traffic flows would have a perverse effect. Since One2One had a different peak period from the other MNOs, charging structures designed to promote efficient usage of other networks could have the opposite effect on One2One's network. One2One's peak period could be the off-peak period for the other MNOs. Charging the off-peak rate for termination on One2One's system at this time would stimulate extra traffic when efficiency considerations would suggest that traffic should be deterred. While an alternative approach might be to set the peak and off-peak periods separately for each MNO based on its own traffic pattern, this would not be compatible with the requirement for a single set of prices and termination charges.

8.58. The DGT recognized that there was a conflict between encouraging the most efficient use of networks and ensuring a uniform termination charge for calls-to-mobiles. He considered it important, however, that there should be a single set of retail prices for the introduction of MNP. He told us that he would favour an approach which maintained this while limiting the scale of perverse incentives given by the peak and off-peak charging arrangements. He therefore proposed that, rather than basing the timing of peak and off-peak call termination on one MNO's traffic flows, or two with similar traffic patterns, average traffic flows (by volume) for all four MNOs should serve as the basis for setting the times at which peak and off-peak termination charges should apply. The DGT said he would be concerned that greater flexibility for the MNOs to adjust individual rates within an overall ceiling could give rise to a multiplicity of rates that reduced transparency and certainty for consumers without offering any real benefits in terms of material overall price reductions. He believed there should be at the very least some form of ceiling on the individual rates that could be charged.

The DGT's conclusions and remedies

8.59. The DGT stated that in considering whether the matters referred to them operated against the public interest, the MMC were required by section 13(8) of the 1984 Act to have regard to the matters as respects which duties were imposed on the Secretary of State and the DGT under section 3 of that Act, which included:

(a) the ability of providers of telecommunications services to finance the provision of their services;

(b) the promotion of consumers' interests in respect of the prices charged for, and the quality and variety of, telecommunications services;

(c) the maintenance and promotion of effective competition in the provision of commercial telecommunications activities;

(d) the promotion of efficiency and economy on the part of those engaged in such activities; and

(e) the promotion of research and development and the development and use of new techniques by such persons.

8.60. In addition, in order to determine whether, having regard to section 3 of the 1984 Act, the matters referred to them operated against the public interest, the MMC might, if they identified adverse effects, need to consider whether or not there were any countervailing benefits such as might justify a conclusion that, taken overall, the matters referred did not operate against the public interest.

8.61. The DGT published his own view on these public interest issues, in relation to each of the matters referred, in his main submission (see paragraph 8.1); he also published details of proposed licence modifications. His conclusions and licence modification proposals are reproduced in the following paragraphs.

Termination charges

8.62. The DGT concluded that the termination charges made by Vodafone and Cellnet had significant adverse effects in that:

(a) the charges were set in the absence of competitive constraints given the bottleneck nature of the service; and

(b) the charges were excessive and substantially above costs.

8.63. Those adverse effects were against the public interest having regard to the matters specified in section 3 of the 1984 Act and in particular the promotion of consumers' interests in respect of charges, the maintenance and promotion of competition and the promotion of efficiency and economy.

8.64. There were no countervailing benefits capable of outweighing those adverse effects. In particular the two MNOs were able, without the excess contribution made by termination charges, to finance the provision of their services. Even if the excess contribution might potentially be used to assist in promoting research and development or efficiency in other areas of the MNOs' business, it would clearly not be necessary for such purposes having regard to their profitability generally. And in any event, such considerations ought to be given less weight in assessing the public interest than those referred to in paragraph 8.63.

8.65. Thus, in the DGT's view, the termination charges operated against the public interest with the adverse effects specified in paragraph 8.62.

8.66. The adverse effects identified were capable of being remedied by licence modifications. The modifications specified by way of remedy should be such as would provide that:

(a) termination charges be cost-orientated;

(b) the costing methodology be LRIC;

(c) the charge be set initially at 10.6 ppm (all-calls figure) pending determination of LRIC figures;

(d) the charges be subject to an RPI–X formula such that the charges fell to the LRIC level over a four-year control period and the operators passed on the benefits of falling unit costs caused by greater call volumes and increased efficiency (thereby avoiding the need for further regulatory intervention over the control period); and

(e) the termination charges of both Vodafone and Cellnet should be the same so that the charges for both of them were determined according to the costs of the more efficient.

Unanswered and diverted calls

8.67. The DGT concluded that the charges made by Cellnet and Vodafone for unanswered calls and for the diversion of unanswered calls had significant adverse effects in that:

(a) they led to charges being made to consumers in circumstances where the consumer was generally unaware of being charged and did not expect to be charged having regard to operators' practices in relation to other categories of unanswered and diverted call; and

(b) the level of the charges made by Cellnet and Vodafone was excessive in the same respects as their termination charges.

8.68. Those adverse effects were against the public interest having regard to the matters specified in section 3 of the 1984 Act, in particular the promotion of consumers' interests in respect of charges, the maintenance and promotion of competition and the promotion of efficiency and economy.

8.69. There were no countervailing benefits capable of outweighing the public interest consequences. Any costs incurred by Cellnet and Vodafone in respect of unanswered or diverted calls, from which the consumer gained no benefit, could be recovered through charges for successful calls, just as the two MNOs made no specific charge to their own respective customers for unsuccessful calls to the fixed networks or their own networks.

8.70. Thus, in the DGT's view, the charges made by Cellnet and Vodafone respectively for unsuccessful calls operated against the public interest with the adverse effects specified in paragraph 8.67. Those adverse effects were capable of being remedied by licence modifications. Such modifications should provide:

(a) that the two MNOs should not raise any charge in respect of unanswered calls nor for the diversion of such unanswered calls before they were answered; and

(b) the 'all-calls' termination charge (see paragraph 8.66*(c)*) would thus become approximately 11 ppm.

Interconnection Directive

8.71. The views of the DGT regarding the implications of the Interconnection Directive for this inquiry are summarized in Appendix 2.1.

Other possible remedies

The MMC's hypothetical remedies

8.72. The DGT took the view that there were no remedies adequate to deal with excessive calls-to-mobiles prices, other than some appropriate form of price control arrangements. As regards any requirement for Vodafone and Cellnet to publish their termination charges in sales literature, the large difference between the termination charge and the corresponding retail price was likely to lead to consumer confusion and dissatisfaction; moreover this would be exacerbated once MNP was introduced and particularly if each MNO could set its own tariff gradient. If the MNOs truly wanted to compete on the basis of lower termination charges they would be self-motivated to promote the fact in whatever way they deemed best, without the necessity for any licence modification. As regards BT, while the DGT acknowledged that the layout of BT's bills could be improved and that, ideally, calls-to-mobiles would be listed separately and the called mobile network identified, he did not consider the layout to be so bad as to require a licence modification, particularly as the introduction of 07 numbering would make mobile numbers more recognizable as such by consumers.

8.73. Neither did the DGT believe, from past experience, that BT was able to exert sufficient downward pressure on Cellnet's and Vodafone's termination charges that regulation of BT's retail charge alone, without any direct control of termination charges, would provide an adequate remedy. On the other hand, consistent with his view as to the current dominance of BT in respect of retail services for a large number of customers, and hence the need for the current retail price control, the DGT was equally clear that it would not be an adequate remedy merely to regulate termination charges without regulating BT's charges.

8.74. As to the merits of imposing an initial price cut on termination charges, followed by an annual adjustment made according to the indexed trend of average charges for outbound calls, the DGT considered that this could have merit if the mobile call origination market were fully competitive. However, the DGT did not presently consider this to be the case (although it might nevertheless be sufficiently competitive that little could be done materially to improve the situation). In these circumstances there was a danger that, rather than bringing inbound call prices down to the competitive level, such an index linkage would, on the contrary, serve to slow the decline of outbound call prices. In addition, identifying the average cost of an outbound call would pose particular practical problems.

8.75. With regard to RPI–X, the DGT acknowledged that this type of indexation entailed problems in forecasting future costs, but commented that these were akin to the problems he had had to face in implementing the BT retail price control. These were manageable problems, in the sense that it was possible to arrive at a reasonable forecast. However, such forecasts would never be perfect. It was partly for this reason that the DGT favoured limiting the duration of the price control on termination charges to three or four years, the latter being the standard period for a telecommunications price control. Although the DGT was envisaging that the BT price control in respect of calls-to-mobiles would expire at the same time as the existing BT retail price control, on 31 July 2001, he saw no practical or other advantage in making the control on termination charges run concurrently with that, provided that it was BT's retention, rather than the absolute level of the retail price of calls-to-mobiles, that was regulated. If, however, it was the retail price that was regulated, that would probably require the two controls to be dovetailed on a concurrent basis.

Private wire tariff as benchmark

8.76. We were told that the DGT's view of the private wire tariff was developed during discussions surrounding the 1991 determinations. In those days the private wire tariff was between 11 and 13 ppm, which compared with a termination rate of 28 ppm peak and 19 ppm off-peak and, when finally established, an average termination rate of about 18 ppm. It was argued at that time by Mercury that the private wire tariff was a good indicator of Cellnet's and Vodafone's incremental costs, since it was unclear why they would voluntarily price services below incremental cost. The DGT found that the position was rather more complicated. The overall market for private wire customers was probably more competitive than other markets in the mobile sector. The price for incoming calls under the private wire tariff might well be set below incremental cost because it would be offset by profits on other services sold to private wire customers. The DGT's conclusion was that the level of private wire tariff was the result of a degree of competition between Cellnet and Vodafone (though this would not necessarily approximate to a fully competitive outcome). However, the private wire tariff for inbound calls should not be considered in isolation from the prices charged to private wire customers for other services. The DGT took the view that the private wire tariff gave little indication of the costs of terminating inbound calls because of its inseparable relationship with the prices of the other services sold under that tariff.

8.77. The DGT said that it remained his view that the private wire tariff for inbound calls did not necessarily give any useful information on what a competitive price for inbound calls would be. Private wire services were probably a more competitive part of the market than most, but it would not seem to be appropriate to use the price charged for a single element of service under the private wire tariff as a benchmark to judge what termination charges might be in a fully competitive market.

Ramsey pricing

8.78. The DGT argued that the way in which Vodafone applied a Ramsey-type framework to the mobile market was inappropriate. The key characteristic of the mobile market which was not recognized by Vodafone was that the MNOs provided a mix of competitive and monopoly services. As termination was essentially a bottleneck, MNOs were able to set prices for this service with little concern about competitive constraints, while other services they provided were subject to a rather greater degree of competition. While not disagreeing with the proposition that Ramsey principles could be used to set an efficient structure of charges among the services, in the case of calls-to-mobiles, where call termination exhibited rather different characteristics from the other services because of its bottleneck nature, Vodafone's approach was unlikely to lead to socially optimal prices.

8.79. Left to their own devices the MNOs would set charges for call termination that reflected the bottleneck nature of that service. The resulting prices would not be Ramsey prices: they would be set above the Ramsey level, while charges for other services would, depending on the degree of competition, be set below Ramsey prices. In a fully competitive market, where normal returns were made overall, call terminations would subsidize all other services, whose prices would be set below cost. The prices resulting from this sort of competition would not be likely to be socially optimal: they would involve the exploitation of a monopolistic position, and they would result in welfare below that which would be achieved with proper Ramsey prices.

8.80. Indeed the whole point of the regulatory approach proposed by the DGT in relation to call terminations was to improve welfare in comparison with the result if no action were taken and market forces determined prices. Currently there was very little information on the elasticities of demand for calls from or to mobiles, but there was little reason to suppose that they differed markedly among the services provided by MNOs. If all the services provided by MNOs had broadly similar elasticities, the equal proportionate mark-up approach favoured by the DGT in relation to LRIC would give results closer to a proper Ramsey outcome than would leaving price-setting totally in the hands of MNOs. That is, in circumstances where actual elasticity values were unknown but it was probable that companies, left to their own devices, would exploit a monopolistic or bottleneck situation, efficiency could probably be improved by price regulation based on costs. This was likely to be true even if mark-ups to cover common costs were set in a rather arbitrary way, such as on the equal proportionate mark-up basis.

One2One's alternative regulatory solution

8.81. The DGT said that, in his view, One2One's proposal to control BT's retention alone (see paragraph 9.25) was insufficient and its argument that call termination would become competitive was unconvincing. One2One's second proposal, relating to an IN solution for MNP, ignored the work done by the industry to date; would not be feasible for years rather than months; did not appear to lead to lower prices; and sought to load mobile costs on FNOs.