Wholesale mobile voice call termination markets – a proposal to modify the charge control conditions

Explanatory statement and notification of proposals

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Consultation document

Issued: 7 June 2005
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Contents

Section 1

Summary

This consultation document

1.1. On 1 June 2004 Ofcom published a statement *Wholesale mobile voice call termination* (the “June 2004 Statement”) in which Ofcom imposed conditions on Vodafone, O2, Orange and T-Mobile (the “2G MNOs”) which limited the charges which those mobile operators may levy for mobile voice call termination on 2G networks. Those controls will expire on 31 March 2006. This document is a consultation on a proposal to modify the period of those charge controls for one further year to 31 March 2007, retaining the current Target Average Charges which the 2G MNOs may not exceed. All other conditions imposed in the June 2004 Statement shall remain unchanged.

1.2 Ofcom is satisfied that there has been no material change in these markets. In these circumstances, Ofcom is proposing to use its powers under the Communications Act 2003 (the “Act”) to set Significant Market Power (“SMP”) services conditions to modify the charge controls, and is publishing its Notifications for consultation. The proposed Notifications are at Annex D.

Identification of markets

1.3 The services under consideration in this document are wholesale mobile voice call terminations on the mobile networks of each of the 2G MNOs in the UK. Ofcom continues to hold the view maintained in the June 2004 Statement that there are markets for wholesale voice call termination on each Mobile Network Operator’s (“MNOs”) network (or, where the MNO operates both 2G and 3G networks, across both networks). The reasoning which has led Ofcom to the conclusion that these market definitions remain unchanged is provided in section 3.

1.4 The June 2004 Statement also found that there were further markets for wholesale mobile voice call termination on the mobile networks of Hutchison 3G UK Ltd (“H3G”) and Inquam. However, as Ofcom is not proposing to modify any conditions or impose any new conditions on either H3G or Inquam, the present document does not address these other markets.

Assessment of market power

1.5 The June 2004 Statement found that each of the 2G MNOs had SMP in the wholesale market for mobile termination of voice calls on its network. (The June 2004 Statement also found that H3G and Inquam each had SMP in the wholesale market for mobile termination of voice calls on its network but, for the reason given in paragraph 1.4 above, Ofcom is not considering the existence or otherwise of SMP in those markets). As is explained in section 3, Ofcom continues to take the view that the SMP determinations imposed on each of the 2G MNOs in the June 2004 Statement remain appropriate.

Charge controls on mobile voice call termination on 2G networks

1.6 Ofcom has conducted an analysis of the costs of terminating calls on 2G networks and has updated the LRIC model used to determine the level of the charge control imposed in June 2004. The model has been updated to reflect changes to a number of factors including demand, equipment costs and cost of capital. Ofcom has also modelled a range of different assumptions in order to scope the likely impact of traffic migrations from 2G to 3G on the costs of voice call termination, as 3G phones start to become more widely used.

1.7 Ofcom proposes that during the Charging Period 1 April 2006 to 31 March 2007, the Target Average Charge, which MNOs shall not exceed, for Interconnection of a Mobile to Mobile call and for Interconnection of a Fixed to Mobile call on a 2G network, shall continue to be 5.63 ppm for Vodafone and O2 and 6.31 ppm for Orange and T-Mobile, subject to changes in time of day weights. The Average Interconnection Charges shall be calculated in accordance with conditions MC3 and MC4 of the conditions imposed on Vodafone and O2 and conditions MD3 and MD4 of the conditions imposed on Orange and T-Mobile in the June 2004 Statement as modified. In all cases these conditions will continue to be modified by the Consents granted by Ofcom on 1 September 2004 (see *Wholesale Mobile Voice Call Termination charge controls – request for consent Explanatory Statement* published by Ofcom on 1 September 2004).

Questions being asked in this consultation document

1.8 Ofcom is asking stakeholders to respond to the following questions

- Question 1 Do you agree that there continue to be separate markets for wholesale voice call termination on each MNO's network (or, where the MNO operates both 2G and 3G networks, across both networks) and that the geographic extent of each market matches the scope of each mobile termination provider's network(s)?
- Question 2. Do you agree that each of the 2G MNOs continues to have SMP?
- Question 3. Do you agree that Ofcom should extend the existing charge control on 2G voice call termination by one year?
- Question 4. Do you agree that the Target Average Charges should remain unchanged?

Next steps

1.9 When Ofcom has considered representations made within the period to 30 August 2005, including any made by the European Commission and other National Regulatory Authorities ("NRAs"), it may give effect to its proposals, with or without modifications. Ofcom will do this by publishing a further Notification accompanied by a final Explanatory Statement..

1.10 The June 2004 Statement envisaged that there would be another market review of the services covered by this review in 18-24 months and, therefore, the analysis in the June 2004 Statement looked forward over that time period. Ofcom is publishing, simultaneously with this document, a preliminary consultation on the future regulation of mobile voice call termination. Responses to that consultation exercise will inform Ofcom's approach to a full market review which Ofcom expects to conclude before the new charge controls, which are being proposed in the present document, expire in 2007.

Section 2

Introduction

Background

2.1 This consultation sets out Ofcom's proposals for regulating the level of the charges that the 2G MNOs can make for the provision of wholesale mobile voice call termination on 2G networks when the current charge control expires in March 2006. It should be read in conjunction with the June 2004 Statement and the consultation documents published on 19 December 2003 and 15 May 2003 which preceded the June 2004 Statement. Note that, as Ofcom assumed its powers under the Act on 29 December 2003, this document refers to Ofcom throughout unless referring to specific publications issued by Oftel, such as consultation documents.

A new regulatory regime

2.2 A new regulatory framework for electronic communications networks and services entered into force on 25 July 2003. The framework is designed to create harmonised regulation across Europe and is aimed at reducing entry barriers and fostering prospects for effective competition to the benefit of consumers. The basis for the new regulatory framework is five EU Communications Directives:

- Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (the “Framework Directive”);
- Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (the “Access and Interconnection Directive”);
- Directive 2002/20/EC on the authorisation of electronic communications networks and services (the “Authorisation Directive”);
- Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services , (the “Universal Service Directive”); and
- Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (the “Privacy Directive”).

2.3 The Framework Directive provides the overall structure for the new regulatory regime and sets out fundamental rules and objectives which read across all five Directives. Article 8 of the Framework Directive sets out three key policy objectives which have been taken into account in the preparation of this consultation document, namely promotion of competition, development of the internal market and the promotion of the interests of the citizens of the European Union. The Authorisation Directive establishes a new system whereby any person will be generally authorised to provide electronic communications services and/or networks without prior approval. The general authorisation replaces the former licensing regime. The Universal Service Directive defines a basic set of services that must be provided to end-users. The Access and Interconnection Directive sets out the terms on which providers may access each others’ networks and services with a view to providing publicly available electronic communications services. These four

Directives were implemented in the UK on 25 July 2003. This was achieved via the Act.

2.4 The Privacy Directive established users' rights with regard to the privacy of their communications. This Directive was adopted slightly later than the other four Directives and was implemented by Regulations which came into force on 11 December 2003.

Market reviews

2.5 The new Directives require NRAs, such as Ofcom, to carry out reviews of competition in communications markets to ensure that regulation remains appropriate and proportionate in the light of changing market conditions. A series of market reviews has been carried out over the last eighteen months.

2.6 Each market review has three stages:

- definition of the relevant market or markets;
- assessment of competition in each market, in particular whether any undertakings SMP in a given market; and
- assessment of appropriate regulatory obligations where there has been a finding of SMP.

Previous review of the wholesale mobile voice call termination market

2.7 As a consequence of this new regulatory regime, Ofcom carried out (among other market reviews) a review of wholesale mobile voice call termination. On 1 June 2004 Ofcom published the June 2004 Statement in which it determined that each of the six MNOs (ie Vodafone, O2, Orange, T-Mobile and H3G, plus Inquam whose spectrum licences have since been revoked) had SMP in termination of mobile voice calls on its own network, and remedies for SMP were imposed. Ofcom shared the view of the European Commission that termination of voice calls on each mobile network constitutes a separate market in which the terminating MNO has a 100% market share. Furthermore, the callers who pay for the call under the Calling Party Pays arrangement have little or no countervailing power; they often have no commercial relationship with the terminating operator and no choice over who will terminate their call. Consequently, terminating operators appear to have no incentives to keep charges low.

2.8 When defining the mobile termination markets, both 2G and 3G voice call termination were included in the same market, as Ofcom judged that there is a common pricing constraint; originating operators are unable to determine what type of network will be used to terminate any given voice call and are likely to be presented with the same 'blended' rate by the terminating operator, irrespective of whether the call is terminated on a 2G or 3G network.

2.9 Ofcom considers that the market definition and market power determinations as set out in this review are still relevant.

The extent of existing regulation

2.10 Although the market definition and SMP findings apply to both 2G and 3G voice call termination, the remedies for SMP generally apply only to 2G termination services. No SMP conditions presently apply to 3G termination by any mobile network operator, except that 3 is obliged to notify to Ofcom the volume of minutes of all calls (ie both 2G and 3G) by charging period, terminated during each quarter.

2.11 The four 2G MNOs are subject to conditions requiring that they

- meet reasonable requests for access (ie 2G call termination) on fair and reasonable terms,
- do not unduly discriminate in relation to matters connected with such network access
- supply to Ofcom copies of any new or amended access contracts
- give advance notification of price changes, and
- comply with the terms of a condition controlling 2G termination charges.

2.12 H3G, which uses another MNO's 2G network to offer voice call termination services where it cannot offer voice call termination using its own 3G network, is subject only to a condition which requires H3G to publish and notify its charges for 2G call termination and to notify to Ofcom the volume of call minutes terminated.

2.13 No conditions were imposed in respect of termination of voice calls on 3G mobile networks (except for the condition imposed on H3G as referred to in paragraph 2.12 above).

The present charge control conditions

2.14 In publishing the June 2004 Statement, Ofcom imposed charge control conditions, Vodafone's and O2's conditions MC3 and MC4 and Orange and T-Mobile's conditions MD3 and MD4 (the "Charge Control conditions"), as a remedy to the SMP enjoyed by the 2G MNOs in the markets identified in that review. Under this obligation, the 2G MNOs must take all reasonable steps to ensure that the Average Interconnection Charge for wholesale mobile voice call termination on 2G networks does not exceed the Target Average Charge set by Ofcom (the target charge is specified separately for termination of mobile to mobile and fixed to mobile calls).

Future regulation of charges for wholesale mobile voice call termination

2.15 The Charge Control conditions imposed under the June 2004 Statement expire on 31 March 2006. The other conditions are not time limited. Section 4 of this consultation document sets out Ofcom's proposals for regulating charges for wholesale mobile voice call termination on 2G networks from 1 April 2006 to 31 March 2007, by modifying the current charge control conditions.

2.16. The proposals included in this document are not intended to have any impact on any of the conditions imposed in the June 2004 Statement other than the Charge Control conditions.

Modification of existing SMP Conditions

2.17 Section 87(1) of the Act provides that, where Ofcom has made a determination that a person is dominant in a particular market, it must set such SMP services conditions as it considers appropriate and as are authorised in the Act. This implements Article 8 of the Access and Interconnection Directive.

2.18 The Act (sections 45-50 and 87-92) sets out the obligations that Ofcom can impose if it finds that any undertaking has SMP. In particular, Ofcom can impose charge controls and rules in relation to cost recovery and cost orientation (section 87(9)). On 1 June 2004, Ofcom imposed SMP services conditions requiring the 2G MNOs to ensure that in any relevant year the Average Interconnection Charges for 2G voice call termination do not exceed the Target Average Charges set by Ofcom.

2.19 Section 86 of the Act prevents Ofcom from modifying an SMP services condition outside of a market review, unless it is satisfied that there has been no material change in the markets identified since the market power determination was made.

2.20 Since the Market Review concluded in June 2004, Ofcom has not become aware of any material changes in the relevant markets and is satisfied that there has been no material change. See Section 3 for further consideration of this issue.

2.21 The proposed modifications are attached to the Notification at Annex D. The Notification itself is given under sections 48 and 86 of the Act and sets out Ofcom's proposals for the modification of the 2G MNOs' SMP services conditions MC3 and MC4 (in respect of Vodafone and O2) and MD3 and MD4 (in respect of Orange and T-Mobile).

Obligation to inform the Commission and other NRAs

2.22 Ofcom is sending this document to the European Commission and to other NRAs, as Ofcom is required to do, under section 48 of the Act, when modifying conditions.

Outline of the following sections of this document

2.23 Section 3 sets out Ofcom's reasons for deciding that there has been no material change in the markets identified in the June 2004 Statement, that there are markets for wholesale voice call termination on each MNO's network (or, where the MNO operates both 2G and 3G networks, across both networks). Section 3 also sets out Ofcom's reasoning for deciding that its approach to assessing the existence of SMP and its conclusion that each of the four 2G MNOs has SMP, as set out in the June 2004 Statement, remain materially unchanged.

2.24 Section 4 sets out the proposed changes to the charge controls and provides a regulatory impact assessment.

2.25 Section 5, and Annexes A and B, explain how stakeholders can make representations.

2.26 Annex C sets out the legal and regulatory framework

2.27 The proposed Notifications are at Annex D.

2.28 Details of Ofcom's calculation of the appropriate new charge controls are contained in Annex E.

2.29 Annex F sets out the market research findings.

Next steps

2.30 This consultation closes on 30 August 2004.

Section 3

The market and the existence of SMP

Introduction

3.1 This section sets out the reasons for Ofcom's view that there has been no material change in the markets for wholesale mobile voice call termination by the 2G MNOs since Ofcom's last market review (concluded in the June 2004 Statement), and that the market definitions and the existence of SMP reported in the June 2004 Statement remain unchanged. This analysis also takes into account potential developments during the period to March 2007 to identify whether the market definition and SMP determination set out in the June 2004 statement can be expected to remain valid over the period of the one year charge control which is being proposed in this document.

The previous market review

3.2 Wholesale mobile voice call termination is the service necessary for any network operator (fixed or mobile) to connect a caller with the intended recipient of the call on a different mobile network. If call termination was not available, a network operator could only terminate calls to other customers on its network. This service is referred to as wholesale because it is sold and purchased by network operators rather than retail customers.

3.3 In Ofcom's last review of wholesale voice call termination, separate markets were defined for the supply of wholesale voice call termination on each MNO's network (or, where the MNO operates both 2G and 3G networks, across both networks). The geographic extent of each market was determined to be the geographic extent of each network. Each MNO was determined to have SMP in the relevant market that is associated with terminating calls on its own network.

3.4 The only modification which is being proposed in this consultation document relates to the charge control which applies to 2G wholesale voice call termination provided by the 2G MNOs . Therefore this section addresses only the markets for wholesale voice call termination provided by each of the 2G MNOs.

3.5 A key influence on Ofcom's decision to adopt the market definition described in the June 2004 Statement was the "calling party pays" ('CPP') arrangement which applies in the UK; this has a notable impact on the boundaries of the market. Under the CPP arrangement, the calling party (and not the called party) pays the total price of a retail call. This means that the voice call termination charge is included in the originating network provider's (either fixed or mobile) cost base and is reflected in the retail price it sets for calls originating on its network. CPP, thus, leads to a disconnection between the person paying for the call and so, indirectly, for the termination charge (i.e. the calling party), and the person who makes the choice of the terminating network and could thereby influence the level of the termination charge (i.e. the called party).

3.6 The overall effect of this arrangement in the retail markets (i.e. the market for calls from fixed to mobiles – which is part of the fixed narrowband retail services markets -and the market for calls from mobile to mobile – which is part of the market for mobile access and origination) is that, while MNOs have an incentive to keep the price of those services which are paid for by their subscriber at a level to attract and retain customers, they have less incentive to keep the price of calls to mobiles low. This is because those calling a mobile subscriber cannot take their business elsewhere if dissatisfied, as they have no alternative to terminating the calls on the network to which the called party subscribes.

3.7 In the wholesale market, the effect of the CPP arrangement is similar. In the case of calls from fixed networks to mobile networks, the Fixed Network Operators ("FNOs") pay the MNOs to terminate calls on the MNOs' networks. The MNO has little incentive to keep voice call termination charges low, because the FNOs will pay a high charge as they have a commercial interest in ensuring that all calls made by their subscribers are terminated (and BT also has a regulatory obligation to ensure this, thus reducing any countervailing buyer power it might otherwise have enjoyed). In the case of calls from other mobile networks, the MNOs pay each other for termination of calls. Again, there is little incentive to keep termination charges low, not least since cutting them would in effect give the terminating MNO's competitors an advantage in the retail market by reducing their costs. Hence, CPP means that an MNO is likely to be able to raise voice call termination charges above the competitive level without suffering sufficient adverse effects to make the rise unprofitable.

3.8 At this time the CPP arrangement continues to be deployed in the UK and Ofcom is not aware of any developments in the near term which might alter its deployment. Therefore the basis for the market definition adopted in the June 2004 Statement, in so much as it relied on the impact of CPP, remains valid.

Product market definition

3.9 In the June 2004 Statement the relevant product market was derived by starting from the narrowest possible definition. The narrowest possible market definition is wholesale voice call termination to a specific mobile subscriber (or number), as a call to another individual is unlikely to be a sufficiently good substitute for a call to a specific recipient.

3.10 The following paragraphs discuss how the market definition was expanded in the June 2004 Statement to include other products, either because of *demand-side substitution, supply-side substitution* or the existence of *common pricing constraints,* and considers whether these conclusions are still valid.

Demand-side substitution

3.11 To assess whether there are any demand-side substitutes that should be included in the relevant market, it is necessary to examine the effect on customers' behaviour of an increase in termination charges by the hypothetical monopolist and whether such behaviour could make the rise unprofitable. To perform this exercise Ofcom previously assessed the effect on both retail consumers and wholesale customers.

Retail demand-side substitution

3.12 Ofcom considered that an increase in termination charges is likely to lead to a rise in retail call prices. This is because termination charges form the largest part of the marginal cost incurred by an FNO when providing fixed-to-mobile calls. BT's retail prices for calls to mobile are the sum of the charge it pays to the terminating MNO and BT's regulated retention rate[1]. Therefore, BT may potentially transfer any increase in the costs of providing calls to mobiles via its retail prices. FNOs other than BT do not have market power in the retail market; and, thus, can be expected to follow BT's behaviour. As regards MNOs, Ofcom considered that none of them has SMP in the retail market[2]. Hence, when faced with an increase in the marginal cost of providing off-net calls, it is likely that MNOs will pass at least some of this cost into their off-net retail prices.

3.13 It was relevant, therefore, to consider how retail customers (the calling and the called parties) would respond to a price increase in calls to mobiles engendered by a rise in voice call termination charges and whether their reaction could be a source of competitive pressure on termination charges.

3.14 If callers reacted to an increase in the retail price for calling mobiles by employing other means of communication to reach mobile subscribers, this form of substitution has the potential, in theory, to act as a competitive constraint on voice call termination charges, although whether it would act as constraint depends on the amount of substitution that takes place. It would affect the MNOs' behaviour only if it was enough to make the increase in the wholesale charges unprofitable. However, it was Ofcom's view that, for callers to react to an increase in the price of calls to mobiles, three conditions would need to be satisfied:

- callers must be sufficiently aware that they are calling a mobile and that they are calling a specific network;
- callers must be sufficiently aware of the price of calling that particular network; and
- callers must be sensitive to changes in the prices of calling the network they want to reach, i.e. an increase in the termination charge above the competitive level must cause consumers to adapt their behaviour to find an alternative satisfactory way of contacting the person they want to call.

3.15 Ofcom's view at the time of the last market review was that none of these conditions was sufficiently met for calling parties to act as a competitive constraint on call termination charges. Ofcom continues to hold this view and the reasons for this are discussed below.

3.16 Ofcom's view has been informed by a survey it commissioned of residential and SME consumers during Quarter 1 of 2005. A summary of the results of this survey is set out in Annex F.

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[1] Discussed in Oftel's "*Review of the fixed narrowband retail services market Final explanatory statement and notification*" published on 18 November 2003

[2] Discussed in Oftel's "*Mobile access and call origination services market*" – 4 August 2003

Awareness of calling a mobile and awareness of calling a specific mobile network

3.17 In the last market review, Ofcom presented evidence from an earlier survey carried out by Oftel[3], which found that 46% of consumers said they "usually knew" they were calling a mobile phone from their fixed phone at home. This figure was higher (52%) among consumers who own a mobile phone, but was only 32% among consumers from households who do not have mobiles[4]. Evidence from Ofcom's 2005 survey revealed that 50% of residential callers who personally use a mobile phone usually knew whether or not it was a mobile number they were calling. In the case of callers without a mobile phone this share is lower at 42%. These results are broadly consistent with the earlier survey results although they do suggest that callers are slightly more aware, than previously, of when they are calling a mobile phone.

3.18 In the last market review, Ofcom presented evidence from the *Report on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile* networks published by the CC in January 2003 ("the January 2003 CC report"). That report included data collected on consumer awareness of the identity of the particular mobile network which they are calling. The CC's market research (paragraph 2.136 in the January 2003 CC report) indicated that on average only 28% mobile users knew whether they were calling a mobile phone on the same network as themselves. The results of a survey carried out by NOP for O2 ("O2's NOP survey"), which are quoted in the CC report (paragraph 2.136), found that 57% of fixed phone users who also owned a mobile claimed to know the mobile network they were calling when using their fixed line, whereas only about 30% of fixed users without a mobile were aware of it. When NOP put the same question to mobile-only customers, a similar level of awareness was claimed as that of the owners of both fixed and mobile phones. Evidence from Ofcom's 2005 survey has found that when callers know they are calling a mobile, 44% never know which network they are calling, 24% occasionally know, 18% usually know and only 10% always know.

3.19 In the light of Ofcom's recent survey evidence and its broad consistency with evidence presented in Ofcom's earlier market review, callers appear to continue to have limited knowledge of specific networks they are connecting to when making a call to a mobile.

Awareness of relative and actual prices

3.20 In the last market review, Ofcom presented evidence collected by the CC, and referred to in paragraphs 2.136 to 2.141 of the January 2003 CC report, which suggested that a large number of callers had little knowledge of the actual prices or the relative levels of charges for calling each network. The CC concluded that these findings overall "reveal a degree of awareness on the part of consumers which is insufficient to enable them to make an appreciable impact on prices or to drive termination charges down to competitive levels" (paragraph 2.141 in the January 2003 CC report).

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[3] See residential consumer survey from August 2002 - *Consumers' use of fixed telecoms services* – published 24 October 2002

[4] *Consumers' use of mobile telephony* - published 27 January 2003

3.21 The CC also assessed how knowledgeable mobile owners and fixed-line users are about the actual costs of calling mobiles and the relative costs of different call types. The CC's survey only covered awareness of the price of a fixed-to-mobile call because the large number of different tariffs available would have made it difficult to elicit reliable responses about mobile-to-mobile prices. The main result was that only 21% of customers had an approximate idea of the true cost of such a call. Evidence collected by the CC (paragraphs 2.136 to 2.141 in the January 2003 CC report) also suggests that a large number of callers to mobiles have little knowledge either of the actual or relative levels of prices for calling each mobile network.

3.22 O2's NOP survey referred to in the CC report (paragraphs 2.137 to 2.141), tested consumers' knowledge of relative prices. This revealed that about 48% of respondents thought that fixed-to-mobile calls were a lot more expensive than fixed-to-fixed calls (findings which correspond to actual price relationships) and 36% said that off-net calls were a lot more expensive than fixed-to-fixed calls (which also corresponds to the actual position). The difference between fixed-to-fixed and fixed-to-mobile prices was at the time actually smaller than the difference between fixed-to-fixed and off-net prices. Therefore, the finding that there were fewer respondents who thought that off-net calls were a lot more expensive than there were respondents who thought that fixed-to-mobile were a lot more expensive, indicated a lack of widespread awareness of the relative prices of different types of call. This survey also found that 50% of the consumers appear to be aware that on-net prices are lower than off-net prices and that the price of fixed-to-mobile calls varied by time of day. In addition, only 44% knew that the price of calling mobiles from fixed lines varied by the network being called.

3.23 Ofcom's 2005 survey continues to support the conclusion that consumers' awareness of the cost of calling mobiles is limited. Fewer than one quarter (22%) of mobile phone users claimed to know the approximate cost of calling a mobile on the same network as them – and this proportion dropped to one in seven (14%) for calls to mobiles on a different network (see Figure 3.1a). Awareness was even lower amongst those consumers not personally using a mobile phone – one in ten (9%) of consumers with just a fixed line phone reported that they knew roughly how it would cost to call a mobile phone (Figure 3.1b)

Figure 3.1a, Awareness of the cost of calling a mobile phone from a mobile phone
Base: Adults aged 16+, personally using a mobile phone (1,809)

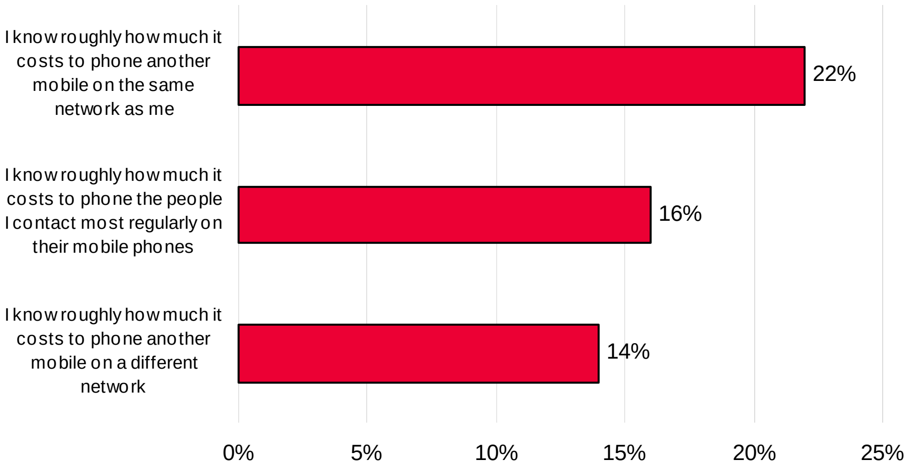
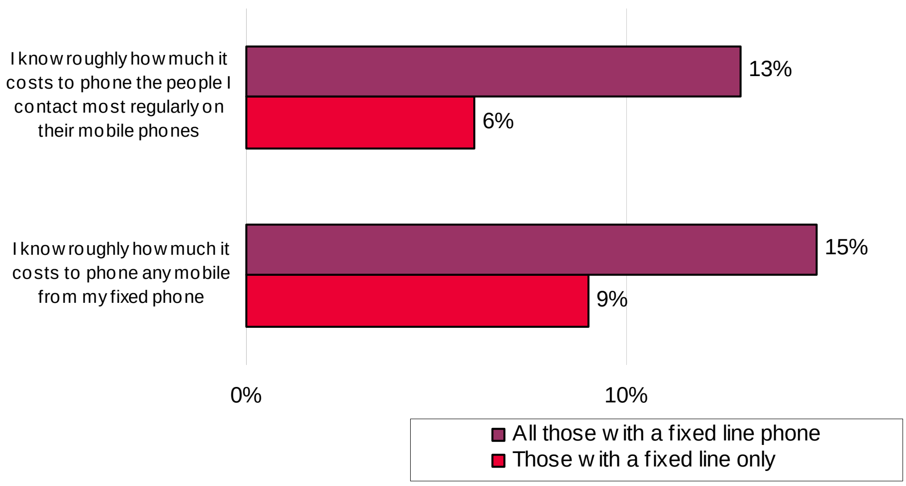


Figure 3.1b, Awareness of the cost of calling a mobile phone from a fixed line phone
Base: Adults aged 16+, with a fixed line phone (2,158) and those with a fixed line only (461)



Consumers' sensitivity to changes in the prices of calling a specific network - adapting behaviour

3.24 In the last market review Ofcom noted that even if awareness of prices was high, competitive pressure will only be exerted if consumers are willing to adapt their behaviour through substitution, so that MNOs lose profits on mobile termination if they attempt to raise termination charges.

3.25 In the last market review Ofcom identified a range of potential options to a caller as a substitute for making different types of call. These included:

- mobile-to-fixed calls as a substitute for off-net calls;
- mobile-to-mobile calls as a substitute for fixed-to-mobile calls;

- on-net mobile-to-mobile calls as a substitute for off-net calls;
- SMS as a substitute for mobile-to-mobile calls;
- unified messaging and message clips';
- voice over Internet Protocol calls; and
- call-back arrangement.

3.26 Ofcom previously considered that none of the above is likely to have a constraining effect on voice call termination charges (see Paragraph A.21 to A.45 of Oftel's December 2003 consultation document).

3.27 Ofcom's February 2005 survey reveals that, even amongst callers who are aware of the cost of calling a mobile, only 11% of this minority group are less likely to call a mobile phone on a different network because of the cost and, more generally, only 16% are less likely to call any mobile because of the call cost.

3.28 Based on the discussion in the last market review and Ofcom's latest market research Ofcom continues to take the view that consumers' sensitivity to the price of calling a mobile is not sufficient to exert material competitive pressure on termination charges.

Choice of network

3.29 Ofcom previously noted that there would be constraints on termination charges if mobile subscribers chose their network on the basis of the prices of incoming calls and, thus, switched network as a result of an increase in these prices. However, as mentioned above, the CPP arrangement means that the calling party, and not the called party, pays the direct total price of a retail call. Therefore, the called party, who makes the choice of the terminating network, is not affected by the level of the prices of calls to him (and thus by the level of mobile termination charge of his network).

3.30 However, it is still possible that mobile subscribers could react to a rise in the termination charges of the MNO they subscribe to by switching to a network with lower termination charges, if they expected that the higher price of calling them would have an impact on their callers. For this to be true, it was and continues to be Ofcom's view that four conditions would have to be met:

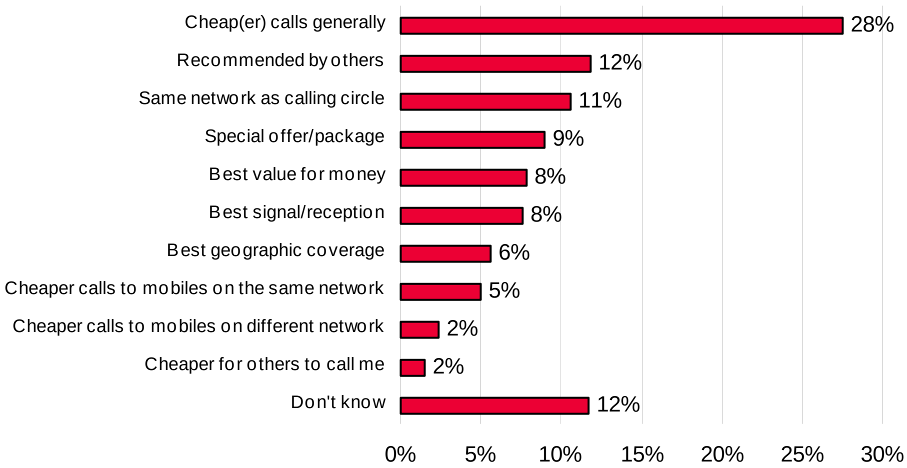
- mobile subscribers would have to value incoming calls to such an extent that a change in the price of these calls could make them change network;
- callers to mobiles should be sensitive to the price of calling mobiles;
- callers to mobile should be aware of the mobile network they are calling and of the price of calling it; and
- mobile subscribers should be aware that callers to mobile are sensitive to and have knowledge of the prices of calling mobiles.

3.31 Ofcom considers that only if all four of the above conditions have been met could the behaviour of mobile subscribers act as a competitive constraint on mobile termination charges, as MNOs that increase charges would risk a loss of users on their networks. Mobile subscribers (in relation to the first and last bullets) and callers to mobiles (in relation to the second and third bullets) are discussed in turn below. In summary Ofcom takes the view that the price of incoming calls is not considered by consumers to be an important factor in their choice of a mobile network and that consumer awareness of the price of calls to mobile phones is limited, especially in respect of the price of calls to each specific network. Therefore the behaviour of the called party in response to an increase in the price of calls to mobiles does not provide a sufficient competitive constraint on termination charges.

3.32 Previously Ofcom cited the January 2003 CC report which reported (at paragraph 2.134) that the cost of incoming calls was not an important factor for consumers when choosing their mobile network. It ranked 10th out of the 14 factors suggested, the most important being 'the price you pay to call others'. In addition, 61% of mobile users expressed more concern about the cost to them of calling others than the cost to others of reaching them. Only 9% were more concerned about the cost to others (paragraphs 2.133 to 2.135 in the January 2003 CC report). At the time, these findings were consistent with surveys of residential customers commissioned by two of the MNOs and presented at the CC inquiry. O2's NOP survey (referred to earlier) found that for nearly 75% of respondents the cost to other people of calling them on their mobile phone was an unimportant factor when they decided which mobile network to join. Fewer than 20% said that it was important. High proportions (85%) of both categories were unable to say why they took the view they did (paragraphs 2.133 to 2.135 in the CC report). An NOP survey commissioned by Vodafone showed that the price of outgoing calls was much more important to mobile users than the costs that others incurred to reach them (paragraphs 2.133 to 2.135 in the January 2003 CC report).

3.33 In Ofcom's 2005 survey it has been found that when subscribers were asked what are the considerations when making their network choice, only 2% spontaneously said that they considered whether the network was cheaper for others to call them. In the table below we present the full set of considerations taken into account by mobile subscribers.

Figure 2, Spontaneous considerations when choosing network



3.34 It appears that the single most important factor for consumers is "cheap(er) calls generally". In addition when prompted as to whether the cost of calling a network was a consideration in their choice of network, overall only 11% of subscribers said they found out how much it would cost other people to call the network and only 10% said that the cost for other people to call them was a significant consideration. These results are broadly consistent with Oftel's survey of residential mobile owners conducted in August 2002 which found that 18% of mobile customers found out how much it would cost others to call their mobile before choosing their network and 8% of customers considered the cost of other people calling them as a major factor in their choice of the mobile network.

3.35 Overall Ofcom's 2005 survey results are broadly consistent with the evidence presented in Ofcom's last market review and continue to suggest that residential consumers attitude towards the cost of others calling them is not a major consideration in their decision of which mobile network to subscribe to. Therefore residential customers are unlikely to impose a competitive constraint on the termination charge by switching to networks with cheaper termination charges.

3.36 In addition to direct network substitution, Ofcom discussed in the last market review the impact of "closed user groups" and "call divert" as ways by which subscribers could minimise the impact of high termination charges and hence impose a competitive constraint on termination charges.

3.37 Ofcom previously noted that closed user groups i.e. groups of people whose members care about the cost to the other members of calling their mobile number, could mitigate the effect of the CPP arrangement and act as a constraint on voice call termination charges. However, for this constraint to be effective, these groups should be numerous and not isolated through targeted tariffs that bypass the usual termination charges. As discussed above, the evidence available shows that few groups of people are sensitive to the cost of incoming calls (and those that are can be targeted with tariffs which bypass the usual termination charges). However, even those that are sensitive consider the cost of outgoing calls to be far more relevant. Therefore Ofcom takes the view that closed user groups do not provide a material competitive constraint on termination charges.

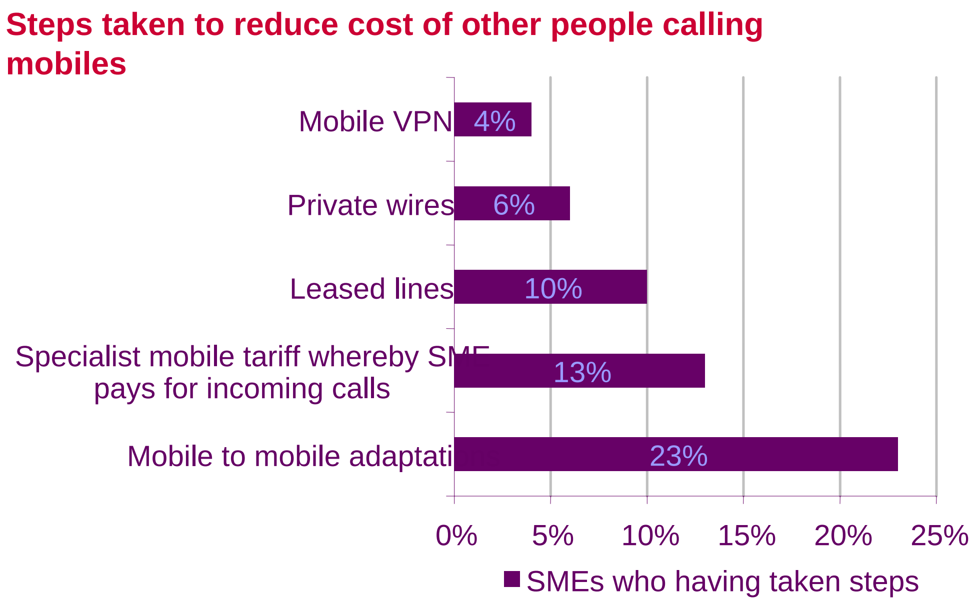
3.38 In relation to call divert i.e. the ability to have calls automatically forwarded, Ofcom noted that mobile users could subscribe to a personal numbering service (PNS) which allows them to give out a single number and have all their calls directed to any number they specify (e.g. their fixed line). However, calls to PNS are more expensive than calls to mobile numbers because (a) to divert calls an additional leg is added to their route (Calls to a personal number go to the PNS provider first, which then forwards it to the appropriate terminating network). PNS providers have to ensure that they can cover the cost of terminating calls to any number specified by the subscriber (i.e. also to mobile numbers); and (b) PNS providers need to keep a database of the numbers to which it must forward the calls.

3.39 Calls to PNS can be either CPP or RPP, but in either case their higher price suggests that it is unlikely that they could represent effective substitutes to calls to mobile phones for called and calling parties. This service may, thus, be attractive only for those subscribers who are sensitive to the price for others to call them on their mobile. However, the MNOs will typically have already separated these subscribers from the generality of subscribers by offering them specially targeted tariffs. Therefore, Ofcom believes that automatic call forwarding services do not currently generate significant pressure on the level of mobile voice termination charges.

3.40 In the last market review Ofcom noted that business users, in particular small and medium sized enterprises ('SMEs') with up to 250 employees appear to be more concerned than residential users about the cost of calling their mobiles. In the last review Ofcom presented evidence from Oftel's research carried out in October 2002 (Business use of mobile telephony) which showed that 27% of SMEs consider which is the cheapest network to call when choosing a mobile network. In Ofcom's 2005 survey of SMEs 53% of SMEs owning or renting mobile phones stated that they had taken steps to reduce the costs of other people calling their mobiles. One in three (33%) of SMEs owning or renting mobile phones said that they currently chose the mobile network that was cheapest to call - and an additional fifth (18%) said that they would consider doing so in the future. In addition 26% said that they would consider doing so. Ofcom's recent survey evidence is consistent with the previous survey evidence.

3.41 In addition a smaller subset of SMEs have taken additional steps to reduce the cost of calling their mobiles. These are summarised in the table below:

Figure 3.3: Additional steps to minimising cost of calling their mobiles



Source: *SME Market Survey, February 2005, sample 119, all SMEs with mobiles taken additional steps*

3.42 As mentioned above, closed user groups do not generate sufficient competitive pressure to constrain the level of termination charges because the MNOs can separate them from less sensitive customers by offering special arrangements that bypass standard termination rates. By separating out some or all of the more price-sensitive customers, the MNOs limit the constraint on the termination charge from the more price-sensitive customers and this might mean that they face even less competitive pressure in setting charges for the other customers. The examples given in the figure above, ie Mobile VPNs, private wire, leased lines, special tariffs and mobile to mobile adaptations, are examples of such arrangements that segment the market in this way.

3.43 Private wire services and mobile-to-mobile adaptations are likely to be introduced only where the savings from lower prices for call to mobiles outweigh the costs of installing them. This, in turn, is likely to occur only where a sufficient proportion of the fixed line phone calls of the customer is directed to a single mobile network. Thus, they are unlikely to be an effective substitute to standard fixed-to-mobile calls for residential consumers. However, as mentioned above, the main reason why their presence is unlikely to constrain termination charges for fixed-to-mobile calls generally is that they constitute a targeted tariff aimed at separating out the most price-sensitive customers. They do not impose a competitive constraint on the prices which operators can charge for calls to less price sensitive customers.

3.44 If mobile users, generally, could receive their incoming calls on mobile networks other than the one to which they subscribe for making outbound calls, this could put some pressure on mobile voice termination charges. Previously Ofcom noted that for this form of substitution to take place, the called party must be able to switch their handset between different networks. This is possible through the use of multiple SIM cards.

3.45 A subscriber can have a mobile phone with an internal multiple SIM cardholder that allows him to switch from one network to another by turning the phone on and off. There are devices available in the UK market which allow customers to use different SIM cards in the same handset and, thus, switch between networks. However, to place some pressure on the MNO with high termination charges the subscriber should be, by default, on the network with cheap voice call termination charges and only switch to the other network to make cheap outbound calls. This is laborious and time-consuming (because to switch networks is an operation that requires time). In addition, it relies on the called party having the incentive to change network every time he needs to make a call and to switch back again at the end of the call, so that the next inbound call will use the network with lower termination charges. It is doubtful that such an incentive currently exists given the CPP arrangement and customer behaviour described above. Hence, it is more likely that subscribers currently exploit the multiple SIM card opportunity mainly, if not exclusively, to take advantage of differences in the prices of outgoing calls.

3.46 An automatic mechanism to re-route calls can also be considered. This mechanism would instruct the called party’s mobile phone to switch network automatically when a call is arriving. No such mechanism currently exists and, in the Ofcom’s view, it is unlikely to develop in the period to March 2007, due to significant technological difficulties and to the lack of incentives on the part of the called party to make use of a facility that reduces the cost of incoming calls. In addition, a further hurdle is posed by the need for MNOs to allow access to their handsets/SIM cards to install the necessary software (as well as allowing any necessary signalling to pass across the mobile network to control network selection) since the MNOs have little incentive to give this co-operation.

3.47 The main limitation of these two scenarios is that they rely on the called party having an interest in reducing the cost to other persons of calling his mobile.

Callers to mobiles

3.48 In paragraphs 3.14 to 3.29 above on the behaviour of calling parties, this document has discussed the evidence that callers firstly, are not always aware whether they are calling a mobile, secondly, that even when they know they are calling a network the majority of callers do not know which network and thirdly, that generally callers are not aware of the cost of making the call and lastly, even when they are aware of the cost of the call, this does not generally deter them from making the call

Initial conclusions on the behaviour of called party in response to an increase in the price for calls to mobiles

3.49 On the basis of the evidence and the arguments discussed above, Ofcom considers that the behaviour of mobile subscribers in response to a rise in termination charges above the competitive level and, thus, in the price of calls to their mobiles is unlikely to render this increase unprofitable. As concluded in the last market review, the majority of subscribers are unlikely to react to a price increase and the presence of some users who choose their mobile network also on the basis of the cost of incoming calls is not sufficient to constrain voice call termination charges (because of the ability of the MNOs to separate these customers from the other through special self-selecting arrangements). Hence, at present, no significant constraints on the MNOs' ability to set termination charges above the competitive level appear to arise from the behaviour of the called party.

Conclusions on retail demand-side substitution

3.50 In conclusion, Ofcom continues to take the view that there are no effective retail demand-side substitutes that could constrain mobile termination charges to the competitive level.

Wholesale demand-side substitution

3.51 As concluded in the last market review, substitution of wholesale voice call termination on an MNO's network with wholesale voice call termination on a different MNO's network cannot provide any direct constraint on termination charges, since an operator wishing to offer calls to a customer of a specific MNO must purchase termination from that MNO or it will not be able to terminate the calls (see also the discussion on multiple SIM card phones above).

Conclusions on demand-side substitution

3.52 For the reasons listed above, Ofcom considers that there has been no material change to the view expressed in the June 2004 Statement that, at present, there are no effective demand-side substitutes for voice call termination to specific subscribers of a particular MNO.

Supply-side substitution

3.53 Supply-side substitution occurs when, in response to a rise in the price of a product, suppliers of other products switch into supplying the product whose price has risen and render the price increase unprofitable for the firm that implemented it. Supply-side substitution can be examined both at the retail and wholesale level.

Retail supply-side substitution

3.54 For retail supply-side substitution to impose a constraint on the level of mobile voice termination charges, there would have to be operators which do not currently provide calls to mobiles that can switch into such provision and thus undermine a price set above the competitive level. In order to have such an effect, the new provider(s) would have to be able to provide a service which did not rely on the provision of termination from the MNO to which the called party subscribes. At present, Ofcom continues to take the view that no such provider potentially exists, that would not depend on the MNO to which the called party subscribes to terminate the calls.

Wholesale supply-side substitution

3.55 For supply-side substitution to be an effective constraint on mobile voice termination charges, there have to be other firms who could switch into the provision of wholesale voice call termination to a specific subscriber of an MNO's network with relative ease in response to an increase in termination charges:

MNOs other than the one to which the called party subscribes

3.56 Previously Ofcom discussed how supply-side substitution in the wholesale market could come most easily from other MNOs, which have the necessary network infrastructure and expertise to terminate mobile calls. However, having a mobile network is not sufficient for an MNO to be able to terminate calls to a subscriber of a rival network. For this to happen, the mobile phone should automatically move from its home network, on to that of the alternative MNO on which the call would then be terminated. Ofcom continues to take the view that at present the lack of access to handsets/SIM details and the technical difficulties in taking control of the handset constitute an effective barrier to an MNO providing voice termination to subscribers of another MNO.

Local Area Networks over short-range radio technologies or Wireless Local Area Networks (WLANs)

3.57 Operators running WLANs could possibly enter the market for mobiles call termination in competition with MNOs and, thus, put pressure on the level of mobile voice termination charges. Ofcom believes that, at present, there are significant technical obstacles that would have to be overcome before such a service could become viable for mobile users. For example WLAN operators cannot currently offer the same coverage of the MNO's networks because of the limited range of reception allowed by their equipment. In the last review Ofcom considered the main limitation of these two scenarios is that they rely on the called party being responsive to the price of inbound calls, so they would be prepared to incur some cost to reduce the cost to the person calling his mobile (for example by acquiring a multiple SIM handset). At present, the evidence presented in this section suggests that mobile subscribers do not take into consideration to any great extent the price of inbound calls when making their purchasing decisions. Therefore Ofcom continues to take the view that all of these obstacles would prevent WLAN operators from being able to supply voice call termination in competition with MNOs.

Mobile Virtual Network Operators

3.58 An MVNO is a firm that provides mobile telephony services to its customers, but does not have an allocation of spectrum and uses part of an MNO's network. Ofcom is not aware of there being any MVNO in the UK that provides termination services to its subscribers. Ofcom understands that calls to the MVNO's subscribers are directly routed to the host MNO's network and the originating operators pay this MNO for termination (directly). Significant developments would be required to enable an MVNO to offer termination by having incoming calls to its customers routed to itself rather than to the host MNO and to allow it to select the mobile network on which to terminate each call on the basis of the charges. If it could, this might place some pressure on the level of the termination charges. However, Ofcom continues to take the view that MVNO's are unlikely to increase the competitive pressure on voice call termination charges because a number of significant technological developments would have to take place to enable this to happen in practice. In any event, it is possible that MVNOs which also controlled termination would face the same lack of incentive to reduce termination charges, where CPP arrangements apply, as MNOs currently face.

Conclusion on supply-side substitution

3.59 For the reasons mentioned above, Ofcom considers that there has been no material change to the view expressed in the June 2004 Statement that there are no effective supply-side substitutes for voice call termination to the subscribers of a specific MNO.

Common pricing constraint(s)

Aggregating for all subscribers on a specific network

3.60 As noted in the last market review, on the basis of the conclusions reached above, there are no demand-side or supply-side substitutes that should be included in the relevant market. Accordingly, the appropriate market definition would appear to be wholesale voice call termination to a specified subscriber or telephone number. However, Ofcom considers that it would be wrong to narrow the market definition to this extent, because an MNO has limited ability to price discriminate between termination charges to different subscribers on its network. MNOs can separate the more price-sensitive customers by offering them arrangements that bypass the termination charge and so take such sales outside the scope of the market, e.g. through a private wire service (or use of on-net calls), and these issues were discussed in the section on demand-side substitution. However, the MNOs are currently not able to price discriminate between customers when termination charges are paid. Thus, a common pricing constraint applies to voice call termination to all subscribers on one network. Apart from tariff arrangements that bypass the termination charge, this implies that, if an MNO wishes to lower termination charges for calls to one subscriber, it must in practice lower termination charges for calls to all its subscribers, effectively equalising the competitive pressures placed on all the networks' termination charges. As a result, Ofcom is of the view that the relevant market includes voice termination to all subscribers of one MNO.

Cluster market for mobile services including termination

3.61 In the last market review there was a discussion around whether termination could be considered as part of a cluster market incorporating all mobile services due to a common pricing constraint. If mobile owners purchased a bundle of services from MNOs that included voice call termination together with other retail services, even if each element of the bundle were not a demand-side substitute for any of the others, the fact that they are all consumed and supplied together would link them. This is because under these circumstances, MNOs would be competing for customers not on the price of each single service, but on the overall price of the bundle and, thus, the various services would be subject to a common pricing constraint. This implies that an MNO would not be able to raise voice call termination charges, while keeping prices for the other services in the bundle at the same level, without seeing its customers switch to another network in response to the increase in the overall price of the bundle. The MNO would, therefore, be able to raise termination charges only if, at the same time, it reduced prices for other services, so as to maintain at the same level the overall price of the bundle. If this was true, an MNO could be constrained in its ability to increase charges for voice call termination (though the extent of such constraint would depend upon the level of competition in relation to the provision of the overall bundle). However, as discussed above, the evidence continues to support the conclusion that few mobile owners consider the prices of incoming calls in addition to the prices of outgoing calls, when choosing their mobile network. At present, the evidence suggests that calls to mobiles are not part of the bundle of services on which MNOs compete for subscribers. Therefore, Ofcom continues to be of the view that the appropriate market definition is not that of a cluster national market for all mobile services.

3G networks

3.62 The 2G MNO's are beginning to offer 3G voice services and therefore voice call termination over their respective 3G networks. Ofcom previously concluded that 2G and 3G voice call termination were not demand or supply side substitutes but that a common pricing constraint existed across termination on each network. Therefore, Ofcom considered that it would be reasonable to include them in the same economic market:

Demand-side substitution

3.63 Ofcom considered whether voice call termination on the 2G network and voice termination on the 3G network of the same operator are demand-side substitutes. Subscribers to the 3G services of these operators are given a dual mode handset that works on both 2G and 3G networks and will receive voice calls through both networks. However, the network on which the call is terminated is dictated by the terminating operator and neither the originating operator nor the calling party will be able to affect this choice or even be aware of whether the 2G or the 3G network has been chosen for termination. Since callers are unable to choose the network on which calls terminate, voice call termination on the 2G network does not appear to be an effective demand side substitute if charges for termination of calls to 3G subscribers were raised above the competitive level. Equally, voice call termination on the 3G network does not appear to be an effective demand side substitute if charges for termination of calls to 2G subscribers were raised above the competitive level.

Supply-side substitution

3.64 The fact that the two networks are run by the same operator also implies that termination on the 2G network will never be a supply-side substitute for termination of calls to 3G subscribers. The fact that an MNO can offer termination on its 2G network for calls to its 3G subscribers will not impose any additional constraint on the level of the charges for termination on its 3G network. An MNO will not undercut its own charges. For the same reason, termination on the 3G network cannot be a supply-side substitute for termination of calls to 2G subscribers.

Common pricing to originating operators

3.65 In the previous review, although it was not yet clear how prices for 3G voice call termination would be set, the market was defined on the assumption that an MNO with both a 2G and a 3G network would in practice, present a single price to originating operators for purchase of voice call termination to its 2G subscribers and purchasers of voice call termination to its 3G subscribers. This was because MNOs would use both networks to terminate calls to 3G subscribers. Since the last review, MNOs other than H3G have begun to offer voice call termination for their 3G subscribers and now terminate calls over both 2G and 3G networks. Ofcom understands that, like H3G, Vodafone, O2 and Orange all offer purchasers of voice call termination a single price, consistent with what Ofcom assumed in its previous market review (T-Mobile has not yet started to offer commercial 3G voice services). This pricing policy means that the same charge is paid for voice call termination on 2G network and for voice call termination on the 3G network. The key issue in this context is whether originating operators pay a uniform price or different prices depending on whether voice call termination is on a 2G or 3G network. A uniform price presented to originating operators could be a blended rate, derived as a weighted average of different underlying rates for 2G and 3G voice termination.

3.66 Ofcom notes that it might be feasible for MNOs to set different charges for each of 2G and 3G termination and to levy such charges depending on the network used for termination. There would, however, be some practical problems to be addressed, such as whether upgrades to billing systems would be needed and that originating operators may not know which network had been used for termination. In the absence of clear evidence to the contrary, Ofcom considers it reasonable to assume that MNOs will not levy different charges on originating operators for 2G and 3G voice call termination in the near future.

SMS

3.67 Ofcom noted previously that voice call termination and SMS termination could be regarded as part of the same market if they are demand-side substitutes or supply-side substitutes or if they are subject to a common pricing constraint, for example because they are part of a “cluster market”.

Demand side substitution

3.68 Ofcom continues to hold the view that SMS does not provide an adequate alternative for voice calls to mobile phones on the demand side. This is due to the fact that consumers perceive SMS as a limited substitute for a voice call and as an activity largely additional to voice calls to mobile phones. The main reasons for this are that SMS enables parties to exchange only relatively short messages (the number of characters in a message is limited) and that SMS can be delayed, because, unlike a mobile voice call, an SMS is transferred between networks on a “store and forward” basis.

Supply side substitution

3.69 In relation to supply side substitution, as for voice termination, currently each MNO can only supply SMS termination to the subscribers of its own network. Hence, SMS termination to a specific mobile customer is offered by the same MNO that provides voice termination to that customer. It is unlikely to offer

SMS termination in such a way as to impose any additional constraint on the level of the charges for voice termination on its network. It is very unlikely that an MNO will undercut its own charges. This implies that supply side substitution from SMS providers would not constrain voice termination charges.

Common pricing constraint

3.70 In other contexts, Ofcom has previously considered a range of call origination services (such as access and outgoing calls) to be in the same market on the basis of a cluster market analysis. This is because consumers purchase these services as a bundle. Operators, thus, compete for retail subscribers, not on the prices of each single outgoing service, but on the overall price of the bundle. This implies that these services, even though no service in the bundle is a demand or supply side substitute for any of the others, are subject to a common pricing constraint and, thus, can be considered to be part of linked markets.

3.71 In the case of mobile voice and SMS termination, Ofcom continues to hold the view that this argument does not apply because of the consequences of the CPP arrangement. The CPP arrangement implies that, even though it is the called party that chooses the terminating network on which it can be reached, it is the calling party who ultimately bears the cost of termination. Since the choices of whether to make a "call" to a particular recipient, and of what type (voice or SMS), are made by a number of different callers at different times, termination services are subject to separate purchasing decisions of different retail customers and are not part of a bundle. The calling parties do not make a single decision to purchase all their voice and SMS call termination services from a particular supplier in the same way that fixed and mobile customers choose their supplier of origination services. Therefore, given the way retail choices are made, the competitive conditions in the wholesale provision of SMS termination and voice termination are not linked by a cluster market analysis.

3.72 In conclusion, Ofcom continues to takes the view that SMS termination and mobile voice termination are not part of the same market. Accordingly, the markets that the Ofcom has identified are for termination of voice calls by MNOs on their public mobile networks.

Overall conclusions on market definition

3.73 On the basis of the analysis and of the evidence discussed above, Ofcom continues to hold the view that no adequate wholesale supply or demand side substitutes for termination of calls to the subscribers of a specific MNO currently appear to exist. Current technology does not allow the termination of a call to a mobile other than on the network of the MNO to which the called party subscribes. This appears unlikely to change in the near future. At the retail level, Ofcom is of the view that, at present, there are no effective alternatives for callers that could act as a constraint on termination charges. In addition, callers continue to appear to have limited awareness of the cost of calling mobiles. There remains a relatively small proportion of mobile users that is likely to show a higher sensitivity to the price of incoming calls. However the MNOs have to a large degree separated these users by offering them special tariffs, thus preventing this group from putting any effective pressure on termination charges. Technological conditions and the behaviour of called and calling parties may, over time, change sufficiently to alter the analysis significantly but Ofcom believes that this is extremely unlikely to happen in the near future. Hence, Ofcom continues to hold the view that, at present, there are separate markets for wholesale voice call termination to the subscribers of each MNO.

3.74 As termination of voice calls to the subscribers of each MNO is a separate market, Ofcom continues to believe that it is reasonable to conclude that the geographic extent of each market matches the scope of each mobile termination provider's network(s). This is justified by the fact that termination charges are geographically uniform across each network (or groups of networks, i.e. 2G and 3G).

Question 1: Do you agree that there continue to be separate markets for wholesale voice call termination on each MNO's network (or, where the MNO operates both 2G and 3G networks, across both networks) and that the geographic extent of each market matches the scope of each mobile termination provider's network(s)?

Assessment of SMP

3.75 In the last market review, Ofcom's SMP assessment for the 2G MNO's focused on single firm dominance. Ofcom considered that in each of the markets for wholesale mobile voice call termination discussed above, SMP cannot be held by more than one MNO. This is because only one MNO can currently, and most likely into the near future will be able, to offer wholesale termination to an originating operator in each market due to the position of absolute barriers to entry.

3.76 In the assessment of single firm dominance in the last market review, Ofcom relied on three of the criteria listed in the Commission's SMP Guidelines on the assessment of SMP. These were:

- High market share;
- Absence of potential competition; and
- Absence of or low countervailing buyer power.

In addition this assessment was supplemented with evidence of excessive pricing by the 2G MNOs. This section goes on to discuss Ofcom's SMP assessment in more detail.

High market share

3.77 Each of the MNOs is effectively a monopolist in the supply of termination for voice calls to its own network. The MNOs have had (since launch of their voice services) a 100% share of terminating voice calls on their own respective networks, both when measured by volume of calls and by revenues. This applies to calls terminated over each operator's 2G and 3G network.

Absence of potential competition

3.78 In this market, the current level of technological development, which does not allow any other provider to provide termination on a specific network apart from the provider of that network, generates an absolute barrier to entry. No technological means of terminating a call elsewhere seems likely to become available and commercially viable in the near future. Therefore Ofcom does not foresee the possibility of competitive entry into each of the MNO's voice termination markets.

Absence of or low countervailing buyer power

3.79 In Ofcom's view insufficient countervailing buyer power exists to mitigate each MNO's monopoly position. The 2G MNOs are currently of similar size (in terms of subscribers) with each having in excess of 13 million subscribers. In the case of most originating operators, there will be an imbalance in the relative bargaining positions of the MNOs and originating operators in favour of the terminating MNO. Furthermore, BT, which is the major buyer of mobile voice call termination across all mobile networks, has an obligation[5] to complete all calls whatever the terminating network. (BT, as a designated universal service provider is obliged to ensure that its customers can call other customers and services irrespective of terminating network, that is they must provide end-to-end connectivity). Effectively this requirement curbs any buyer power that BT may have had in threatening to not interconnect with an MNO. In the case of the bilateral relationships between the MNOs, Ofcom believes that it would be in the commercial interests of the MNO's to allow their subscribers to call the subscribers of another MNO and therefore their countervailing buyer power is lower than it might otherwise be.

Conclusion

3.80 In relation to the three SMP criteria, Ofcom continues to take the view that the reasoning used to support the SMP determinations imposed on each of the 2G MNOs in the June 2004 Statement is valid today and that there are no developments expected in the near term that would impact on this conclusion i.e.

- The 2G MNOs continue to hold 100% market shares in the relevant markets;
- Absolute barriers to entry into each market remain;
- Originating operators do not have sufficient buyer power to mitigate the 2G MNO's monopoly positions; and
- Historically the 2G MNOs have charged excessively for 2G voice call termination.

Question 2: Do you agree that each of the 2G MNOs continues to have SMP?

[5] The reasons for this obligation are set out in Oftel's guidance document End to End Connectivity (published in May 2003)

Section 4

Proposed changes to Charge Control conditions

Introduction

4.1 This Section sets out the details of the charge control which Ofcom is proposing should apply from 1 April 2006. The present charge controls which were imposed though notifications issued with the June 2004 Statement will expire on 31 March 2006. Under those controls, 2G MNOs have discretion to determine the termination charges which apply at different times of the day, but the charge controls require that the average termination charge (weighted by call minutes during the different charging times) in each of the defined periods for termination of voice calls on 2G networks does not exceed 5.63 pence per minute (in the cases of Vodafone and O2) and 6.31 pence per minute (in the cases of Orange and T-Mobile). The methodology for calculating the level of the control is summarised in paragraph 4.13 below

Regulatory impact assessment

4.2 The analysis presented in this section of this document, when read in conjunction with the rest of this document, represents an Impact Assessment ("IA"), as defined by section 7 of the 2003 Act.

4.3 RIAs provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making and are commonly used by other regulators. This is reflected in section 7 of the 2003 Act, which means that generally we have to carry out IAs where our proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom's activities. In accordance with section 7 of the Act, in producing the IA in this document Ofcom has had regard to such general guidance as it considers appropriate, including related Cabinet Office guidance and Ofcom's own draft guidance entitled *Better Policy Making: Ofcom's approach to Impact Assessments.* http://www.ofcom.org.uk/consult/condocs/ia_guidelines/?a=87101

4.4 This section should be read in the light of the June 2004 Statement and the consultation documents published on 19 December 2003 and 15 May 2003 which preceded the June 2004 Statement.

Aim of the conditions being proposed

4.5 As explained in paragraph 4.38 below, Ofcom's principal duty in carrying out its functions, as set out in Section 3(1) of the Act, is to further the interests of citizens in relation to communications matters, and to further the interests of consumers in relevant markets, where appropriate by promoting competition. Section 4 of the Act sets out Ofcom's duties for the purposes of fulfilling Community obligations. In regard to Ofcom's proposals to modify the Charge Control of wholesale mobile voice call termination as set out in this consultation document, Ofcom has considered all the requirements in those sections, in particular furthering the interests of consumers in relevant markets, where appropriate by promoting competition; the desirability of promoting competition, the desirability of encouraging investment and innovation; and promoting efficient and sustainable competition in the provision of electronic communications networks and services.

Summary of the issues

4.6 Ofcom has considered the following options for the regulation of charges for wholesale mobile voice call termination on 2G networks:

option 1 - Do nothing, and rely on the continuing obligation to meet reasonable requests for Network Access on fair and reasonable terms.

option 2 – Impose a 4 year charge control on 2G voice call termination;

option 3 – Extend the existing charge control on 2G voice call termination by one year based on an updating of key inputs of Ofcom's 2G LRIC model

Option 1 – Do nothing

4.7 Under section 6 of the Act, Ofcom has a duty to ensure that it does not impose or maintain unnecessary regulatory burdens. Ofcom has considered whether the most appropriate course of action would be to take no action in relation to the Charge Controls conditions, relying instead on the other obligations (which are not time limited) to meet reasonable requests for Network Access on fair and reasonable terms. The conditions requiring the supply of 2G voice call termination on fair and reasonable terms would enable claims of excessive pricing to be addressed. However, this approach is likely to generate a high degree of uncertainty about what is the fair and reasonable level. Where Ofcom has a clear understanding of costs, this approach, while light in touch, may be considered perverse. The approach is also likely, at some point, to cause a wholesale purchaser of mobile voice call termination services to test what is the compliant level of charges, by alleging that current charges are not fair and reasonable. Thus, the "light touch" may be short lived and have served only to have created a period of uncertainty.

4.8 Ofcom's current view is that this option would result in excessive regulatory costs and unnecessary uncertainty for MNOs and purchasers of wholesale voice call termination.

Option 2 - Impose a 4 year charge control on 2G voice call termination

4.9 It is Ofcom's usual practice, when imposing charge controls, to do so for a period of 3 or 4 years, as a charge control period of this duration provides a reasonable degree of stability for purchasers and suppliers and provides an incentive for suppliers to reap the benefits of efficiency savings over that period. However, in the case of wholesale mobile voice call termination, the rollout of 3G networks, and the close cost and technical interactions between voice call termination on 2G and 3G networks indicate to Ofcom that it should not take decisions on a long term charge control for wholesale mobile voice call termination on 2G networks without first understanding and investigating the implications regarding the costs of terminating voice calls on 3G networks, given the significant relationship and interaction between 2G and 3G costs. Ofcom has commissioned consultants to investigate 3G costs but, given the complexity, does not expect to be able to draw any firm conclusions until after the present Charge Control conditions expire in March 2006.

4.10 In these circumstances, Ofcom's current view is that it would be premature to impose a lengthy control on 2G voice call termination charges.

Option 3 Extend the existing charge control on 2G voice call termination by one year based on a updating of key inputs of Ofcom's 2G LRIC model

4.11 Given the desirability of understanding the interactions between 2G and 3G costs, and given that Ofcom does not expect to receive the output from the commissioned analysis of 3G costs until 2006, there is merit in modifying the current charge controls for a period of one year while a broad analysis of 2G and 3G costs can be carried out. This preferred option is explored in some detail below.

Question 3: Do you agree that Ofcom should extend the existing charge control on 2G voice call termination by one year?

Options for a one year charge control

4.12 The existing charge controls, as imposed by the June 2004 statement, are based on a long run incremental cost (LRIC) model which was used to derive the costs of a reasonably efficient 2G mobile operator in the UK providing voice call termination on 2G networks, plus a mark-up for common costs and a network externality surcharge. Ofcom continues to hold the view that forward-looking LRIC is the most appropriate basis for the calculation of efficient regulatory charge levels for mobile termination, as LRIC based charges correspond more closely to the charges that would prevail in an effectively competitive market than accounting-based measures of cost.

4.13 The charge control put in place by the last market review was for the same nominal target charge in (the remaining part of) 2004/5 and in 2005/6. In the context of a proposal that existing charge controls should be extended for one further year, and given Ofcom's assessment that there has been no material change in this market since the last market review, it might be considered that the most reasonable course of action would be to maintain the level of the existing charge controls, in nominal terms, for the course of that year. However, Ofcom has an obligation to ensure that any charge control it imposes is objectively justifiable, and has therefore undertaken cost analysis for 2G voice termination, based on updating its 2G LRIC model (last revised in June 2004), to determine whether extending the present charge controls at their existing level would be a reasonable approach.

Updated cost analysis

4.14 The aim of this cost analysis is to update the key inputs of the 2G LRIC model, whilst retaining the same model structure and underlying conceptual methodology. The following updates to the inputs to the LRIC model, which are discussed in detail in Annex E paragraphs E7 to E35, have been made:

Cost of capital – Adjusted from 12% to 11% in pre-tax real terms (see Annex E), consistent with the methodology in the last market review
Demand – Previous forecasts for subscribers and traffic replaced with the latest published data and forecasts recalculated accordingly
Modern equivalent asset prices – Updated historical and forecast year on year price trends for network assets

Spectrum fees – Reduced to reflect Ofcom's most recent statement

4.15 Figures 4.1 and 4.2 below show the revised LRIC model output for 2G voice termination before and after application of these parametric revisions. Additional adjustments are also shown which take account of a comparison of the model output with actual 2G MNO cost accounting data and add mark-ups for non-network common costs and network externalities, consistent with the methodology underlying the efficient charge level of the existing charge controls.

Figure 4.1: 900/1800 MHz combined operators

	Real 2000/01 pence per minute		***Nominal pence per minute***	
June 2004 Statement	***2005/06***	***2006/07***	***2005/06***	***2006/07***
LRIC+ model output	3.76	3.60	4.24	4.16
+ capital / operating cost adjustment	0.33	0.26	0.37	0.30
+ non-network common cost mark up	0.41	0.41	0.46	0.48
+ network externality mark up	0.50	0.50	0.56	0.58
Efficient charge	5.00	4.77	5.63	5.51

Revised Ofcom view

LRIC+ model output	3.41	3.95
+ capital / operating cost adjustment	0.14	0.16
+ non-network common cost mark up	0.41	0.48
+ network externality mark up	0.50	0.58
Efficient charge	4.46	5.16

Figure 4.2: 1800 MHz operators

	Real 2000/01 pence per minute		***Nominal pence per minute***	
June 2004 Statement	***2005/06***	***2006/07***	***2005/06***	***2006/07***
LRIC+ model output	4.55	4.33	5.14	5.01
+ capital / operating cost adjustment	0.14	0.04	0.15	0.05
+ non-network common cost mark up	0.41	0.41	0.46	0.48
+ network externality mark up	0.50	0.50	0.56	0.58
Efficient charge	5.60	5.29	6.31	6.11

Revised Ofcom view

LRIC+ model output	3.95	4.57
+ capital / operating cost adjustment	-0.10	-0.12
+ non-network common cost mark up	0.41	0.48
+ network externality mark up	0.50	0.58
Efficient charge	4.76	5.50

4.16 As can be seen above, these updates result in a reduction of 6-10% in the efficient charge level for 2G voice call termination in 2006/07, compared to the level determined in the June 2004 Statement. In the context of consistency with the approach taken in the previous market review and Ofcom's assessment of no material change in market conditions since June 2004, there is an argument that it would be appropriate to rely on this parametric update alone to determine a suitable efficient charge level for a one year extension to the existing charge control. However, Ofcom believes that there may be a further issue worthy of consideration.

Effect of traffic migration to 3G

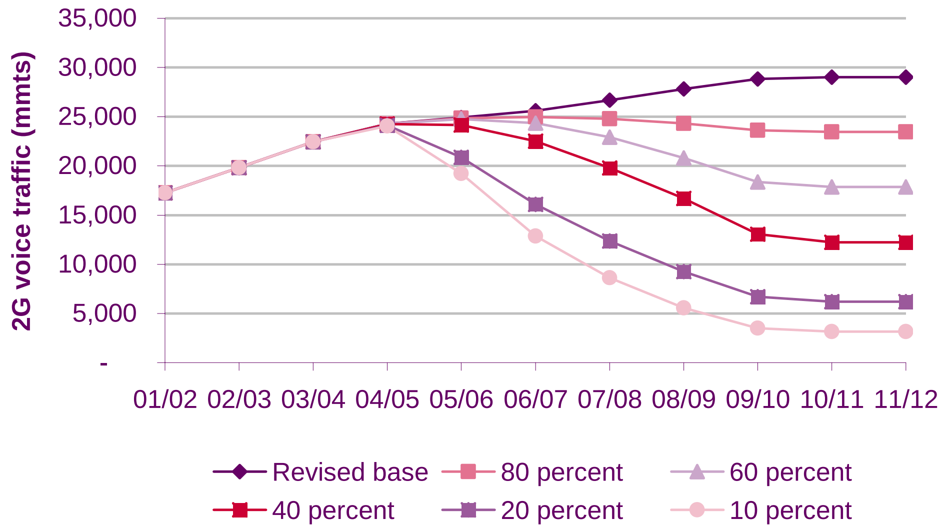
4.17 In the context of the next market review which will look beyond the scope of the proposals in this consultation, Ofcom has begun to consider the implications of the migration of 2G mobile subscribers onto 3G networks. This migration implies a reduction in volumes of voice traffic on 2G networks which is likely to result in an increase in the unit costs and hence efficient charge level for 2G voice call termination. The calculation of specific charges to take account of these migration effects would require a degree of precision regarding analysis of the costs beyond the scope of this consultation - this will be dealt with more thoroughly in the next market review. Nevertheless, Ofcom believes that there is merit at this stage in examining the potential impact of this migration effect.

4.18 The starting point for this scoping analysis is a wide range of potential 2G traffic scenarios as shown in Figure 4.3 below. In the previous market review, Ofcom derived an efficient level for regulated 2G termination charges by modelling all future voice traffic as if it was carried on a 2G network of a reasonably efficient operator. Consistent with this approach, the base case profile represents the demand inputs outlined in paragraph 4.15 above, with no reduction in 2G voice traffic. At the other end of the range, the 10% profile shows a stylised demand scenario in which the level of 2G voice traffic has declined to 10% of the base case level by 2009/10. The same nomenclature applies to the other intermediate traffic profiles. Ofcom believes that it is difficult to predict the development of traffic patterns as between 2G and 3G networks. These scenarios have been developed to illustrate the effect that developments in this respect could have, in principle, and it is likely that the breadth of the range more than encompasses plausible rates of change in the industry.

4.19 It should be noted that as the original April 2002 2G LRIC model was designed with stable future volumes of 2G traffic in mind, demand post-2010 is treated as constant. Rather than redeveloping the LRIC model to remove this limitation, which would be a significant exercise and disproportionate within the scope of this consultation, Ofcom has used a wide range of stylised 2G voice traffic forecasts (as illustrated in Figure 4.3) which remain constant post-2010.

Figure 4.3:

2G traffic scenarios for an average operator



Cost profiling

4.20 The April 2002 LRIC model takes into account all the capital expenditure on assets, even if they are retired before the end of their economic life. Moreover it assumes that an operator recovers no residual value when an asset ceases to be required before the end of its economic life, in response to a reduction in traffic on the network. Ofcom believes that this approach represents a conservative treatment of capital costs in the context of declining 2G traffic volumes, as it allows the full investment costs of all asset purchases to be recovered in determining the efficient charge level for 2G termination.

4.21 In the April 2002 LRIC model, the operating costs of assets associated with the network are scaled according to the level of demand, on a year-by-year basis. When demand reduces, assets which are no longer required to meet demand are assumed to incur no operating costs.

4.22 Ofcom believes that the April 2002 LRIC model approach, as outlined above, constitutes a relevant methodology for the estimation of costs for an efficient 2G operator in the context of declining 2G traffic volumes, for the purposes of this consultation.

4.23 However, it could be argued that an efficient operator may in practice find it unavoidable to incur operating costs, for at least a period of time, on certain asset types. As an additional sensitivity, Ofcom has examined a more conservative treatment of operating costs. In this approach, it is assumed that operating costs continue to be incurred not only on assets required by the level of demand, but also on unrequired assets for a period of 3 years after they are no longer required. This sensitivity reflects a view that it may not be possible to reduce operating costs immediately in line with a reduction in demand. The net present value of the additional operating costs incurred is then spread across future minutes as an equi-proportionate mark up.

4.24 Figures 4.4 and 4.5 below show the range of efficient charge levels for 2G voice call termination in 2006/07 resulting from the LRIC model approach and the increased operating cost sensitivity for each of the 2G traffic scenarios shown in Figure 4.3. The alternative 2G traffic reduction scenarios are shown along the horizontal axis, whilst the lower and upper end of each of the vertical lines correspond to the LRIC model approach and the upper bound sensitivity on the efficient charge level for termination respectively.

Figure 4.4: Impact of 2G traffic reduction on pence per minute for termination in 2006/07, 900/1800 MHz operators

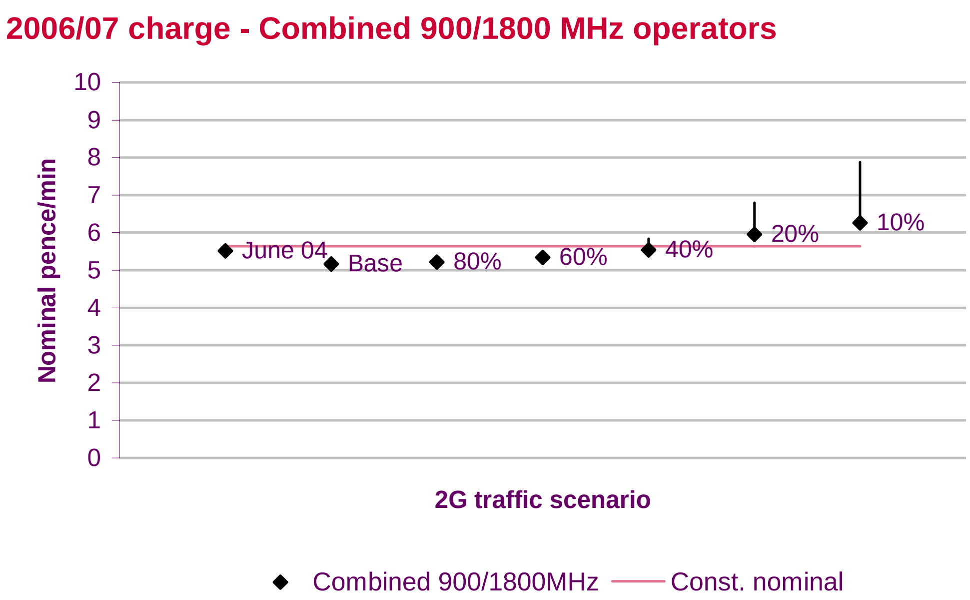
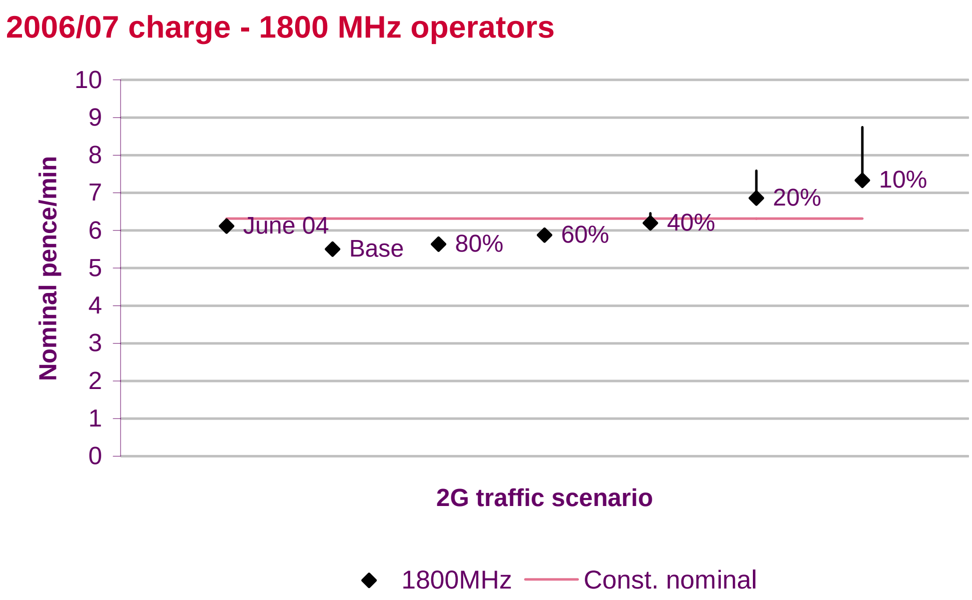


Figure 4.5: Impact of 2G traffic reduction on pence per minute for termination in 2006/07, 1800 MHz operators



Selection of an appropriate charge control

4.25 As shown above, the wide range of scenarios illustrated concerning 2G traffic volumes and treatment of operating costs leads to a wide range of possible outcomes for the efficient charge level for 2G voice call termination. The migration of subscribers onto 3G networks could result in significant increases in the economic cost to MNOs of providing 2G voice call termination when compared to the revised base case, though many of the scenarios result in an efficient charge level not dissimilar to that of the present charge control. Ofcom will endeavour to build on this simple analysis in the next market review, in order to develop a better understanding of the impact of migration.

Proposal for a one year charge control from 1 April 2006

4.26 After having considered the analysis in the preceding paragraphs, Ofcom needs to consider what is the appropriate level to set on a one year charge control. One legitimate approach would be to continue to use the existing model, updated as described in paragraph 4.14 above. This would give rise to charge reductions of between 8% and 13% from the nominal level of the current charge control. Such an approach would take no account of costs arising from migrations. There is an argument that costs arising from migration are not relevant to assessment of a regulated 2G charge for as long as 2G networks and spectrum are not exhausted and migration of voice call termination to 3G networks offers no advantages to customers.

4.27 However, Ofcom recognises that there are counter arguments and these, and related issues, are being explored in a separate consultation exercise which is considering the approach to regulation of these markets after March 2007 (see section 1 paragraph 1.9 above). Ofcom does not consider it appropriate or feasible to resolve these issues at this time. Ofcom therefore considers that it is appropriate to take some account of the potential costs of migration when considering the appropriate charge control level for the period from 1 April 2006 to 31 March 2007. On the basis of the analysis described in paragraphs 4.18 to 4.22, this would give rise to efficient charges lying somewhere within the ranges shown in Figures 4.4 and 4.5. Given that there are reasonable arguments in favour of both lowering the current charge controls and of raising them, Ofcom's view is that the best balance between the arguments is struck by maintaining charges at the current level for a further 12 months.

4.28 It would be possible to set the absolute level of certain charges, leaving the provider no discretion to vary charges, for example by time of day. This approach would represent an extension of existing regulation, under which the 2G MNOs are currently able to determine charge for 2G voice call termination, for example at different times of the day, provided that the Target Average Charge is not exceeded. Ofcom does not believe such an extension of regulation is warranted because the MNOs are better placed than Ofcom to make such detailed judgements about the structure of charges by time of day.

4.29 In the circumstances Ofcom is proposing that the Target Average Charge for voice call termination on 2G networks by Vodafone and O2 should remain 5.63ppm and for Orange and T-Mobile should remain at 6.31 ppm, subject, as presently, to changes in time of day weights. Ofcom proposes that these modifications to the charge controls shall be applied to take effect from 1 April 2006 until 31 March 2007.

4.30 The methodology for calculating compliance with these charge controls. including the separate calculations in respect of calls from fixed networks and calls from other mobile networks will also remain unchanged and in accordance with conditions MC3 and MC4 of the conditions imposed on Vodafone and O2 and conditions MD3 and MD4 of the conditions imposed on Orange and T-Mobile in the June 2004 Statement. In all cases these conditions will continue to be modified by the Consents granted by Ofcom on 1 September 2004 (see *Wholesale Mobile Voice Call Termination charge controls – request for consent Explanatory Statement* published by Ofcom on 1 September 2004. The proposed modifications to the Charge Control conditions are underlined and highlighted in italics in the Notification set out at Annex D.

Question 4: Do you agree that the Target Average Charges should remain unchanged?

Charge control cost benefit analysis

4.31 The following paragraphs present an impact assessment of the option of charge control regulation on 2G wholesale voice call termination. In the last market review Ofcom conducted a similar analysis which can be found in Annex L of the December 2003 consultation with further details, including the model used available at http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/2003/gain0703.htm.

4.32 Ofcom's prior analysis estimated the welfare gain of regulation by comparing two scenarios:

- a scenario in which termination charges are brought down via the charge control to the fair target charge and where other prices are assumed to be set on a Ramsey basis ("constrained Ramsey"); and

- an unregulated scenario in which MNOs set high termination charges, but are assumed to make no supernormal profits (i.e. make sufficient revenues to cover costs, including the cost of capital). Any super normal profits made from termination are assumed to be competed away in competing for mobile subscribers, i.e. a complete "waterbed effect" ("zero-profit unregulated").

4.33 The welfare gain from regulation was estimated to be £224.8m per quarter (2000/2001 values) in 2005/06 when it was assumed that the charge would be brought down to the average target charge. This represented the absolute welfare gain from moving from (hypothetical) unregulated prices to regulated prices. In the previous market review a 19 months charge control was being implemented and therefore the "per quarter" benefit was converted into a total discounted future benefit over the period of the charge control. The result of this analysis was a total welfare gain over the duration of the charge control of £1.6bn.

4.34 In Ofcom's view this was an order of magnitude estimate and not a precise estimate of the welfare gain of regulation. However, Ofcom's view was that it was potentially a conservative estimate of the likely gains from regulation because it assumed in both scenarios that MNOs did not make super normal profits and therefore that the welfare gains from regulation was a pure change in surplus arising from a change in the balance of mobile service prices. Ofcom therefore concluded that there were substantial benefits from regulation of termination charges.

4.35 In order to estimate the welfare gain from Ofcom's proposed one year charge control, compared to no regulation, a reasonable approach would be to base this estimate on the £225m per quarter gain estimated by the model in the last market review[6]. In this case the welfare gain associated with a one year charge control would be £900m over the period of the control. Using this approach to estimate the welfare gain or loss from the proposed charge control compared with other options considered in this section, such as option 1 (do nothing), is more difficult. Estimates would need to be derived of the specific charges that would prevail under these options, but this is unlikely to capture the key differences among the options, which involve different processes for regulating charges. Hence the qualitative discussion above of the advantages and disadvantages of the options provides a more fruitful comparative approach.

Communications Act tests

4.36 In modifying SMP Conditions, Ofcom is required to meet various tests set out in the Act. These tests and Ofcom's assessment of how these are met in connection with the proposed modifications to the Charge Control conditions are set out below.

Section 3 of the Act – Ofcom's general duties

4.37 Section 3 of the Act sets out the principal duty of Ofcom. Ofcom is required by this section to carry out its functions in line with this duty.

4.38 Ofcom considers that the proposal for modified Charge Control conditions falls within the scope of section 3 of the Act. In particular, Ofcom considers that the following duties are appropriate to this issue:

- Section 3(1)(b) states that Ofcom should "further the interests of consumers in relevant markets, where appropriate by promoting competition";
- In carrying out this duty, Section 3(2)(b) states that Ofcom is required to secure "the availability throughout the United Kingdom of a wide range of electronic communications services";
- Also, Ofcom must have regard to "the desirability of promoting competition in relevant markets" (Section 3(4)(b)); and "the desirability of encouraging investment and innovation in relevant markets" (Section 3(4)(d)) when performing these duties.

4.39 In the absence of any regulation, the 2G MNOs would have the incentive and ability to set an excessively high charge for wholesale mobile voice call termination on 2G networks and this would lead to excessively high prices paid by consumers. In the absence of these proposed modifications there would be a high degree of uncertainty about what is the fair and reasonable charge for 2G voice call termination, and a high probability that termination

[6] The model used to estimate this welfare gain is the same model in terms of structure and parameters that is used to estimate the network externality mark-up. Ofcom does not believe that it needs to update this model in order to re-estimate the welfare gain from charge control regulation. See also Annex E to this document (paragraph E.56)

charges will rise. Therefore, Ofcom considers that by regulating the amount which 2G MNOs may charge for wholesale mobile voice call termination on 2G networks, to ensure that charges are cost reflective, the proposal will, among other things, further the interests of consumers.

Section 4 of the Act – European Community requirements for regulation

4.40 Section 4 of the Act requires Ofcom to act in accordance with the six European Community requirements for regulation. In summary these requirements are to:

- promote competition in the provision of electronic communications networks and services, associated facilities and the supply of directories;
- contribute to the development of the European internal market;
- promote the interests of all persons who are citizens of the European Union;
- not favour one form of or means of providing electronic communications networks or services, i.e. to be technologically neutral;
- to encourage the provision of network access and service interoperability for the purpose of securing:
  - efficient and sustainable competition; and
  - the maximum benefit for customers of Communications Providers; and
- encourage compliance with certain standards in order to facilitate service interoperability and secure freedom of choice for the customers of Communications Providers.

4.41 Ofcom considers that modifying the charge control for wholesale mobile voice call termination on 2G networks will further the interests of consumers by preventing 2G MNOs from charging excessively and by encouraging efficient use of resources.

Section 47 – the setting or modifying of conditions

4.42 Section 47(2) of the Act requires Ofcom to ensure that any modification of a condition is:

- objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
- not unduly discriminatory against particular persons or against a particular description of persons;
- proportionate to what it the modification is intended to achieve; and
- transparent in relation to what it is intended to achieve.

Objectively justifiable

4.43 The proposed modification to the Charge Control conditions is objectively justifiable because in the absence of this regulation, 2G MNOs would have the incentive and ability to set an excessively high charge for wholesale mobile voice call termination on 2G networks and this could lead to excessively high prices paid by consumers.

Non-discriminatory

4.44 Section 47(2) requires that a modification must not discriminate against any party. Ofcom does not consider that the absence of charge control conditions on H3G discriminates against the 2G MNOs. As explained at paragraph 5.63 of the June 2004 Statement, where H3G is unable to provide voice call termination services using its own 3G network, it switches calls at the gateway MSC and thereafter uses the 2G radio network of a 2G MNO as part of a roaming agreement. Ofcom considers that, in view of the sunk costs incurred by H3G in constructing its own network, H3G has strong incentives to use its own 3G network, in preference to the 2G network of the other party. Furthermore, the volume of calls terminated by 3 on a 2G network is very much lower than the volume of calls terminated in this way by any one of the 2G MNOs. In these present circumstances, Ofcom believes that it would be disproportionate to impose charge control conditions on H3G's termination of mobile voice calls on a 2G network. Consequently, Ofcom's view remains that the introduction of such regulation on H3G would not currently meet the proportionality test in section 47 of the Act. This situation may change, and the consultation document referred to in paragraph 1.19 above considers what form any regulation of 3 (and the 2G MNOs) should take in the longer term. The more general SMP conditions imposed on H3G by the Notification contained in the June 2004 Statement, requiring H3G to publish and notify charge for 2G voice call termination, and to notify to Ofcom call volumes, will still be relevant.

Proportionate

4.45 The proposed modification to the Charge Control conditions is proportionate. As noted above, Ofcom considers that in the absence of any regulatory controls MNOs have an incentive and ability to increase charges to the monopoly level. Consequently some form of control is required. The conditions requiring the supply of 2G voice call termination on fair and reasonable terms (which is not time limited) would enable claims of excessive pricing to be addressed. However, this approach is likely to generate a high degree of uncertainty about what is the fair and reasonable level. Ofcom's view is that this option would result in excessive regulatory costs and unnecessary uncertainty for MNOs and purchasers of wholesale voice call termination.

4.46 The proposed modification to the Charge Control is proportionate to MNOs as it achieves the objective of controlling average charges while allowing MNOs to retain some discretion over the charges levied at different times of the day, and allowing MNOs to make a reasonable return.

Transparent

4.47 The proposed modification to the Charge Control conditions is transparent as to what it is seeking to achieve because the proposed requirements on the 2G MNOs are clearly set out in the condition.

Section 87(4)

4.48 In addition, Ofcom has taken into account the factors set out in section 87(4) of the Act and, in particular, the technical viability of installing and using facilities that make Network Access unnecessary. The current level of technological development does not allow any other provider to provide termination on a specific network apart from the provider of that network, and this generates an absolute barrier to entry. No technological means of terminating a call elsewhere seems likely to become available and commercially viable in the near future.

Section 88

4.49 Ofcom also considers that the tests in section 88 of the Act have been met. Among other things, there is a risk that, in situations where SMP is persistent, pricing will be distorted and not at competitive levels. A charge control is necessary in order to promote competition and provide benefits to end users, as it acts to control the charge for a wholesale input to retail services in the absence of competition reducing prices. In addition, a charge cap promotes efficiency as it provides incentives for MNOs to reduce their costs during the controlled period.

Section 5

Responding to this consultation

How to respond

Ofcom invites written views and comments on the issues raised in this document, to be made by **5pm on 30 August 2005**.

Ofcom strongly prefers to receive responses as e-mail attachments, in Microsoft Word format, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex B), among other things to indicate whether or not there are confidentiality issues. The cover sheet can be downloaded from the 'Consultations' section of our website.

Please can you send your response to michael.richardson@ofcom.org.uk

Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.

Michael Richardson
Competition and Markets
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Ofcom
Riverside House
2A Southwark Bridge Road
London SE1 9HA

Fax: 020 7783 4157

Note that we do not need a hard copy in addition to an electronic version. Also note that Ofcom will not routinely acknowledge receipt of responses.

Further information

If you have any want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Michael Richardson on 020 7783 4157.

Confidentiality

Ofcom thinks it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk. We will do this on receipt of responses, unless respondents request otherwise on their response cover sheet.

All comments will be treated as non-confidential unless respondents specify that part or all of the response is confidential and should not be disclosed. Please place any confidential parts of a response in a separate annex, so that non-confidential parts may be published along with the respondent's identity.

Ofcom reserves its power to disclose any information it receives where this is required to carry out its functions. Ofcom will exercise due regard to the confidentiality of information supplied.

Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use, to meet its legal requirements. Ofcom's approach on intellectual property rights is explained further on its website, at www.ofcom.org.uk/about_ofcom/gov_accountability/disclaimer.

Next steps

Following the end of the consultation period, Ofcom intends to publish a statement.

Please note that you can register to get automatic notifications of when Ofcom documents are published, at http://www.ofcom.org.uk/static/subscribe/select_list.htm.

Ofcom's consultation processes

Ofcom is keen to make responding to consultations easy, and have published some consultation principles (see Annex A) which it seeks to follow, including on the length of consultations.

If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk. We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, whose views are less likely to be obtained in a formal consultation.

If you would like to discuss these issues, or Ofcom's consultation processes more generally, you can alternatively contact Tony Stoller, External Relations Director, who is Ofcom's consultation champion:

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Annex A

Ofcom's consultation principles

Ofcom have published the following seven principles that it will follow for each public written consultation:

Before the consultation

A.1 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A.2 We will be clear about who we are consulting, why, on what questions and for how long.

A.3 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened version for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A.4 We will normally allow ten weeks for responses to consultations on issues of general interest.

A.5 There will be a person within Ofcom who will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. This individual (who we call the consultation champion) will also be the main person to contact with views on the way we run our consultations.

A.6 If we are not able to follow one of these principles, we will explain why. This may be because a particular issue is urgent. If we need to reduce the amount of time we have set aside for a consultation, we will let those concerned know beforehand that this is a 'red flag consultation' which needs their urgent attention.

After the consultation

A.7 We will look at each response carefully and with an open mind. We will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

Annex B

Consultation response cover sheet

B.1 In the interests of transparency, we will publish all consultation responses in full on our website, www.ofcom.org.uk, unless a respondent specifies that all or part of their response is confidential. We will also refer to the contents of a response when explaining our decision, without disclosing the specific information that you wish to remain confidential.

B.2 We have produced a cover sheet for responses (see below) and would be very grateful if you could send one with your response. This will speed up our processing of responses, and help to maintain confidentiality by allowing you to state very clearly what you don't want to be published. We will keep your completed cover sheets confidential.

B.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their cover sheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.

B.4 We strongly prefer to receive responses in the form of a Microsoft Word attachment to an email. Our website therefore includes an electronic copy of this cover sheet, which you can download from the 'Consultations' section of our website.

B.5 Please put any confidential parts of your response in a separate annex to your response, so that they are clearly identified. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

What do you want Ofcom to keep confidential?

Nothing	☐	Name/address/contact details/job title	☐
Whole response	☐	Organisation	☐
Part of the response	☐	If there is no separate annex, which parts?	

Note that Ofcom may still refer to the contents of responses in general terms, without disclosing specific information that is confidential. Ofcom also reserves its powers to disclose any information it receives where this is required to carry out its functions. Ofcom will exercise due regard to the confidentiality of information supplied.

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response. It can be published in full on Ofcom's website, unless otherwise specified on this cover sheet, and I authorise Ofcom to make use of the information in this response to meet its legal requirements. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here. ☐

Name Signed (if hard copy)

Annex C

Legal and Regulatory Framework

Introduction

C.1 This Annex sets out the relevant main provisions of the legal and regulatory framework that applies to issues considered in this Explanatory Statement. In particular, the following is covered below:

- generally about the framework under the EC Communications Directives;
- the implementing UK legislation, the Communications Act 2003;
- the procedures and the three stages for market reviews;
- the reasons why *ex ante* regulation is needed as opposed to relying on competition law remedies;
- Ofcom's statutory Notifications of its proposals;
- Impact Assessments; and
- the key features and legal basis of the charge control regime.

C.2 Sections 3 to 4 of this Explanatory Statement deal, in effect, with the substantive application of those main provisions to Ofcom's considerations set out in this document.

C.3 For the following markets:

a. wholesale voice call termination provided by O2 (such termination being provided via O2's 2G and 3G mobile network);

b. wholesale voice call termination provided by Orange (such termination being provided via Orange's 2G and 3G mobile network);

c. wholesale voice call termination provided by T-Mobile (such termination being provided via T-Mobile's 2G and 3G mobile network); and

d. wholesale voice call termination provided by Vodafone (such termination being provided via Vodafone's 2G and 3G mobile network);

Ofcom is satisfied that there has not been a material change to those markets that would justify more extensive analysis in this document (see Section 3).

The Framework under the EC Communications Directives

C.4 A new regulatory framework for electronic communications networks ("**ECN**") and electronic communications services ("**ECS**"), associated facilities and associated services entered into force on 25 July 2003. The framework is designed to create harmonised regulation across the European Community

("**EC**") and is aimed at reducing entry barriers and fostering prospects for effective competition to the benefit of consumers.

C.5 The new regulatory framework adopted by the European parliament and the Council in 2002 is established by the following five EC Communications Directives:

- Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services (the "**Framework Directive**");
- Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities (the "**Access and Interconnection Directive**");
- Directive 2002/20/EC on the authorisation of electronic communications networks and services (the "**Authorisation Directive**");
- Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services , (the "**Universal Service Directive**"); and
- Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector (the "**Privacy Directive**").

C.6 The Framework Directive provides the overall structure for the new regulatory regime and sets out fundamental rules and objectives which read across all five Directives.

C.7 Article 8 of the Framework Directive sets out three key policy objectives which have been taken into account in the preparation of this document, namely promotion of competition, development of the internal market and the promotion of the interests of the citizens of the European Union.

C.8 The Access and Interconnection Directive sets out the terms on which providers may access each others' networks and services with a view to providing publicly available electronic communications services.

C.9 The Authorisation Directive establishes a new system whereby any person will be generally authorised to provide electronic communications services and/or networks without prior approval. Authorisation systems, such as individual or class licences, involving explicit decisions or administrative acts by a national regulatory authority ("**NRA**"), such as Ofcom, permitted under the previous EC Directives adopted in 1997 are now prohibited. That said, an NRA may impose on ECN and ECS providers specific obligations permitted under the EC Communications Directives, such as obligations on operators designated as having significant market power ("**SMP**") specified in the Access and Interconnection Directive.

C.10 The Universal Service Directive defines a basic set of services that must be provided to end-users.

C.11 The Privacy Directive establishes users' rights with regard to the privacy of their communications.

The Communications Act 2003

C.12 The EC Communications Directives (apart from the Privacy Directive, which was implemented by regulations that came into force on 11 December 2003) were implemented in the UK by the Communications Act 2003 (the "**2003 Act**") with effect from (and including) 25 July 2003.

C.13 In particular, Part 2 of the 2003 Act sets out the majority of that Act's provisions that implement the EC Communications Directives. Sections 32, 45-50, and 78-90 of that Part are of particular importance. In addition, Ofcom is required to act in accordance with its general and specific duties in sections 3 and 4 of the 2003 Act, respectively.

C.14 Under section 3, Ofcom must, in carrying out its functions, further the interests of citizens in relation to communications matters and the interests of consumers in relevant markets, where appropriate by promoting competition. As to the latter, Ofcom must have regard, in particular, to the interests of those consumers in respect of choice, price, quality of service and value for money. This corresponds to the policy objective in Article 8(2) of the Framework Directive where competition shall be promoted by *inter alia* ensuring that users (including disabled users) derive maximum benefit in terms of choice, price and quality.

C.15 The three key policy objectives under that Article 8 have been set out above. NRAs must take all reasonable measures which are aimed at achieving them. This has been implemented in section 4 of the 2003 Act by requiring that Ofcom acts in accordance with the six Community requirements set out in this section. Where it appears to Ofcom that its general duties conflict with its section 4 duties, priority must be given to the latter.

C.16 From 25 July 2003 until 29 December 2003, the Director General of Telecommunications and his office, the Office of Telecommunications ("**Oftel**") carried out the functions and responsibilities under the 2003 Act relating to the EC Communications Directives. On 29 December 2003, Ofcom took over those functions and responsibilities, and it assumed the powers of the five former regulators it has replaced, including Oftel.

The Market Reviews

C.17 The EC Communications Directives require NRAs to carry out reviews of competition in communications markets to ensure that regulation remains appropriate and proportionate in the light of changing market conditions. More detailed requirements and guidance concerning the conduct of market reviews are provided in the EU Communications Directives, the 2003 Act and in additional documents issued by the European Commission. Ofcom undertook such a Market Review for the markets at paragraph A3 above.[7]

Market Definition Stage

General

C.18 Section 79(1) of the 2003 Act provides that before a market power determination may be considered, Ofcom must identify the market which is, in its opinion, the one which, in the circumstances of the United Kingdom, is the market in relation to which it is appropriate to consider making such a

[7] Wholesale Voice Mobile Call Termination statement, 1 June 2004.

determination and to analyse that market. The procedure for market definitions (known as 'services market identifications' under the 2003 Act) is set out mainly in Article 15 of the Framework Directive and sections 78 to 86 of the 2003 Act.

C.19 Article 15(3) of the Framework Directive requires that NRAs shall, taking the utmost account of two documents published by the European Commission, define the relevant markets *appropriate to national circumstances*, in particular relevant geographic markets within their territory, in accordance with the principles of competition law. These two documents will be considered in turn.

The Recommendation on relevant product and service markets

C.20 The European Commission has identified in its first recommendation[8] on relevant product and service markets, adopted on 11 February 2003 (the "**Recommendation**") in accordance with Article 15(1) of the Framework Directive, a set of product and service markets within the electronic communications sector, in which *ex ante* regulation may be warranted.

C.21 The Recommendation seeks to promote harmonisation across the EC by ensuring that the same markets are subject to a market analysis in all the Member States.

C.22 However, as the above-mentioned Article 15(3) makes it clear, NRAs are able to regulate markets that differ from those identified in the Recommendation where this is justified by national circumstances and where the Commission does not raise any objections under Article 7(4) of the Framework Directive. Accordingly, NRAs are to define relevant markets appropriate to national circumstances, provided that they take due account of the markets listed in the Recommendation. This obligation has been imposed on Ofcom under section 79(2) of the 2003 Act.

C.23 According to Article 15(1) of the Framework Directive, the European Commission shall regularly review its Recommendation. Before adopting a new Recommendation, the European Commission must consult publicly as well as with the NRAs. It stated in its first Recommendation that it would review the need for any update no later than 30 June 2004 on the basis of market developments.

C.24 However, on 16 June 2004, the European Commission issued a press release stating that, rather than launching a review of the Recommendation at that stage, it had decided to "reschedule the date for the launch of such a review until the end of 2005". Its reasons for delaying the review were, firstly, that a significant number of Member States had not even transposed the EC Communications Directives; secondly, many Member States had yet to complete the first round of requisite market analyses; thirdly, the pace of change in the markets for electronic communication was not such that an early review would appear justified; and, fourthly, launching a review could lead to substantial disruption for the NRAs and increase the level of uncertainty related to regulatory intervention.

[8] Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services, (2003/311/EC), OJ L 114/45, 8.5.2003.

C.25 Until such a review has been concluded, the European Commission's 18 product and service markets listed in the Annex to the current Recommendation, which it has identified and recommended that NRAs should analyse, are the relevant markets that Ofcom must consider.

Guidelines for market analysis and the assessment of SMP

C.26 The second document is guidelines[9] for market analysis and the assessment of SMP (the "**SMP Guidelines**") published, in accordance with Article 15(2) of the Framework Directive, by the European Commission in July 2002.

C.27 As noted above, Ofcom is also required under the said Article 15(3) (as implemented in section 79(2) of the 2003 Act) to take the utmost account of the SMP Guidelines when identifying a services market (see further below for the market analysis (SMP) stage).

C.28 Oftel published its own additional guidelines on the criteria to assess effective competition, which can be found at http://www.ofcom.org.uk/static/archive/oftel/publications/about_oftel/2002/smpg0802.htm. These supplement the SMP Guidelines and have been taken into account by Ofcom, where appropriate.

Ofcom's approach to services market identifications

C.29 There are two dimensions to the definition of a relevant market:

- the relevant products to be included in the same market; and
- the geographic extent of the market.

C.30 In defining the markets in accordance with the principles of competition law, Ofcom's approach to service market identifications follows, to start with, that used by UK competition authorities (see, for instance, the competition law guideline by the Office of Fair Trading ("**OFT**") entitled *'Market Definition – Understanding competition law'*, December 2004, that can be found at: http://www.oft.gov.uk/NR/rdonlyres /972AF80C-2D74-4A63-84B3-27552727B89A/0/OFT403.pdf) and is in line with those used by European and US competition authorities.

C.31 Market boundaries are determined by identifying constraints on the price-setting behaviour of firms. There are two main competitive constraints to consider: how far it is possible for customers to substitute other services for those in question (i.e. demand side substitution); and how far suppliers could switch, or increase, production to supply the relevant products or services (i.e. supply-side substitution) following a price increase.

C.32 In this assessment, supply side substitution will be considered as a low cost form of entry, which could take place within a relatively short period of time. The OFT states, in its above-mentioned OFT *Market Definition* guideline, the relatively short period to be within a year. That is, for supply side substitution to be relevant, there would need to be additional competitive constraints arising from entry into the supply of the service in question, from suppliers

[9] Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services, (2002/C 165/03), OJ C 165/6, 11.7.2002.

who are able to enter quickly and at low cost, by virtue of their existing position in the supply of other services. As discussed below, only those supply side substitution possibilities that are viable in the absence of unregulated wholesale inputs will be considered as relevant to the analysis.

C.33 The concept of the 'hypothetical monopolist test' is a useful tool to identify close demand side and supply side substitutes. A product is considered to constitute a separate market if a hypothetical monopoly supplier could impose a small but significant, non-transitory price increase ("**SSNIP**") above the competitive level without losing sales to such a degree as to make this unprofitable. If such a price rise would be unprofitable, because consumers would switch to other products, or because suppliers of other products would begin to compete with the monopolist, then the market definition should be expanded to include the substitute products.

C.34 There might be suppliers who provide other retail and wholesale services but who might also be materially present in the provision of demand side substitutes to the service for which the hypothetical monopolist has raised its price. However, such suppliers are not relevant to supply side substitution, as they supply services already identified as demand side substitutes. As such, their entry has already been taken into account and so supply side substitution cannot provide an additional competitive constraint on the hypothetical monopolist. However, the impact of expansion by such suppliers can be taken into account in the assessment of market power.

C.35 Sometimes an additional consideration is whether there are common pricing constraints across customers, services or areas such that they should be included within the same relevant market even if demand and supply side substitution are not present.

Relationship between the wholesale and retail markets

C.36 In this Explanatory Statement, the relevant markets have been considered both at the retail and the wholesale level. Consideration of the relevant retail markets logically precedes the analysis of the wholesale markets, since the demand for wholesale services is derived from the demand for retail services.

C.37 The purpose of this review of the markets is to assess whether a provider has SMP in a wholesale market and to identify appropriate remedies to address the existence of market power, i.e. the identified competition problem.

Geographic market

C.38 In addition to the products to be included within a market, market definition also requires the geographic extent of the market to be specified. The geographic market is the area within which demand side and/or supply side substitution can take place and is defined using a similar approach to that used to define the product market.

European Commission's approach to market definition

C.39 In formulating its approach to market definition, Ofcom has taken due account of the Recommendation.

C.40 The 7th recital to the Recommendation clearly states that the starting point for market definition is a characterisation of the retail market over a given time horizon, taking into account the possibilities for demand and supply side substitution. The wholesale market is identified subsequently to this exercise being carried out in relation to the retail market. This approach is repeated in section 3.1 of the Explanatory Memorandum to the Recommendation (the "**EM**") and is exactly that set out above and followed by Ofcom.

C.41 Section 3.1 of the EM also states that, because any market analysis is forward looking, markets are to be defined prospectively taking account of expected or foreseeable technological or economic developments over a reasonable horizon linked to the timing of the next market review. Again, this is the approach followed by Ofcom.

C.42 Furthermore, section 3.1 of the EM states that market definition is not an end in itself, but a means to assessing effective competition for the purposes of *ex ante* regulation. Ofcom has adopted an approach by which this consideration is at the centre of its analysis. The purpose of market definition is to illuminate the situation with regard to competitive pressures. For example, Ofcom's approach to supply side substitution explicitly identifies as the key issue the question of whether additional competitive constraints on pricing are brought to bear by additional suppliers entering the market. Thus, the key issue is not the market definition for its own sake, but an identification of the extent and strength of competitive pressures.

C.43 Also, section 4 of the EM states that retail markets should be examined in a way that is independent of the infrastructure being used, as well as in accordance with the principles of competition law. Again, this approach is key to Ofcom's analysis. As seen from the above, Ofcom's approach is based on a competition law assessment of markets and an assessment of the extent to which switching among services by consumers constrains prices, irrespective of the infrastructure used by the providers of those services.

Market (SMP) Analysis Stage

General

C.44 The second market review stage concerns the assessment of competition in each identified services market to decide whether any undertaking has SMP.

C.45 Article 16(1) of the Framework Directive provides that NRAs must, as soon as possible after the adoption of the Recommendation or any updating thereof, carry out an analysis of the relevant markets, taking the utmost account of the SMP Guidelines. Ofcom's obligation to take due account of the SMP Guidelines in this context is set out in section 79(3) of the 2003 Act.

C.46 In carrying out a market analysis, the key issue for an NRA is to determine whether the market in question is effectively competitive. The 27th recital to the Framework Directive clarifies the meaning of that concept. Namely, "it is essential that *ex ante* regulatory obligations should only be imposed where there is not effective competition, i.e. in markets where there are one or more undertakings with significant market power, and where national and Community competition law remedies are not sufficient to address the problem".

C.47 Thus, Article 16 further prescribes, in effect, what regulatory action NRAs must take depending upon whether or not the market in question has been found effectively competitive. If it has, then NRAs are prohibited to impose specific (SMP) obligations and must withdraw such obligations where they exist. On the other hand, where the market is not effectively competitive, the NRAs must identify the undertakings with SMP on that market and shall impose on them appropriate obligations.

C.48 Indeed, paragraphs 21 and 114 of the SMP Guidelines provide that merely designating an undertaking as having SMP on a given market without imposing any appropriate regulatory obligations is inconsistent with the new regulatory framework, notably Article 16(4) of the Framework Directive. In other words, NRAs must impose at least one regulatory obligation on an SMP operator.

C.49 Under the 2003 Act, the process of designating an undertaking as having SMP is referred to as the making of a market power determination under section 79. To reflect the provisions in Article 16, there is a close link in this analysis with the imposition of remedies. This is because section 45 of the 2003 Act details the various conditions that may be set under the new regime. Section 46 of the 2003 Act prescribes who those conditions may be imposed upon.

C.50 In relation to SMP services conditions, section 46(7) provides that they may be imposed on a particular person who is a communications provider or a person who makes associated facilities available and who has been determined to have significant market power in a “services market” (i.e. a specific market for electronic communications networks, electronic communications services or associated facilities). Accordingly, having identified the relevant market, Ofcom is required to analyse the market in order to assess whether any person or persons have SMP as defined in section 78 of the 2003 Act (Article 14 of the Framework Directive).

Approach used to assess SMP

C.51 Under the EC Communications Directives and the said section 78, the concept of SMP is defined so that it is equivalent to the competition law concept of dominance. Article 14(2) of the Framework Directive provides: “an undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers”.

C.52 Further, Article 14(3) of the Framework Directive provides that: “where an undertaking has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking”.

C.53 Therefore, in the relevant market, one or more undertakings may be designated as having SMP where that undertaking, or undertakings, enjoy a position of dominance. Also, an undertaking may be designated as having SMP where it could lever its market power from a closely related market into the relevant market, thereby strengthening its market power in the relevant market.

C.54 In assessing whether a Communications Provider has SMP in the relevant markets in question, Ofcom has taken the utmost account of the SMP Guidelines as well as Oftel's supplemental guidelines, as referred to above, in its market power assessment.

The relationship between the market reviews and Competition Act 1998 and Enterprise Act 2002 investigations

C.55 The economic analyses carried out in this Explanatory Statement are for the purposes of determining whether an undertaking or undertakings have SMP in relation to the markets in question. It is without prejudice to any economic analysis that may be carried out in relation to any investigation or decision pursuant to the Competition Act 1998 or the Enterprise Act 2002.

C.56 The fact that economic analysis carried out for a market review is without prejudice to future competition law investigations and decisions is recognised in Article 15(1) of the Framework Directive which provides that: "…The recommendation shall identify…markets…the characteristics of which may be such as to justify the imposition of regulatory obligations …without prejudice to markets that may be defined in specific cases under competition law…".

C.57 Its intention is further evidenced in the SMP Guidelines, which state:

- Paragraph 25: "… Article 15(1) of the Framework Directive makes clear that the market to be defined by NRAs for the purpose of *ex ante* regulation are without prejudice to those defined by national competition authorities and by the Commission in the exercise of their respective powers under competition law in specific cases." (repeated in paragraph 37);

- Paragraph 27: "…Although NRAs and competition authorities, when examining the same issues in the same circumstances and with the same objectives, should in principle reach the same conclusions, it cannot be excluded that, given the differences outline above, and in particular the broader focus of the NRAs' assessment, markets defined for the purposes of competition law and markets defined for the purpose of sector-specific regulation may not always be identical"; and

- Paragraph 28: "…market definitions under the new regulatory framework, even in similar areas, may in some cases, be different from those markets defined by competition authorities."

C.58 In addition, it is up to all providers to ensure that they comply with their legal obligations under all the laws applicable to the carrying out of their businesses. It is incumbent upon all providers to keep abreast of changes in the markets in which they operate, and in their position in such markets, which may result in legal obligations under the Competition Act 1998 or Enterprise Act 2002 applying to their conduct.

The need for *ex-ante* regulation

Nature of the competition problem identified

C.59 Before turning to the last stage market review stage concerning remedies, it is necessary to consider whether competition law remedies are sufficient to address the problem. This consideration is necessary to establish, in line with the above-mentioned 27th recital to the Framework Directive, whether or not a market is effectively competitive. (In this context, it is to be noted that the importance of identifying that problem reappears under Article 8(4) of the Access and Interconnection Directive. This is because obligations imposed in accordance with Article 8 shall be based on the nature of the problem identified, proportionate and justified in the light of the objectives laid down in Article 8 of the Framework Directive.)

C.60 Ofcom's own guidelines on Impact Assessment note that Ofcom will consider the option of no regulation in its impact assessment process. See www.ofcom.org.uk/consult/condocs/ia_guidelines/condoc.pdf for further details.

C.61 In this light, it is considered below whether *ex ante* regulation is justified in the markets identified or whether it would be sufficient to rely on competition law alone to address market failures, while noting the European Commission's view in paragraphs 21 and 114 of the SMP Guidelines about imposing at least one SMP remedy.

Appropriate to promote the development of competition

C.62 As a competitive market will produce a more efficient outcome than a regulated market, the promotion of competition is central to securing the best deal for the consumer in terms of quality, choice and value for money.

C.63 Where markets are effectively competitive, *ex post* competition law is sufficient to deal with any competition abuses that may arise. However, without the imposition of *ex ante* regulations to promote actively the development of competition in a non-effectively competitive market, it is unlikely that *ex post* general competition law powers will be sufficient to ensure that effective competition becomes established. For example, this is because *ex post* powers prohibit abuse of dominance rather than the holding of a dominant position. *Ex-ante* powers can be utilised to reduce the level of market power in a market and thereby encourage effective competition to become established.

C.64 The risk is not all one way as use of some *ex ante* measures can themselves limit or add nothing to the development of competition. Ofcom has recognised this in removing some regulation where markets are not effectively competitive.

C.65 Ofcom considers that *ex ante* regulation is necessary in the markets covered by this Explanatory Statement and Notification.

C.66 It is preferable to apply regulation at the wholesale level as this both addresses SMP issues in the wholesale markets and promotes competition in downstream markets that rely on wholesale inputs. This fits with the requirement that NRAs take measures which meet the objective of encouraging efficient investment in infrastructure and promoting innovation (see Article 8(2) of the Framework Directive and section 4 of the 2003 Act).

Characteristics of communications markets in general

C.67 Generally, the case for *ex ante* regulation in communications markets is based on the existence of market failures which, by themselves or in combination, mean that competition might not be able to become established if the regulator relied solely on its *ex post* competition law powers established for dealing with more conventional sectors of the economy. Therefore, it is appropriate for *ex-ante* regulation to be used to address these market failures and entry barriers that might otherwise prevent effective competition from becoming established. By imposing *ex ante* regulation that will promote competition, it may be possible to reduce the need for such regulation as markets become more competitive, with greater reliance on *ex-post* competition law.

C.68 The European Commission has stated, in paragraph 3 of section 3.2 of the EM, that *ex ante* regulation is justified: "… where the compliance requirements of an intervention to redress a market failure are extensive (eg the need for detailed accounting for regulatory purposes, assessment of costs, monitoring of terms and conditions including technical parameters etc) or where frequent and/or timely intervention is indispensable, or where creating legal certainty if of paramount concern." This is the case for many markets where persistent SMP leads to a risk of a firm setting excessive prices and the need for efficiency incentives, where a charge control would be justified, or where there is likely to be a need for intervention to set detailed terms and conditions for access to networks. Indeed, this is the case for all the markets dealt with in this review.

Remedies Stage

Subject matter of the SMP remedies

C.69 The third and final market review stage concerns remedies. As noted above, Article 16 of the Framework Directive dictates the imposition or removal of SMP remedies depending upon whether or not a finding of SMP in an identified services market has been made. Where an SMP finding has been made, Ofcom will consider what appropriate SMP remedies are available.

C.70 Under section 45 of the 2003 Act, Ofcom is empowered generally to set SMP services conditions authorised or required by sections 87 to 92. The latter implement Articles 9 to 13 of the Access and Interconnection Directive and Articles 17 to 19 of the Universal Service Directive. In addition, Ofcom's power to set such conditions includes additional powers specified in section 45(10), such as powers to include provisions in SMP services conditions for Ofcom to make directions in respect of specified markets.

C.71 The SMP obligations relevant to the markets covered by this document are discussed in Section 2.

C.72 Section 46 of the 2003 Act provides that SMP services conditions set under section 45 may only be applied if the person to whom they are to apply is a communications provider (or a person who makes associated facilities available) and is a person whom Ofcom has determined to be a person having SMP in a services market. It is therefore important to consider the precise identity of the regulated entity on whom it is appropriate to impose obligations.

Regulated entity

C.73 As noted above, section 46 provides that a person to whom an SMP services condition is applied must be a 'communications provider' or a 'person' who makes associated facilities available and a 'person' who Ofcom has determined to have SMP in a specific market for electronic communications networks, electronic communications services or associated facilities (i.e. the 'services market').

C.74 Article 16 of the Framework Directive requires that, where an NRA determines that a relevant market is not effectively competitive, it shall identify "undertakings" with SMP on that market and impose appropriate specific regulatory obligations. For the purposes of EC competition law, "undertaking" includes companies within the same corporate group (*Viho v Commission* Case C-73/95 P [1996] ECR I-5447), for example, where a company within that group is not independent in its decision making.

C.75 Ofcom considers it appropriate to prevent a dominant provider to whom a SMP service condition is applied, which is part of a group of companies, exploiting the principle of corporate separation. The dominant provider should not use another member of its group to carry out activities or to fail to comply with a condition, which would otherwise render the dominant provider in breach of its obligations. For this reason, Ofcom proposes that the obligations detailed in this Explanatory Statement and Notification should apply not just to the named mobile provider but also to any subsidiary or holding company, or any subsidiary of that holding company, all as defined by Section 736 of the Companies Act 1985 as amended by the Companies Act 1989.

The legal tests

C.76 However, before Ofcom can set or modify SMP services conditions on such a regulated entity, it must be satisfied that certain legal tests have been satisfied in relation to each and every condition.

C.77 In Section 4 and Annex 5 of this document, Ofcom sets out its reasons explaining why those tests would be satisfied based on evidence presently before Ofcom. In addition to need of satisfying the general and specific duties, the appropriateness of the remedy and identifying the nature of the competition problem mentioned above, Ofcom must satisfy a number of additional tests.

C.78 First, under section 47(2) of the 2003 Act, Ofcom must show for each and every modification to the SMP services condition that it is:

- *objectively justifiable* in relation to the networks, services, facilities, apparatus or directories to which it relates;
- *not such as to discriminate unduly* against particular persons or against a particular description of persons;
- *proportionate* to what the condition or modification is intended to achieve; and
- in relation to what it is intended to achieve, *transparent*.

C.79 Secondly, each of the tests set out in section 87(4) of the 2003 Act which Ofcom considers relevant must be satisfied. That section requires that Ofcom:

"…must take into account, in particular, the following factors—

(a) the technical and economic viability, having regard to the state of market development, of installing and using facilities that would make the proposed network access unnecessary;

(b) the feasibility of the provision of the proposed network access;

(c) the investment made by the person initially providing or making available the network or other facility in respect of which an entitlement to network access is proposed;

(d) the need to secure effective competition in the long term;

(e) any rights to intellectual property that are relevant to the proposal; and

(f) the desirability of securing that electronic communications services are provided that are available throughout the member States."

C.80 It is to be emphasised that this list is not exhaustive and other reasons can therefore be added by Ofcom for imposing the access obligation(s) in question.

C.81 Thirdly, in addition to the above-mentioned tests, Ofcom must also satisfy the tests set out in section 88 of the 2003 Act in relation to network access pricing etc. obligations, namely: price control; cost orientation and cost recovery rules; use of cost accounting system rules; obligations to adjust prices.

C.82 Section 88 only allows Ofcom to impose such obligations where:

- it appears to Ofcom from the market analysis carried out for the purpose of setting that condition that there is a relevant risk of adverse effects arising from price distortion (see below for the meaning of this term); and

- it also appears to Ofcom that the setting of the condition is appropriate for the purposes of promoting efficiency, promoting sustainable competition, and conferring the greatest possible benefits on the end-users of public electronic communications services. In considering these matters, Ofcom may have regard to the prices at which services are available in comparable competitive markets and may determine what they consider to represent efficiency by using such cost accounting methods as they think fit.

C.83 There is a relevant risk of adverse affects arising from price distortion if the SMP designated undertaking might fix and maintain some or all of its prices at an excessively high level, or impose a price squeeze, so as to have adverse consequences for end-users of public electronic communications services.

C.84 In addition, Ofcom must show that in setting the network access pricing obligation it has taken account of the extent of the SMP provider's investment in the matters to which the condition relates.

C.85 It is to be noted that the term "price control" has not been defined in the EC Communications Directives. The 20th recital to the Access and Interconnection Directive suggests that it could cover a range of obligations concerning prices:

> "Price control may be necessary when market analysis in a particular market reveals inefficient competition. The regulatory intervention may be

relatively light, such as an obligation that prices for carrier selection are reasonable as laid down in Directive 97/33/EC, or much heavier such as an obligation that prices are cost oriented to provide full justification for those prices where competition is not sufficiently strong to prevent excessive pricing. In particular, operators with significant market power should avoid a price squeeze whereby the difference between their retail prices and the interconnection prices charged to competitors who provide similar retail services is not adequate to ensure sustainable competition. When a national regulatory authority calculates costs incurred in establishing a service mandated under this Directive, it is appropriate to allow a reasonable return on the capital employed including appropriate labour and building costs, with the value of capital adjusted where necessary to reflect the current valuation of assets and efficiency of operations. The method of cost recovery should be appropriate to the circumstances taking account of the need to promote efficiency and sustainable competition and maximise consumer benefits."

The material change test

C.86 Under specific circumstances, Ofcom can set, modify or revoke an SMP services condition without conducting a new market analysis process. The framework for doing this, and Ofcom's intention to follow this procedure for certain of the services covered in this document, are described below.

C.87 Where Ofcom seeks to set, modify or revoke an SMP services condition, it may only do so under section 86 of the 2003 Act if it is satisfied that there has not, since the condition was set or last modified, or since the relevant market power determination was made (as the case may be), been a material change in the market identified or otherwise used for the purposes of the market power determination by reference to which the condition was set or last modified.

C.88 The alternative way of setting, modifying or revoking an SMP services condition, rather than satisfying that material change test, is for Ofcom to review, under section 84 of the 2003 Act, the market power determination by reference to which the condition in question was set.

C.89 Section 84 requires Ofcom to carry out further analyses of the identified services market either:

- where Ofcom considers it an appropriate interval to do so for the purposes of reviewing market power determinations made on the basis of an earlier analysis or deciding whether to make proposals for the modification of SMP services conditions set by reference to a market power determination made on such a basis (section 84(2)); or

- as soon as reasonably practicable after recommendations are made by the European Commission that affect the matters that were taken into account, or could have been taken into account, in the case of the last analysis of the market in question (section 84(3)).

C.90 As regards the markets considered in this Notification and accompanying explanatory statement in which Ofcom is proposing to modify SMP Conditions MC3, MC4, MD3 and MD4 - Ofcom is, in accordance with section 86(1)(b) of the 2003 Act, proposing to modify those SMP services conditions by reference to the respective market power determinations made in relation to those markets in which OFCOM is satisfied there have been no material change since those determinations were made in 1 June 2004. Ofcom's reasons for maintaining that view are set out, in particular, in Section 3.

C.91 In this context, it is to be noted that, were any material changes in economic and technological developments to occur in these markets in the future, Ofcom will consider appropriate timings for carrying out a market review of them under section 84(2) of the 2003 Act.

ERG Common Position on Remedies

C.92 At a plenary meeting on 1-2 April 2004, the European Regulators Group ("**ERG**") adopted a revised version of its document entitled 'ERG Common Position on the approach to Appropriate remedies in the new regulatory framework', ERG (03) 30rev1, (the "**Common Position on Remedies**").

C.93 That document sets out NRAs' views on imposing remedies in a manner that contributes to the development of the internal market and ensures a consistent application of the new regulatory framework under the EC Communications Directives.

C.94 Ofcom has therefore taken into account those views in considering appropriate remedies. For instance, the first principle set out in *The Common Position on Remedies* states that the "NRA must produce reasoned decisions in line with their obligations under the Directives [and] that the remedy selected [must] be based on the nature of the problem identified". As explained in Section 4 of this Explanatory Statement, Ofcom's proposals are based on the nature of the competition problems identified. More generally, Ofcom considers that its approach to determining SMP remedies is consistent with the *Common Position on Remedies* which in turn reflects the requirements of the EC Communications Directives which are addressed in this Explanatory Statement.

Ofcom's Notifications of Proposals

C.95 Ofcom is required to give interested parties an opportunity to comments on its proposals contained in this Explanatory Statement. That statutory obligation to consult is set out in Section 48 of the 2003 Act.

C.96 As required by Article 7 of the Framework Directive and sections 50 and 81 of the 2003 Act, draft decisions contained in this Explanatory Statement are also being sent to the European Commission, the NRAs of every other Member State and the Secretary of State.

C.97 As Ofcom considers that the draft measures might affect trade between Member States, the European Commission and the other NRAs may make comments within the consultation period for the consultation, the details of which are set out in Section 5 of this document.

Steps following the outcome of the consultation process

C.98 When Ofcom has considered any representations duly made in response to the proposals set out in this document, including any made by the European Commission and other NRAs, it may under sections 48 (5) of the 2003 Act give effect to these proposals, with or without modifications.

Impact Assessment

C.99 The analysis presented in Section 4 of this document, when read in conjunction with the rest of this document, represents an Impact Assessment ("**IA**"), as defined by section 7 of the 2003 Act. Any comments on this consultation document should be sent to Ofcom by the closing date for this consultation. Ofcom will consider all comments before deciding whether to implement its proposals.

C.100 IAs provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making and are commonly used by other regulators. This is reflected in section 7 of the 2003 Act, which means that generally Ofcom has to carry out IAs where its proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom's activities.

C.101 In accordance with section 7 of the Act, in producing the IA in this document Ofcom has had regard to such general guidance as it considers appropriate, including related Cabinet Office guidance and Ofcom's own draft guidance entitled *Better Policy Making: Ofcom's approach to Impact Assessments.* http://www.ofcom.org.uk/consult/condocs/ia_guidelines/

Annex D

Notification

NOTIFICATION UNDER SECTIONS 48(2) AND 86(1) OF THE COMMUNICATIONS ACT 2003

Proposals for the modification of the SMP services conditions MC 3 and MC4 in relation to O2 and Vodafone, and SMP services conditions MD3 and MD4 in relation to Orange and T-Mobile

1. OFCOM in accordance with sections 48(2) and 86(1) of the Act hereby make the following proposals for the modification of SMP services conditions by reference to market power determinations proposed or made in relation to markets in which OFCOM are satisfied there has been no material change since those determinations were proposed or made.

2. The proposals contained in this Notification are further to the market power determinations made in Notifications ('The Notifications') under section 79 of the Act by OFCOM on 1 June 2004 whereby O2, Orange, T-Mobile and Vodafone were determined to have significant market power in the following markets:

(a) wholesale voice call termination provided by O2 (such termination being provided via O2's 2G and 3G mobile network);

(b) wholesale voice call termination provided by Orange (such termination being provided via Orange's 2G and 3G mobile network);

(c) wholesale voice call termination provided by T-mobile (such termination being provided via T-mobile's 2G and 3G mobile network); and,

(d) wholesale voice call termination provided by Vodafone (such termination being provided via Vodafone's 2G and 3G mobile network).

3. As a result of, amongst other things, the market power determinations referred to in paragraph 2 above, O2, Orange, T-Mobile and Vodafone have been subjected to a number of SMP services conditions, including SMP services conditions MC3, MC4 (O2 and Vodafone), MD3 and MD4 (Orange and T-Mobile). OFCOM are proposing to modify SMP services conditions MC3 and MC4, in respect of their application to O2 and Vodafone, and SMP services conditions MD3 and MD4, in respect of their application to Orange and T-Mobile.

4. The effect of, and Ofcom's reasons for making, the proposals referred to in paragraph 3 above is set out at Sections 3 and 4 of the accompanying explanatory statement.

5. OFCOM consider that the proposals referred to in paragraph 3 above complies with the requirements of sections 45 to 47 and 87 to 88 of the Act, as appropriate and relevant to each of the proposals.

6. In making the proposals set out in this Notification, OFCOM have considered and acted in accordance with their general duties in section 3 of the Act and the six Community requirements in section 4 of the Act.

7. Representations may be made to OFCOM about the proposals set out in this Notification and the accompanying explanatory statement by 30 August 2005

8. Copies of this Notification and the accompanying explanatory statement have been sent to the Secretary of State in accordance with section 50(1)(a), and to the European Commission and the regulatory authorities of every other Member State in accordance with section 50(3) of the Act.

9. In this Notification:

(a) '**the Act**' means the Communications Act 2003;

(b) '**OFCOM**' means the Office of Communications.

11. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them in this Notification words or expressions shall have the meaning assigned to them in The Notifications. and otherwise any word or expression shall have the same meaning as it has in the Act.

12. For the purpose of interpreting this Notification:

(a) headings and titles shall be disregarded; and

(b) the Interpretation Act 1878 (c. 30) shall apply as if this Notification were an Act of Parliament.

13. The Schedules to this Notification shall form part of this Notification.

[Name]
[Title]
A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002
[Date[

SCHEDULE 1
Proposed modification to SMP services conditions MC 3 and MC 4 imposed on O2 and Vodafone under sections 45, 87 and 88 of the Act as a result of the analysis of the wholesale voice call termination provided by O2 (such termination being provided via O2's 2G and 3G mobile network), in which O2 has been found to have significant market power, and the voice call termination provided by Vodafone (such termination being provided via Vodafone's 2G and 3G mobile network), in which Vodafone has been found to have significant market power

A) SMP services condition MC 3 and MC 4 and appropriate definitions shall be modified as highlighted below in underlining, bold and italics:

Definitions

Part 1: Application, definitions and Interpretation of these conditions

"**Base Year**" means:

(a) for the First Relevant Year, the period of 7 months ending on 31 March immediately preceding that Relevant Year;

(b) for the Second Relevant Year, the period of 12 months ending on 31 March immediately preceding that Relevant Year***; and***

(c) for the Third Relevant Year, the period of 12 months ending on 31 March immediately preceding that Relevant Year;

"**Relevant Year**" means ~~either~~ ***any*** of the following:

(i) the period of 7 months beginning on 1 September 2004 and ending on 31 March 2005 (the "First Relevant Year"); ~~or~~

(ii) the period of 12 months beginning on 1 April 2005 and ending on 31 March 2006 (the "Second Relevant Year"); ***or***

(iii) the period of 12 months beginning on 1 April 2006 and ending on 31 March 2007 (the "Third Relevant Year");

Condition MC3 – Control of Fixed-to-Mobile Interconnection Charges

MC3.1 Except in so far as Ofcom otherwise consent under paragraph MC3.9 below, the Dominant Provider shall take all reasonable steps to secure that, during any Relevant Year, the Average Interconnection Charge does not exceed the Target Average Charge for any such Year.

MC3.2 In this Condition, the Average Interconnection Charge means the average of the Fixed-to-Mobile Interconnection Charges during the Relevant Year in question, which shall be weighted according to:

(a) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the Base Year.

MC3.3 For the purposes of calculating the Average Interconnection Charge where any Fixed-to-Mobile Interconnection Charges are in force during a part only of the Relevant Year (commencing or ending at a date in the course of the Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the corresponding part of the Base Year.

MC3.4 For the purposes of this Condition, the Target Average Charge means:

(a) for the purpose of the First Relevant Year, 5.63 pence per minute; ~~*and*~~

(b) for the purpose of the Second Relevant Year, 5.63 pence per minute multiplied by the Weights Adjustment Factor ***for the First Relevant Year; and***

(c) for the purpose of the Third Relevant Year, 5.63 pence per minute multiplied by both Weights Adjustment Factors for the First and Second Relevant Years.

MC3.5 In paragraph MC3.4:

(a) the Weights Adjustment Factor ***for a given Relevant Year*** means the Average Revenue ***in the Relevant Year in question*** divided by the Average Interconnection Charge in the ~~*First*~~ Relevant Year ***in question***; and

(b) the Average Revenue ***for a given Relevant Year*** means the average of the Fixed-to-Mobile Interconnection Charges during the ~~*First*~~ Relevant Year ***in question***, weighted according to:

(i) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(ii) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consents in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the ~~*First*~~ Relevant Year ***in question***.

MC3.6 For the purposes of calculating the Average Revenue ***for a given Relevant Year*** where any Fixed-to-Mobile Interconnection Charges are in force during a part only of the ~~*First*~~ Relevant Year (commencing or ending at a date in the course of the ~~*First*~~ Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as the Director otherwise consents in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in that part of the ~~*First*~~ Relevant Year ***in question***.

MC3.7 The Dominant Provider shall not make any Fixed-to-Mobile Interconnection Charge for:

(a) a Fixed-to-Mobile Call which terminates on a recorded announcement provided by the Dominant Provider informing the caller of an inability to complete that call so as to establish a two-way path where the mobile handset used by the called party is switched off, or rings and remains unanswered, or where coverage is not available from the Dominant Provider's 2G Public Electronic Communications Network; and

(b) an unanswered Fixed-to-Mobile Call which is diverted in respect of the
period before that call is answered.

MC3.8 Notwithstanding (and without prejudice to the generality of) the obligation
imposed on the Dominant Provider by paragraph MC3.1 above:

(a) if the Dominant Provider has failed to secure that the Average Interconnection Charge has not exceeded the Target Average Charge for the First ***or Second*** Relevant Year, the Dominant Provider shall make such adjustments to its Fixed-to-Mobile Interconnection Charges and by such day in the ~~*Second*~~ ***following*** Relevant Year as Ofcom may direct for the purpose of remedying that failure. Such adjustments in the Second ~~*Relevant Year*~~ ***or Third Relevant Year*** shall not be relevant for the purpose of establishing compliance with paragraph MC3.1 above in that Relevant Year; and

(b) if it appears to Ofcom that the Dominant Provider is likely to fail to secure that the Average Interconnection Charge for the ~~*Second*~~ ***Third*** Relevant Year does not exceed the Target Average Charge for that Year, the Dominant Provider shall make such adjustments to its Fixed-to-Mobile Interconnection Charges and by such day in that Year as Ofcom may direct for the purpose of avoiding that failure.

MC3.9 Where the Average Interconnection Charge is less than the Target Average Charge for the First ***or Second*** Relevant Year, the Dominant Provider shall not make such adjustments to its Fixed-to-Mobile Interconnection Charges in the ~~*Second*~~ ***following*** Relevant Year to recover the difference between the Average Interconnection Charge and the Target Average Charge for the First ***or*** ***Second*** Relevant Year, unless Ofcom have given their prior written consent to such adjustments. Such adjustments in the Second ***or Third*** Relevant Year shall not be relevant for the purpose of establishing compliance with paragraph MC3.1 in that Relevant Year.

MC3.10 In this Condition:

'**Average Interconnection Charge**' has the meaning given to it in paragraph MC3.2;

'**Average Revenue**' has the meaning given to it in paragraph MC3.5;

‘**Target Average Charge**’ shall have the meaning given to it in paragraph MC3.4;
and

‘**Weights Adjustment Factor**’ has the meaning given to it in paragraph MC3.5.

Condition MC4 - Control of Mobile to Mobile Interconnection Charges

MC4.1 Except in so far as Ofcom otherwise consent under paragraph MC4.9 below, the Dominant Provider shall take all reasonable steps to secure that, during any Relevant Year, the Average Interconnection Charge does not exceed the Target Average Charge for any such Year.

MC4.2 In this Condition, the Average Interconnection Charge means the average
of the Mobile-to-Mobile Interconnection Charges during the Relevant Year in question, which shall be weighted according to:

(a) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the Base Year.

MC4.3 For the purposes of calculating the Average Interconnection Charge where any Mobile-to-Mobile Interconnection Charges are in force during a part only of the Relevant Year (commencing or ending at a date in the course of the Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls), in the corresponding part of the Base Year.

MC4.4 For the purposes of this Condition, the Target Average Charge means:

(a) for the purpose of the First Relevant Year, 5.63 pence per minute; ~~*and*~~

(b) for the purpose of the Second Relevant Year, 5.63 pence per minute multiplied by the Weights Adjustment Factor ***for the First Relevant Year; and***

(c) for the purpose of the Third Relevant Year, 5.63 pence per minute multiplied by both Weights Adjustment Factors for the First and Second Relevant Years.

MC4.5 In paragraph MC4.4:

(a) the Weights Adjustment Factor ***for a given Relevant Year*** means the Average Revenue ***in the Relevant Year in question*** divided by the Average Interconnection Charge in the ~~*First*~~ Relevant Year ***in question***; and

(b) the Average Revenue ***for a given Relevant Year*** means the average of the Mobile-to-Mobile Interconnection Charges during the ~~*First*~~ Relevant Year ***in question,*** weighted according to:

(i) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(ii) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consents in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the ~~*First*~~ Relevant Year ***in question***.

MC4.6 For the purposes of calculating the Average Revenue ***for a given Relevant Year*** where any Mobile-to-Mobile Interconnection Charges are in force during a part only of the ~~*First*~~ Relevant Year (commencing or ending at a date in the course of the ~~*First*~~ Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in that part of the ~~*First*~~ Relevant Year ***in question***.

MC4.7 The Dominant Provider shall not make any Mobile-to-Mobile Interconnection Charge for:

(a) a Mobile-to-Mobile Call which terminates on a recorded announcement
provided by the Dominant Provider informing the caller of an inability to complete that call so as to establish a two-way path where the mobile handset used by the called party is switched off, or rings and remains unanswered, or where coverage is not available from the Dominant Provider's 2G Public Electronic Communications Network; and

(b) an unanswered Mobile-to-Mobile Call which is diverted in respect of the
period before that call is answered.

MC4.8 Notwithstanding (and without prejudice to the generality of) the obligation
imposed on the Dominant Provider by paragraph MC4.1 above:

(a) if the Dominant Provider has failed to secure that the Average

Interconnection Charge has not exceeded the Target Average Charge for the First ***or Second*** Relevant Year, the Dominant Provider shall make such adjustments to its Mobile-to-Mobile Interconnection Charges and by such day in the ~~*Second*~~ ***following*** Relevant Year as Ofcom may direct for the purpose of remedying that failure. Such adjustments in the Second ***or Third*** Relevant Year shall not be relevant for the purpose of establishing compliance with paragraph MC4.1 above in that Relevant Year; and

(b) if it appears to Ofcom that the Dominant Provider is likely to fail to secure that the Average Interconnection Charge for the ~~*Second*~~ ***Third*** Relevant Year does not exceed the Target Average Charge for that Year, the Dominant Provider shall make such adjustments to its Mobile-to-Mobile Interconnection Charges and by such day in that Year as Ofcom may direct for the purpose of avoiding that failure.

MC4.9 Where the Average Interconnection Charge is less than the Target Average Charge for the First ***or Second*** Relevant Year, the Dominant Provider shall not make such adjustments to its Mobile-to-Mobile Interconnection Charges in the ~~*Second*~~ ***following*** Relevant Year to recover the difference between the Average Interconnection Charge and the Target Average Charge for the First ***or Second Relevant*** Year, unless Ofcom have given their prior written consent to such adjustments. Such adjustments in the Second ***or Third*** Relevant Year shall not be relevant for the purpose of establishing compliance with paragraph MC4.1 in that Relevant Year.

MC4.10 In this Condition:

‘**Average Interconnection Charge**’ has the meaning given to it in paragraph MC4.2;

‘**Average Revenue**’ has the meaning given to it in paragraph MC4.5;

‘**Target Average Charge**’ shall have the meaning given to it in paragraph MC4.4; and

‘**Weights Adjustment Factor**’ has the meaning given to it in paragraph MC4.5.

SCHEDULE 2
Proposed modification to SMP services conditions MD 3 and MD 4 imposed on T-Mobile and Orange under sections 45, 87 and 88 of the Act as a result of the analysis of the wholesale voice call termination provided by T-Mobile (such termination being provided via T-Mobile's 2G and 3G mobile network), in which T-Mobile has been found to have significant market power, and the voice call termination provided by Orange (such termination being provided via Orange's 2G and 3G mobile network), in which Orange has been found to have significant market power

A) SMP services condition MD3 and MD 4 and appropriate definitions shall be modified as highlighted below in underlining, bold and italics

Definitions

Part 1: Application, definitions and Interpretation of these conditions

'**Base Year**' means:

(a) for the First Relevant Year, the period of 7 months ending on 31 March immediately preceding that Relevant Year;

(b) for the Second Relevant Year, the period of 12 months ending on 31 March
immediately preceding that Relevant Year; ***and***

(c) for the Third Relevant Year, the period of 12 months ending on 31 March immediately preceding that Relevant Year;

'**Relevant Year**' means ~~*either*~~ ***any*** of the following

(i) the period of 7 months beginning on 1 September 2004 and ending on 31 March 2005 (the "First Relevant Year"); ~~*or*~~

(ii) the period of 12 months beginning on 1 April 2005 and ending on 31 March 2006 (the "Second Relevant Year"); ***or***

(iii) the period of 12 months beginning on 1 April 2006 and ending on 31 March 2007 (the "Third Relevant Year");

Condition MD3 – Control of Fixed-to-Mobile Interconnection Charges

MD3.1 Except in so far as Ofcom otherwise consent under paragraph MD3.9 below, the Dominant Provider shall take all reasonable steps to secure that, during any Relevant Year, the Average Interconnection Charge does not exceed the Target Average Charge for any such Year.

MD3.2 In this Condition, the Average Interconnection Charge means the average of the Fixed-to-Mobile Interconnection Charges during the Relevant Year in question, which shall be weighted according to:

(a) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the Base Year.

MD3.3 For the purposes of calculating the Average Interconnection Charge where any Fixed-to-Mobile Interconnection Charges are in force during a part only of the Relevant Year (commencing or ending at a date in the course of the Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the corresponding part of the Base Year.

MD3.4 For the purposes of this Condition, the Target Average Charge means:

(a) for the purpose of the First Relevant Year, 6.31 pence per minute; ~~*and*~~

(b) for the purpose of the Second Relevant Year, 6.31 pence per minute multiplied by the Weights Adjustment Factor ***for the First Relevant Year; and,***

(c) for the purpose of the Third Relevant Year, 6.31 pence per minute multiplied by both Weights Adjustment Factors for the First and Second Relevant Years.

MD3.5 In paragraph MD3.4:

(a) the Weights Adjustment Factor ***for a given Relevant Year*** means the Average Revenue ***in the Relevant Year in question*** divided by the Average Interconnection Charge in the ~~*First*~~ Relevant Year ***in question***; and

(b) the Average Revenue ***for a given Relevant Year*** means the average of the Fixed-to-Mobile Interconnection Charges during the ~~*First*~~ Relevant Year ***in question*****,** weighted according to:

(i) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(ii) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consents in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the ~~*First*~~ Relevant Year ***in question***.

MD3.6 For the purposes of calculating the Average Revenue ***for a given Relevant Year*** where any Fixed-to-Mobile Interconnection Charges are in force during a part only of the ~~*First*~~ Relevant Year (commencing or ending at a date in the course of the ~~*First*~~ Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Fixed-to-Mobile Calls (except in so far as the Director otherwise consents in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in that part of the ~~*First*~~ Relevant Year ***in question.***

MD3.7 The Dominant Provider shall not make any Fixed-to-Mobile Interconnection Charge for:

(a) a Fixed-to-Mobile Call which terminates on a recorded announcement provided by the Dominant Provider informing the caller of an inability to complete that call so as to establish a two-way path where the mobile handset used by the called party is switched off, or rings and remains unanswered, or where coverage is not available from the Dominant Provider's 2G Public Electronic Communications Network; and

(b) an unanswered Fixed-to-Mobile Call which is diverted in respect of the period before that call is answered.

MD3.8 Notwithstanding (and without prejudice to the generality of) the obligation imposed on the Dominant Provider by paragraph MD3.1 above:

(a) if the Dominant Provider has failed to secure that the Average Interconnection Charge has not exceeded the Target Average Charge for the First ***or Second*** Relevant Year, the Dominant Provider shall make such adjustments to its Fixed-to-Mobile Interconnection Charges and by such day in the ~~Second~~ ***following*** Relevant Year as Ofcom may direct for the purpose of remedying that failure. Such adjustments in the Second ***or Third*** Relevant Year shall not be relevant for the purpose of establishing compliance with paragraph MD3.1 above in that Relevant Year;
and

(b) if it appears to Ofcom that the Dominant Provider is likely to fail to secure that the Average Interconnection Charge for the ~~Second~~ ***Third*** Relevant Year does not exceed the Target Average Charge for that Year, the Dominant Provider shall make such adjustments to its Fixed-to-Mobile Interconnection Charges and by such day in that Year as Ofcom may direct for the purpose of avoiding that failure.

MD3.9 Where the Average Interconnection Charge is less than the Target Average Charge for the First ***or Second*** Relevant Year, the Dominant Provider shall not make such adjustments to its Fixed-to-Mobile Interconnection Charges in the ~~Second~~ ***following*** Relevant Year to recover the difference between the Average Interconnection Charge and the Target Average Charge for the First ***or Second*** Relevant Year, unless Ofcom have given their prior written consent to such adjustments. Such adjustments in the Second ***or Third*** Relevant Year shall not be relevant for the purpose of establishing compliance with paragraph MD3.1 in that Relevant Year.

MD3.10 In this Condition:

'**Average Interconnection Charge**' has the meaning given to it in paragraph MD3.2;

'**Average Revenue**' has the meaning given to it in paragraph MD3.5;

‘**Target Average Charge**’ shall have the meaning given to it in paragraph MD3.4; and

‘**Weights Adjustment Factor**’ has the meaning given to it in paragraph MD3.5.

Condition MD4 - Control of Mobile to Mobile Interconnection Charges

MD4.1 Except in so far as Ofcom otherwise consent under paragraph MD4.9 below, the Dominant Provider shall take all reasonable steps to secure that, during any Relevant Year, the Average Interconnection Charge does not exceed the Target Average Charge for any such Year.

MD4.2 In this Condition, the Average Interconnection Charge means the average of the Mobile-to-Mobile Interconnection Charges during the Relevant Year in question, which shall be weighted according to:

(a) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the Base Year.

MD4.3 For the purposes of calculating the Average Interconnection Charge where any Mobile-to-Mobile Interconnection Charges are in force during a part only of the Relevant Year (commencing or ending at a date in the course of the Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the corresponding part of the Base Year.

MD4.4 For the purposes of this Condition, the Target Average Charge means:

(a) for the purpose of the First Relevant Year, 6.31 pence per minute;
~~*and*~~

(b) for the purpose of the Second Relevant Year, 6.31 pence per minute multiplied by the Weights Adjustment Factor ***for the First Relevant Year; and***

(c) for the purpose of the Third Relevant Year, 6.31 pence per minute multiplied by both Weights Adjustment Factors for the First and Second Relevant Years.

MD4.5 In paragraph MD4.4:

(a) the Weights Adjustment Factor ***for a given Relevant Year*** means the Average Revenue ***in the Relevant Year in question*** divided by the Average Interconnection Charge in the ~~*First*~~ Relevant Year **in question**; and

(b) the Average Revenue ***for a given Relevant Year*** means the average of the Mobile-to-Mobile Interconnection Charges during the ~~*First*~~ Relevant Year ***in question,*** weighted according to:

(i) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(ii) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consents in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in the ~~*First*~~ Relevant Year ***in question***.

MD4.6 For the purposes of calculating the Average Revenue ***for a given Relevant Year*** where any Mobile-to-Mobile Interconnection Charges are in force during a part only of the ~~*First*~~ Relevant Year (commencing or ending at a date in the course of the ~~*First*~~ Relevant Year), the weighting shall be derived from:

(a) the profile by Charging Period of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as Ofcom otherwise consent in writing that the weighting shall be derived from the profile by

Charging Period of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls); and

(b) the volumes by month or part-month of the Dominant Provider's minutes of Mobile-to-Mobile Calls (except in so far as the Director otherwise consents in writing that the weighting shall be derived from the volumes by month or part month of the Dominant Provider's sum of minutes of Fixed-to-Mobile Calls and Mobile-to-Mobile Calls),

in that part of the ~~*First*~~ Relevant Year ***<u>in question</u>***.

MD4.7 The Dominant Provider shall not make any Mobile-to-Mobile Interconnection Charge for:

(a) a Mobile-to-Mobile Call which terminates on a recorded announcement provided by the Dominant Provider informing the caller of an inability to complete that call so as to establish a two-way path where the mobile handset used by the called party is switched off, or rings and remains unanswered, or where coverage is not available from the Dominant Provider's 2G Public Electronic Communications Network; and

(b) an unanswered Mobile-to-Mobile Call which is diverted in respect of the period before that call is answered.

MD4.8 Notwithstanding (and without prejudice to the generality of) the obligation imposed on the Dominant Provider by paragraph MD4.1 above:

(a) if the Dominant Provider has failed to secure that the Average Interconnection Charge has not exceeded the Target Average Charge for the First ***<u>or Second</u>*** Relevant Year, the Dominant Provider shall make such adjustments to its Mobile-to-Mobile Interconnection Charges and by such day in the ~~*Second*~~ ***<u>following</u>*** Relevant Year as Ofcom may direct for the purpose of remedying that failure. Such adjustments in the Second ***<u>or Third</u>*** Relevant Year shall not be relevant for the purpose of establishing compliance with paragraph MD4.1 above in that Relevant Year;
and

(b) if it appears to Ofcom that the Dominant Provider is likely to fail to secure that the Average Interconnection Charge for the ~~*Second*~~ ***<u>Third Relevant</u>*** Year does not exceed the Target Average Charge for that

Year, the Dominant Provider shall make such adjustments to its Mobile-to-Mobile Interconnection Charges and by such day in that Year as Ofcom may direct for the purpose of avoiding that failure.

MD4.9 Where the Average Interconnection Charge is less than the Target Average Charge for the First ***or Second*** Relevant Year, the Dominant Provider shall not make such adjustments to its Mobile-to-Mobile Interconnection Charges in the ~~Second~~ ***following*** Relevant Year to recover the difference between the Average Interconnection Charge and the Target Average Charge for the First ***or Second*** Relevant Year, unless Ofcom have given their prior written consent to such adjustments. Such adjustments in the Second ***or Third*** Relevant Year shall not be relevant for the purpose of establishing compliance with paragraph MD4.1 in that Relevant Year.

MD4.10 In this Condition:

'**Average Interconnection Charge'** has the meaning given to it in paragraph MD4.2;

'**Average Revenue'** has the meaning given to it in paragraph MD4.5;

'**Target Average Charge**' shall have the meaning given to it in paragraph MD4.4; and

'**Weights Adjustment Factor**' has the meaning given to it in paragraph MD4.5.

Annex E

Analysis of Costs for 2G Voice Termination

Use of LRIC as the cost base

E.1 Ofcom continues to hold the view, as stated in Annex C of the June 2004 Statement, that the most appropriate and economically efficient basis for regulatory charge controls is forward-looking LRIC. The LRIC of voice termination is the additional cost an MNO incurs to provide termination. This can also be seen as the cost that the firm would avoid if it decided not to provide voice termination, taking a long-run perspective. It corresponds more closely to the charges that would prevail in an effectively competitive market than accounting-based measures of cost. It is a fundamental goal of price regulation to mimic the effects of a competitive market and this consideration underpins the use of LRIC.

E.2 LRIC is widely used as a regulatory costing technique, for example by other NRAs in Europe and by the FCC in the US. It has also been identified as the most appropriate methodology to use for setting interconnection charges by the European Commission in its 1998 Recommendation on Interconnection. For further details, see The Use of Long Run Incremental Cost (LRIC) as a Costing Methodology in Regulation, 12 February 2002, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/lric120202.pdf. Furthermore, the Competition Commission (CC) has agreed, as stated in paragraph 2.251 of the January 2003 CC report, with the use of LRIC as the appropriate costing methodology for setting termination charges.

E.3 Ofcom's view remains unchanged that the only relevant costs for the purposes of setting 2G charge controls are those relevant to 2G voice termination.

LRIC modelling assumptions

E.4 The purpose of the LRIC model is to derive the costs of a reasonably efficient 2G mobile operator in the UK. In April 2002, the latest version of the model was made available which considered a voice-only network. The model and supporting documentation are available at http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/april02_model.zip. Further detailed papers are also available: Source of algorithms, data, assumptions and estimates, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/analysis300102.pdf; and Manual for the Oftel LRIC model, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/slides300102.pdf. In the June 2004 Statement, a number of amendments to the model were made as a result of responses to the December 2003 consultation. A revised model was published and is available at http://www.ofcom.org.uk/consult/condocs/mobile_call_termination/wmvct/update/?a=87101.

E.5 In designing the model, five key issues were considered as referred to in the June 2004 Statement:

- the length of the time period over which cost behaviour would be considered (see also Network Common Costs, 19 February 2002, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/network_costs.pdf);

- the definition of the increment (see also Network Common Costs (referred to above) and Different Views of Oftel and MNOs on Network Common Costs, 27 May 2002, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/common_cost0602.pdf);

- the definition of common costs and how these should be recovered (see also Network Common Costs, and Different Views of Oftel and MNOs on Network Common Costs (referred to above));

- the level of efficiency to be assumed; and

- the depreciation method to be used (see also Calls to mobile: economic depreciation, September 2001, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/depr0901.htm, and Additional Information Concerning Oftel's LRIC Model, 12 February 2002, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/lric_more120202.pdf, and Accounting depreciation cost based estimates, 3 May 2002, http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/account_let0502.pdf).

E.6 In its review of the charges for calls to mobiles, the CC agreed with these general principles and that the April 2002 LRIC model was a suitable starting point for the assessment of the costs of terminating calls on mobile networks (paragraph 2.287 of the January 2003 CC report).

Updating the 2G LRIC model

E.7 The starting point for an updated analysis of the cost for mobile termination is the June 2004 update to the April 2002 voice only 2G LRIC model. In considering the appropriate level for the proposed one year extension to the existing charge controls, the objective is to provide a factual update of the model parameters without implementing structural or methodological changes to the model. This is the approach most consistent with the analysis set out in this consultation and Ofcom's view that there has been no material change in these markets, so as to maintain an analytical and economic approach consistent with that taken in the previous market review.

E.8 Ofcom has updated the key inputs to the 2G LRIC model, including both the latest published available data and revised forecasts where appropriate. These updates are treated in the remainder of this annex and their effects are viewed step-wise. As a first stage, Ofcom has updated key demand and cost inputs for the four 2G MNOs (ie excluding the 3G-only network operator H3G) consistent with the methodology underlying the previous charge control set in the June 2004 Statement and the objective stated in the above paragraph. These updates take account of historical data and forward-looking inputs which can be forecast with a reasonable degree of confidence.

E.9 In the previous market review Ofcom adopted a methodological approach which, for the purposes of regulating 2G termination charges, modelled future voice traffic as if it is carried on a 2G network of a reasonably efficient operator (see paragraphs C.35-C.36 of the June 2004 Statement]). In the context of the next market review, and beyond the scope of the proposals in this consultation, Ofcom has begun to consider the impact of reduced volumes of traffic on 2G networks as a result of potential migration to 3G networks. At this stage Ofcom is not in a position to undertake a detailed analysis of this issue nor would it be appropriate in the context of this consultation. Furthermore, there is still significant uncertainty in the demand for 3G services and the rate and timing of migration of voice traffic from 2G to 3G networks. However, within the limitations of the existing 2G LRIC model (without implementing significant structural changes) Ofcom believes that there is merit in scoping out the potential impact on the appropriate level of charges for 2G voice termination resulting from potential migration of traffic from 2G to 3G. Given the significant uncertainty in traffic migration forecasts, a broad range of assumptions are considered. These issues are discussed in the second stage of the analysis below.

Updates to the 2G LRIC model

1) Cost of capital

Introduction

E.10 The estimation of the appropriate cost of capital follows the same Capital Asset Pricing Model (CAPM) approach as Ofcom followed in its last market review (See Annex B, June 2004 Statement). In two specific cases Ofcom has updated its view on input parameter values. Firstly, in relation to the equity risk premium, in light of Ofcom's recent consultation on this issue *"Ofcom's approach to risk in the* assessment *of the cost of capital*"[10] and secondly, in relation to the risk free rate in light of current market rates. All other input assumptions to the cost of capital are the same as those used in the previous market review. Ofcom does not believe that there has been any material change in these assumptions. Therefore the discussion below only deals with those elements of the cost of capital that have been updated since the last market review.

E.11 It is worth noting that the cost of capital can be expressed in nominal or real terms (after adjusting for inflation). It can also be expressed in post or pre tax terms. A pre tax cost of capital should be compared with returns calculated on a pre tax basis whilst a post tax cost of capital with post tax returns. The appropriate cost of capital for the 2G LRIC model is the real pre tax return consistent with the model design.

The Capital Asset Pricing Model

E.12 Ofcom has recently published a consultation document dealing with certain aspects of the cost of capital *"Ofcom's approach to risk in the assessment of the cost of capital"* (cost of capital consultation). In the consultation document Ofcom sets out its view that the CAPM is Ofcom's preferred model for estimating the cost of capital.

[10] http://www.ofcom.org.uk/consult/condocs/cost_capital/

E.13 Under the CAPM methodology, a firm's cost of equity is built up from three main factors. These are:

- the risk free rate (RFR);
- the equity risk premium (ERP); and
- the value of beta for the firm in question (beta).

E.14 The relationship between these factors can be summarised by the following formula:

Cost of equity = RFR + (ERP x beta)

The risk free rate is the expected rate of return on a risk free investment. The equity risk premium is the expected return on equities over and above the risk free rate (that is, it is the expected reward for holding equities compared with the reward for holding risk free assets). The value of beta reflects the variability of returns of the equity of the company in question compared with the variability of returns on the equity market represented by an index.

Similarly, the cost of debt can be expressed as:

Cost of debt = RFR + Debt premium,

where the debt premium is the company specific risk premium for corporate debt above the risk free rate.

The weighted average cost of capital (WACC) takes account of the cost of equity and the cost of debt by weighting each of these by the proportion of equity and debt respectively in the MNOs' capital structure in the following way:

WACC = (Cost of equity x (1 – Gearing)) + Cost of debt x Gearing,

where Gearing = Debt / (Debt + Equity).

Ofcom's views on the appropriate values for the inputs to the cost of capital that have been updated since the last review are set out below.

Risk Free Rate

E.15 The risk free rate of interest is reflected in the calculation of both the cost of debt and the cost of equity. The nominal risk free rate can be estimated with reference to the yield to maturity on fixed term government debt. Current estimates of yields on UK gilts are used as a proxy for the nominal risk free rate.

E.16 UK spot gilt yields are volatile and therefore the implications of using different averaging periods and different years to maturity on average rates have been examined

Figure E1: UK Government nominal spot rate yields

Averaging period	Years to maturity			
	1	5	10	15
8 April 2005	4.64	4.59	4.64	4.63
1 week average	4.66	4.60	4.64	4.63
1 month average	4.73	4.69	4.71	4.69
3 month average	4.63	4.58	4.61	4.59
6 month average	4.57	4.55	4.60	4.57
1 year average	4.65	4.76	4.80	4.74

Source: Bank of England[11]

E.17 It is worth noting that the UK yield curve is currently relatively “flat” and therefore the difference in spot rates for different maturities of bonds is small. For example current rates (8 April 2005), across different maturities imply a range of 4.59% to 4.64%.

E.18 Rates vary over different lengths of averaging period. Ofcom believes that the appropriate balance on averaging period is met by placing most weight on a three month average which implies a rate of 4.6%. However, it should be noted that this is broadly in line with estimates based on different maturities and averaging periods.

E.19 In order to estimate the real risk free rate an estimate of inflation consistent with the estimate of the nominal risk free rate above is required. This can be estimated by comparing the nominal UK gilt yields to maturity with UK government index-linked gilts. The difference[12] between these two yields represents an estimate of future inflation. The three month average index linked gilt rate is 1.8% (based on 5 year index linked gilts) which implies an inflation rate of 2.7%.

Equity Risk Premium

E.20 In its cost of capital consultation, Ofcom has set out its view that the appropriate value for the ERP is 4.5%. Whilst this is still the subject of consultation, this value has been adopted in this consultation. If the statement on the cost of capital (which is due to be published in summer 2005) should take a different view on the ERP then this value will be updated accordingly.

Selection of a revised cost of capital

E.21 Overall, based on the updated risk free rate and ERP, and the other input assumptions used in the last market review, which remain appropriate, Ofcom estimates the pre-tax real cost of capital to be applied in the 2G LRIC model to be between 9.1% and 12.9%, with an average of 11.0%. This compares to Ofcom’s previous estimate of between 9.79% and 13.99%, with an average of 11.9% as stated in the June 2004 Statement.

E.22 The reasons for this reduction can be summarised as:

[11] Source: Bank of England, http://www.bankofengland.co.uk/statistics/yieldcurve/
[12] Where difference is calculated on a geometric basis i.e. (1+nominal rate)/(1+real rate) –1

- The risk free rate is lower at 4.6% compared to 4.75%
- The ERP is lower at 4.5% compared to 5.0%

The table below sets out all the input assumptions used in this calculation of the cost of capital:

Figure E2: Cost of capital calculation

	Low Gearing		*High Gearing*	
	Low Beta	***High Beta***	***Low beta***	***High Beta***
Risk free rate	4.6	4.6	4.6	4.6
ERP	4.5	4.5	4.5	4.5
Assumed Equity beta @ 10% gearing	1.0	1.6	1.0	1.6
Debt beta	0.0	0.5	0.0	0.5
Asset beta	0.90	1.49	0.90	1.49
Equity beta	1.00	1.60	1.29	1.91
Cost of equity (post tax)	9.1	11.8	10.4	13.2
Debt premium	1.0	3.5	1.0	3.5
Cost of debt (pre tax)	5.6	8.1	5.6	8.1
Corporate tax rate	30%	30%	30%	30%
Cost of debt (post tax)	3.9	5.7	3.9	5.7
Gearing	10%	10%	30%	30%
WACC (post tax)	8.6%	11.2%	8.4%	11.0%
WACC (pre tax)	12.3%	16.0%	12.1%	15.6%
Inflation	2.7	2.7	2.7	2.7
WACC (pre tax – real)	**9.3%**	**12.9%**	**9.1%**	**12.6%**
Average WACC (pre tax real)	**11.0%**			

Impact of update

E.23 This revised cost of capital is applied from 2006/07 onwards. The previous estimate of 12.0% derived in June 2004 is applied for the years 2003/04 to 2005/06, as this is the cost of capital which underpins the current charge control.

Figure E3: Adjustment to June 2004 update of the 2G LRIC model termination output for 11% cost of capital

Pence per minute (real 2000/01)	***2005/06***	***2006/07***	***2007/08***	***2008/09***	***2009/10***
900/1800 MHz operators					
LRIC+ (12% CoC – June 04 Statement)	3.76	3.60	3.45	3.39	3.33
LRIC+ (remove ad-hoc adjustments) [13]	3.81	3.65	3.50	3.43	3.37
LRIC+ (11% CoC)	3.90	3.55	3.42	3.36	3.30

[13] In June 2004, amendments were made to certain modelled equipment quantities (as described in Annex C, Figure 4 of the June 2004 Statement) to deal with assets that decline in quantity but then recover in later years. Adjustments were applied on an ad hoc basis and do not scale when changes are made to the inputs of the model. Therefore, these adjustments were initially removed and then reapplied after updating the model inputs, using the same methodology to profile assets evenly. However, these re-adjustments had a negligible impact due to the changes in demand inputs and have therefore been omitted.

Increase (ppm)	0.15	-0.05	-0.04	-0.03	-0.03
Increase (%)	3.87%	-1.35%	-1.05%	-0.90%	-0.75%
1800 MHz operators					
LRIC+ (12% CoC – June 04 Statement)	4.55	4.33	4.14	4.05	3.97
LRIC+ (remove ad-hoc adjustments)	4.58	4.36	4.16	4.08	4.00
LRIC+ (11% CoC)	4.69	4.23	4.05	3.97	3.90
Increase (ppm)	0.14	-0.11	-0.09	-0.08	-0.07
Increase (%)	3.06%	-2.48%	-2.10%	-1.91%	-1.72%

2) Demand

E.24 Subscriber and traffic demand data has been updated with the latest available historical data from Ofcom / Oftel monthly market updates[14] and forecasts revised to be consistent with this historical data. Demand datasets include the total number of mobile subscribers, the number of subscribers for the 2G MNOs and the total incoming and outgoing voice minutes generated by these subscribers.

E.25 Total mobile subscriber forecasts are generated by taking the original, relatively conservative year-on-year subscriber growth rates from the April 2002 LRIC model and applying these to the most recent actual subscriber numbers. A number of alternative approaches consistent with the original forecasting methodology have been examined, including the use of reasonably conservative S-curves to forecast subscriber growth. However, it was found that the choice between these demand forecasts had little effect on the output of the LRIC model; hence revised forecasts are generated by applying the original growth rates, on the grounds of simplicity and consistency.

E.26 H3G's historical and forecast share of mobile subscribers have been constructed from company statements and perspectives from a range of brokers[15], using linear interpolation between these data sources where necessary. This allows the number of subscribers for the four 2G MNOs to be forecast. Consistent with the assumption in the previous market review, it is assumed that H3G's network will have a 20% share of all mobile subscribers by 2010 (equal to the share held by each of the other mobile operators). This is also broadly consistent with the third party subscriber forecasts for H3G referred to above.

E.27 Incoming and outgoing minutes per subscriber for the 2G MNOs are forecast by assuming the same growth rates as in the April 2002 LRIC model, resulting

[14] See Oftel "Market Information Mobile Update" reports of March 2002, July 2002, October 2002, February 2003, April 2003, June 2003, October 2003, December 2003, Ofcom "The Communications Market 2004 - Telecoms Appendix", "The Communications Market – Telecoms Appendix" January 2005

[15] See ABN Amro 26/11/04, CLSA Asia Pacific 21/11/04, Merrill Lynch 13/12/04

in forecasts of the total incoming and outgoing minutes for the 2G MNOs in total and hence for an average operator.

E.28 It should be noted that the latest historical subscriber numbers are significantly higher than those previously predicted and used to determine the level of the existing charge control. Additionally, 2004/05 incoming minutes per subscriber are significantly above those previously anticipated. The combination of these effects leads to a material increase in each of the demand related forecasts, which is reflected in a reduction in pence per minute for the LRIC+ of 2G voice termination.

Figure E4: Updated subscriber data

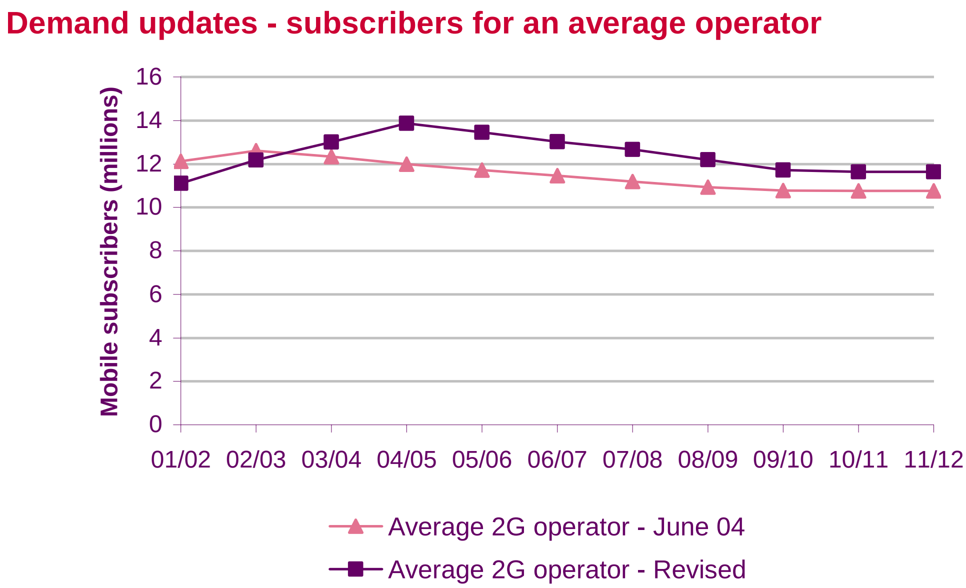


Figure E5: Updated traffic data

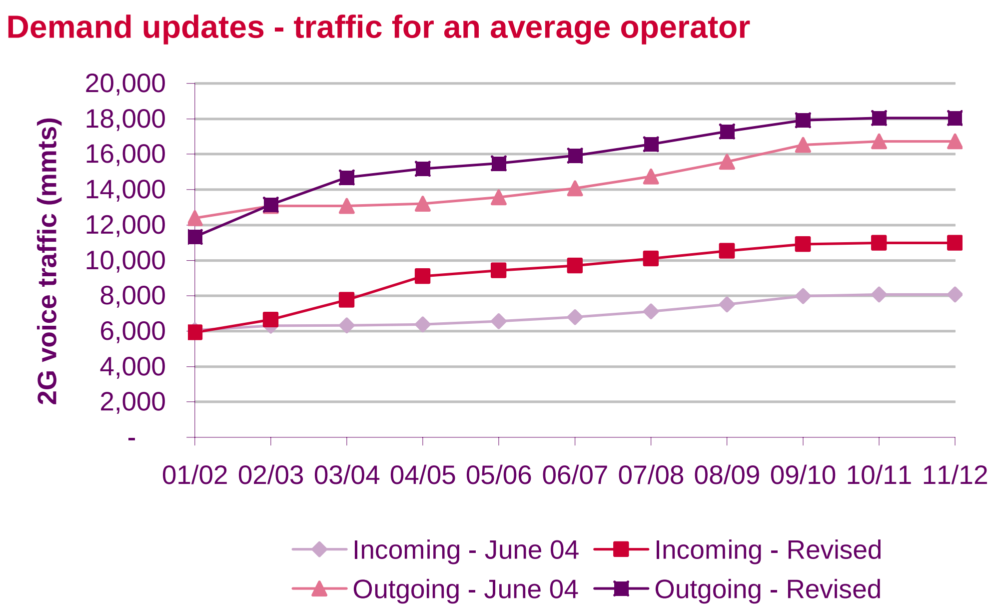


Figure E6: Adjustment to June 2004 update to the 2G LRIC model termination output for 11% cost of capital and updated demand

Pence per minute (real 2000/01)	*2005/06*	*2006/07*	*2007/08*	*2008/09*	*2009/10*
900/1800 MHz operators					
LRIC+ (11% CoC)	3.90	3.55	3.42	3.36	3.30
LRIC+ (11% CoC / updated demand)	3.79	3.44	3.31	3.25	3.20
Increase (ppm)	-0.11	-0.11	-0.11	-0.11	-0.10
Increase (%)	-2.93%	-3.03%	-3.10%	-3.13%	-3.15%
1800 MHz operators					
LRIC+ (11% CoC)	4.69	4.23	4.05	3.97	3.90
LRIC+ (11% CoC / updated demand)	4.48	4.02	3.85	3.77	3.70
Increase (ppm)	-0.21	-0.20	-0.20	-0.20	-0.20
Increase (%)	-4.41%	-4.74%	-4.91%	-5.00%	-5.08%

3) MEA trends

E.29 This involves updating the modern equivalent asset (MEA) trend inputs in the June 2004 update to the LRIC model, using more recent information from a consistent source. Analysys Consulting provided the modern equivalent asset (MEA) trend inputs for the April 2002 LRIC model which were unaltered in the June 2004 update, and were therefore asked to provide updated historical and forecast MEA trends.

E.30 These updated asset price trends are less aggressive in terms of cost reductions than those assumed in the last review, thus having the effect of increasing the pence per minute LRIC+ for 2G voice termination.

Figure E7: Updated MEA trends (only line items which change relative to the June 2004 update of the 2G LRIC model are shown)

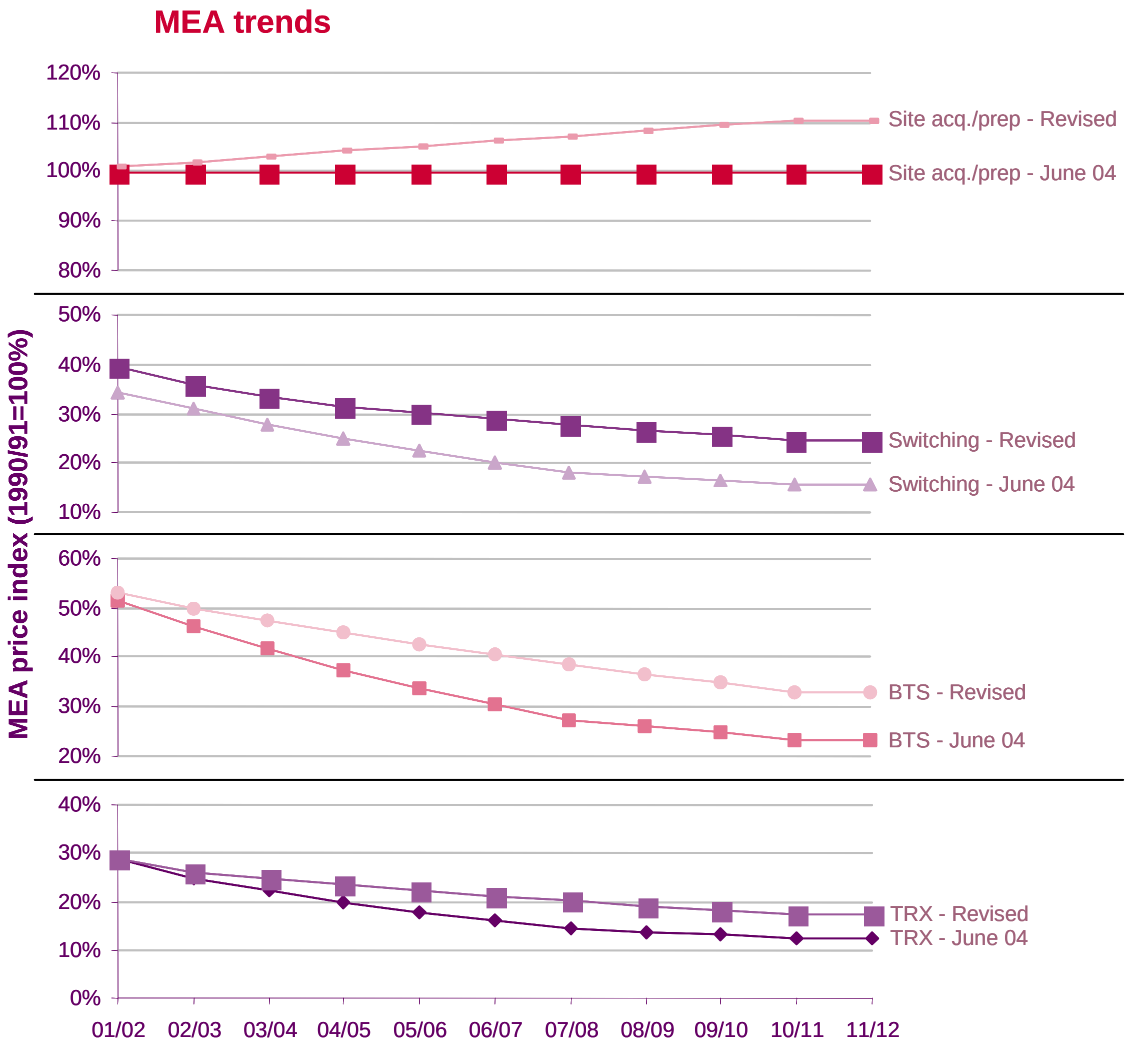


Figure E8: Adjustment to June 2004 update to the 2G LRIC model termination output for 11% cost of capital, updated demand and revised MEA trends

Pence per minute (real 2000/01)	*2005/06*	*2006/07*	*2007/08*	*2008/09*	*2009/10*
900/1800 MHz operators					
LRIC+ (11% CoC / updated demand)	3.79	3.44	3.31	3.25	3.20
LRIC+ (11% CoC / updated demand / updated MEA trends)	3.88	3.56	3.48	3.40	3.34
Increase (ppm)	0.09	0.12	0.17	0.15	0.14
Increase (%)	2.46%	3.51%	4.99%	4.67%	4.34%
1800 MHz operators					
LRIC+ (11% CoC / updated demand)	4.48	4.02	3.85	3.78	3.70
LRIC+ (11% CoC / updated demand / updated MEA trends)	4.60	4.17	4.05	3.96	3.87

Increase (ppm)	0.12	0.14	0.20	0.18	0.16
Increase (%)	2.58%	3.57%	5.24%	4.83%	4.42%

4) Spectrum fees

E.31 At the time of the June 2004 Statement, Ofcom was expecting to impose a significant increase on GSM 900 MHz and 1800 MHz spectrum fees in 2005/06. However, Ofcom has subsequently decided to keep spectrum fees constant in nominal terms until 2007/08 (see Ofcom Spectrum Pricing Statement, February 2005, sections 3.13 – 3.22)[16]. Beyond this point, spectrum fees have not yet been determined. Consistent with the approach taken in the June 2004 update to the 2G LRIC model, in the absence of specific information, it is assumed that fees will remain constant in real terms from 2007/08 onwards[17].

Figure E9: Updated spectrum fees

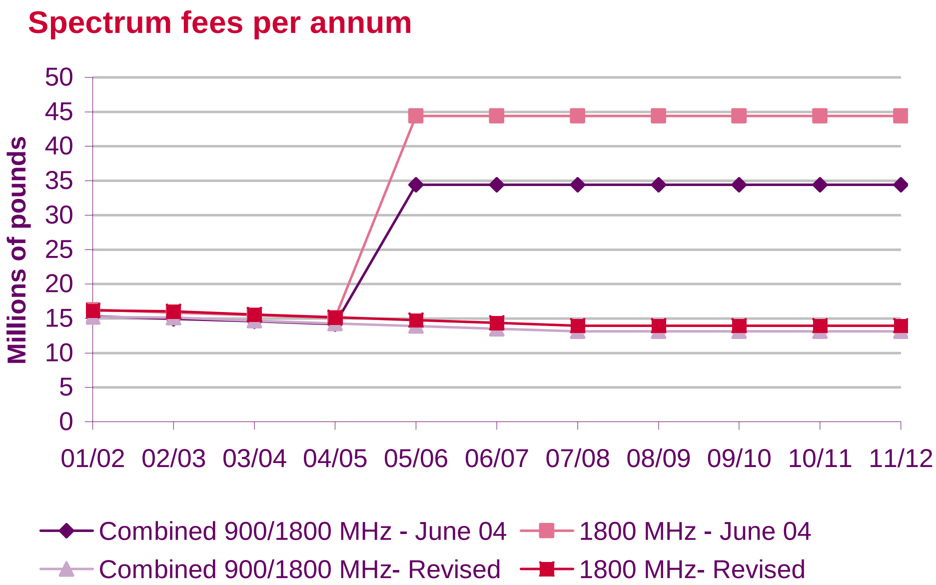


Figure E10: Adjustment to June 2004 update of the 2G LRIC model termination output for 11% cost of capital, updated demand, revised MEA trends and updated spectrum fees

Pence per minute (real 2000/01)	***2005/06***	***2006/07***	***2007/08***	***2008/09***	***2009/10***
900/1800 MHz operators					
LRIC+ (11% CoC / updated demand / updated MEA trends)	3.88	3.56	3.48	3.40	3.34

[16] http://www.ofcom.org.uk/consult/condocs/spec_pricing/statement/statement.pdf
[17] Spectrum fees from 2001/02 – 2004/05 have also been revised in real terms to reflect historical RPI rates. Additionally, a minor amendment has been applied to the economic depreciation algorithm for this asset type, to address anomalous behaviour specific to the cost recovery of spectrum fees as a result of changes in cost of capital over time. Ofcom intends to make the specific implementation available in an updated version of the model.

LRIC+ (11% CoC / updated demand / updated MEA trends / updated spectrum fees)	3.68	3.41	3.33	3.25	3.19
Increase (ppm)	-0.21	-0.15	-0.15	-0.15	-0.15
Increase (%)	-5.34%	-4.23%	-4.33%	-4.42%	-4.51%
1800 MHz operators					
LRIC+ (11% CoC / updated demand / updated MEA trends)	4.60	4.17	4.05	3.96	3.87
LRIC+ (11% CoC / updated demand / updated MEA trends / updated spectrum fees)	4.32	3.95	3.84	3.74	3.65
Increase (ppm)	-0.28	-0.22	-0.22	-0.22	-0.22
Increase (%)	-6.17%	-5.18%	-5.32%	-5.45%	-5.57%

Summary of updates to the 2G LRIC model

E.32 As shown in tables 5 and 6, these updates, consistent with the previous methodological approach, result in a revised base case with lower pence per minute LRIC+ for 2G voice termination. The revised efficient charge for 2006/07 is 6-10% lower than the equivalent year of the June 2004 Statement (and the revised figure for 2005/06 is 4-6% below that calculated for the equivalent year of the June 2004 Statement).

E.33 As stated in paragraph 6.65 of the June 2004 Statement, Ofcom derived adjustments to be applied to the output of the June 2004 update of the 2G LRIC model following comparison between the outputs of the model and the 2G MNOs' actual cost accounting data. Specifically, adjustment factors were applied to the capital costs and operating costs calculated by the LRIC model, so as to align these costs with the averaged equivalent actual costs of the four 2G MNOs.

E.34 Consistent with the original methodology, these adjustments to the 2G LRIC model output have been revised to take account of the updated output of the LRIC model. These adjustments, along with mark-ups for non-network common costs and network externalities, are shown in tables 5 and 6 below after application of the updates to the 2G LRIC model described in the previous section. The non-network common cost and network externality mark-ups are unchanged from the June 2004 Statement; these are discussed in more detail in paragraphs E 54 to E60 below..

E.35 The combined effect of these updates is to produce a moderate reduction in the 2005/06 efficient charge, compared to the current regulated charge. For 900/1800 MHz combined operators, the efficient 2005/06 charge (in real 2000/01 terms) drops from 5.00ppm to 4.82ppm; for 1800 MHz only operators, the efficient charge is reduced from 5.63ppm to 5.26ppm. This reflects the reducing effects of the updated assumptions for cost of capital, demand and spectrum fees on costs.

Figure E11: Step-wise impact of updates – Combined 900/1800 MHz operators

Pence per minute (real 2000/01)	***2005/06***	***2006/07***	***2007/08***	***2008/09***	***2009/10***
Combined 900/1800 MHz operators					
June 04 efficient charge	5.00	4.77	4.56	4.47	4.38
June 04 version of the 2G LRIC model	3.76	3.60	3.45	3.39	3.33
+ remove ad-hoc adjustments[18]	0.05	0.05	0.04	0.04	0.04
+ update CoC	0.09	-0.10	-0.08	-0.07	-0.06
+ update demand	-0.11	-0.11	-0.11	-0.11	-0.10
+ update MEA trends	0.09	0.12	0.17	0.15	0.14
+ update spectrum fees	-0.21	-0.15	-0.15	-0.15	-0.15
Revised LRIC model	3.68	3.41	3.33	3.25	3.19
+ capital / operating cost adjustment	0.23	0.14	0.11	0.08	0.06
+ non-network common cost mark-up	0.41	0.41	0.41	0.41	0.41
+ network externality mark-up	0.50	0.50	0.50	0.50	0.50
Revised efficient charge	4.82	4.46	4.35	4.25	4.15
Increase in efficient charge (%)	-3.58%	-6.44%	-4.77%	-4.96%	-5.14%

Figure E12: Step-wise impact of updates – 1800 MHz operators

Pence per minute (real 2000/01)	***2005/06***	***2006/07***	***2007/08***	***2008/09***	***2009/10***
1800 MHz operators					
June 04 efficient charge	5.60	5.29	5.01	4.88	4.76
June 04 version of the 2G LRIC model	4.55	4.33	4.14	4.05	3.97
+ remove ad-hoc adjustments	0.03	0.03	0.03	0.03	0.02
+ update CoC	0.11	-0.13	-0.11	-0.10	-0.09
+ update demand	-0.21	-0.20	-0.20	-0.20	-0.20
+ update MEA trends	0.12	0.14	0.20	0.18	0.16
+ update spectrum fees	-0.28	-0.22	-0.22	-0.22	-0.22
Revised LRIC model	4.32	3.95	3.84	3.74	3.65
+ capital / operating cost adjustment	0.03	-0.10	-0.15	-0.18	-0.21
+ non-network common cost mark-up	0.41	0.41	0.41	0.41	0.41

[18] See footnote 14

+ network externality mark-up	0.50	0.50	0.50	0.50	0.50
Revised efficient charge	5.25	4.76	4.60	4.47	4.35
Increase in efficient charge (%)	-6.17%	-9.97%	-8.06%	-8.37%	-8.68%

Effect of traffic migration from 2G to 3G

1) Introduction and process

E.36 In the June 2004 Statement, Ofcom derived an efficient level for regulated 2G termination charges by modelling all future voice traffic as if it was carried on a 2G network of a reasonably efficient operator. In the context of the proposal for a one year extension to the existing charge controls, based on Ofcom's analysis that there has been no material change in these markets since June 2004, one approach would be to adopt the same methodological approach. However, Ofcom is conscious that all of the 2G MNOs have now launched 3G services and have the potential to migrate a significant volume of traffic from their 2G to 3G networks over the next few years. Ofcom has begun to consider the impact of reduced volumes of traffic on 2G networks as a result of migration to 3G networks in the context of the next market review, and believes that a thorough, detailed analysis of this issue would be premature in the context of this consultation. Nevertheless, Ofcom has undertaken a simple analysis, based on the June 2004 update of the 2G LRIC model, as an initial look at the effect of the plausible range of reductions in 2G traffic in order to scope out the impact of potential market developments on the pence per minute LRIC+ for 2G voice termination.

E.37 There are obvious limitations to this analysis and the results must therefore be interpreted with care. For example, as discussed below, stylised or simplified approaches are adopted to traffic demand forecasts and cost profiling.

2) 2G demand scenarios

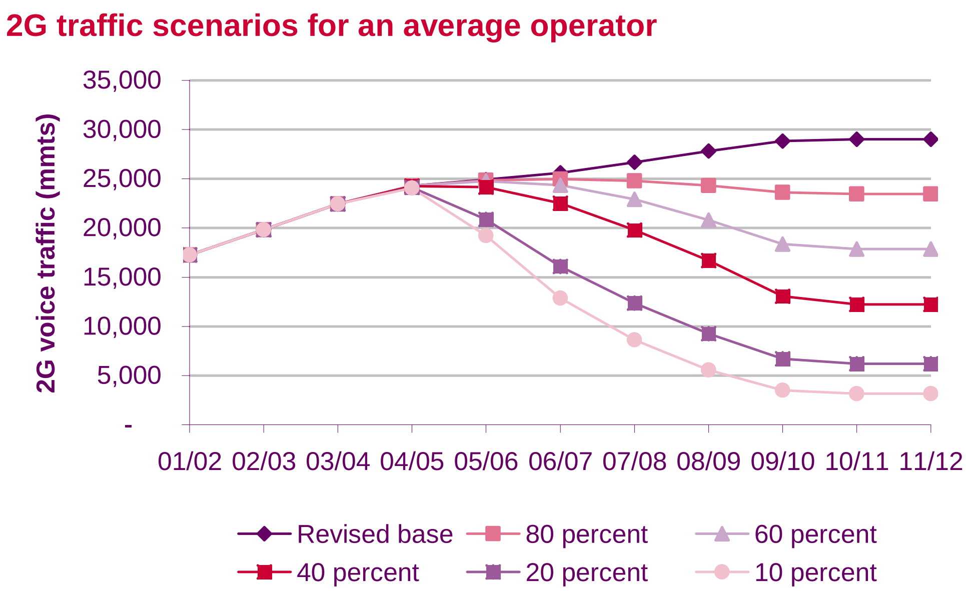
E.38 There is at present a significant degree of uncertainty in both the rate of migration of subscribers from 2G to 3G networks, and the proportion of 3G voice calls which are likely to be carried (at least initially) on the existing 2G networks, e.g. in rural areas where 3G coverage does not extend. Both of these effects result in uncertainty over future volumes of 2G traffic which must be reflected in a range of traffic forecasts.

E.39 The April 2002 LRIC model is limited to consideration of 2G traffic profiles which remain constant from 2010 onwards. Ofcom believes that it would be inappropriate to address this structural modelling limitation in the context of the proposal for a one year extension to the existing charge controls; rather Ofcom intends to consider the issue of 2G to 3G traffic migration more comprehensively in the next market review. Ofcom realises that this approach leads to profiles which tend to overstate future volumes of 2G traffic, post-2010.

E.40 Ofcom has therefore generated a broad range of possible 2G traffic scenarios to account for both the uncertainty in future demand and the limitations of traffic profiles used by the LRIC model, and examined their impact on the LRIC+ of 2G voice termination. These range from the lowest 2G traffic forecast, which could result from early 3G take up and rapid migration of high usage subscribers; to the highest 2G traffic forecast, which might arise if 3G take-up is slower and a significant proportion of 3G voice calls are carried on existing 2G networks.

E.41 A range of such traffic forecasts to be implemented in the model is shown below. The revised base profile represents the demand inputs outlined in the previous section, with no reduction in 2G voice traffic. At the other end of the range, the 10 percent profile shows a stylised demand scenario in which the level of 2G voice traffic has declined to 10 percent of the base case level by 2009/10. The same nomenclature applies to the other intermediate traffic profiles.

Figure E13: Alternative 2G traffic scenarios



3) Approaches to cost profiling

E.42 In order to consider the impact of substantial reductions in 2G demand on the efficient charge for voice termination, it is necessary to take into account the ability of operators to scale down their costs in response to these demand reductions.

E.43 In the original April 2002 LRIC model, operators are assumed to recover no residual value from assets which cease to be required before the end of their economic lives. In the context of declining volumes of 2G traffic, Ofcom believes that this represents a conservative treatment of capital costs. The investment cost of all assets purchased is fully recovered in determining the efficient charge level for termination.

E.44 The April 2002 LRIC model allows the operating costs of assets associated with the network to be scaled according to the level of demand, on a year-by-year basis. A reduction in 2G traffic volumes can lead to the presence of assets which were previously installed on the network but are no longer required to meet current demand levels, and this treatment of operating costs effectively assumes that any such assets incur no operating costs. Whilst this may be a reasonable for some asset types, for others this may be optimistic and difficult to achieve in practice.

E.45 On balance, Ofcom views the April 2002 LRIC model approach outlined above as a sound methodology for the estimation of the costs of an efficient 2G operator, in the context of this scoping exercise. Ofcom notes that the optimism in operating costs is contrasted by the use of conservative capital cost estimates.

E.46 However, as an additional sensitivity, Ofcom has examined a more conservative approach to take account of the potential for higher operating costs. It is assumed that operating costs continue to be incurred not only on assets required by the level of demand, but also on unutilised assets for a period of 3[19] years after they are no longer required. This sensitivity reflects a view that it may not be possible to reduce operating costs immediately in line with a reduction in demand. The net present value of the additional operating costs incurred attributable to termination via service routing factors, when compared with the approach outlined above, is recovered as an equi-proportionate mark up on the future LRIC of all 2G voice termination.

4) Combined effect of 2G traffic scenarios and cost profiling

E.47 The results of the alternative 2G traffic scenarios (including the revised base case, ie no reduction of 2G traffic as a result of migration to 3G) coupled with both the LRIC cost profiling methodology and the increased operating cost sensitivity are shown in Figure E14 and Figure E15, for combined 900/1800 MHz operators and 900 MHz operators respectively, expressed in terms of the efficient charge level for 2G voice termination in 2006/07 in real 2000/01 pence per minute. The alternative 2G traffic profiles lie along the horizontal axis, with the cost range generated by the LRIC cost profiling methodology and increased operating cost sensitivity shown as a vertical line for each profile.

[19] Similar results are obtained if different opex lags are applied to different asset types (e.g. shorter on leased lines and radio equipment, longer on site leases)

Figure E14: Impact of 2G traffic reduction on efficient charge level for 2G voice termination in 2006/07, combined 900/1800 MHz operators

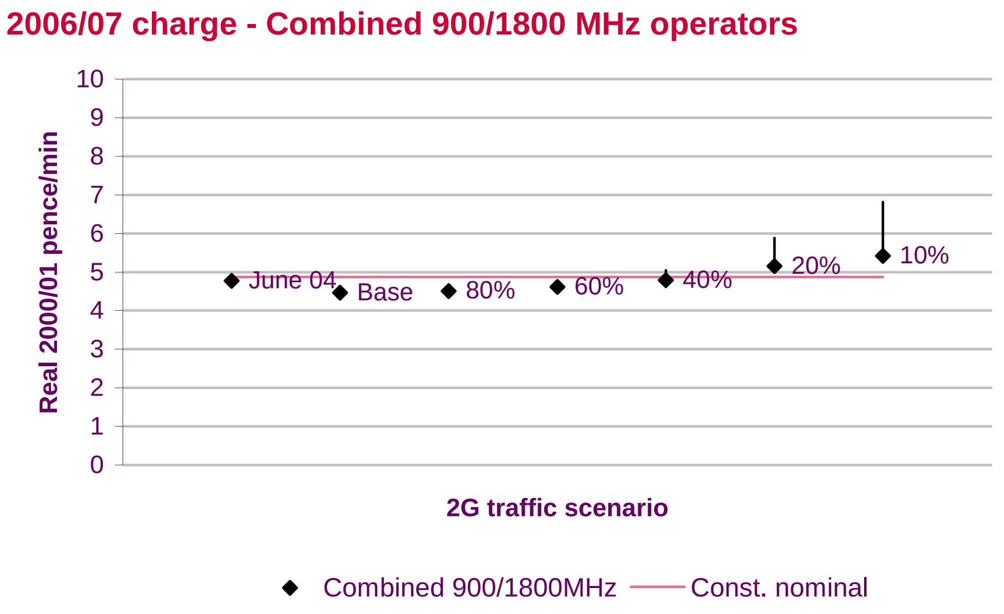
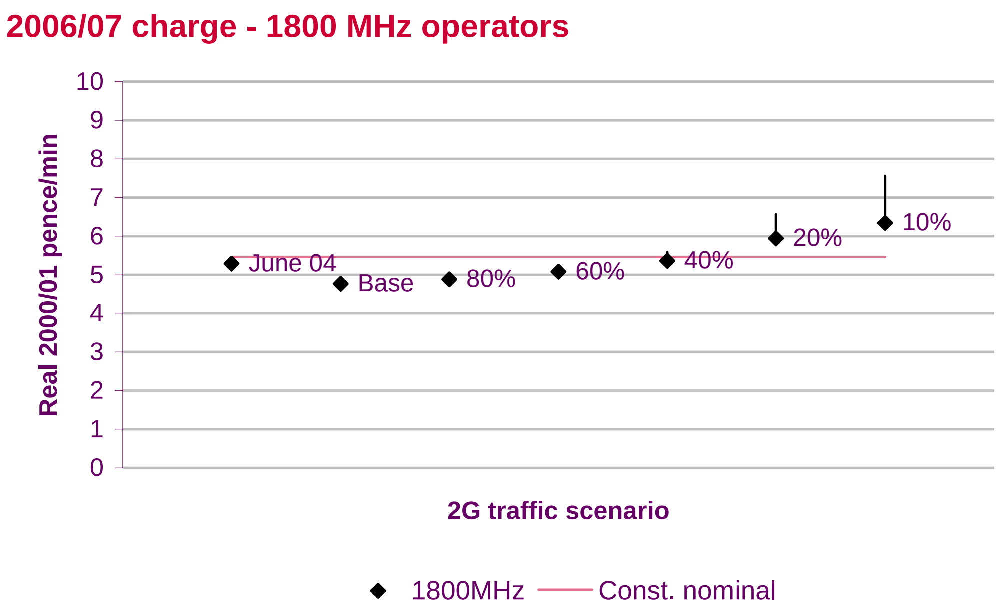


Figure E15: Impact of 2G traffic reduction on efficient charge level for 2G voice termination in 2006/07, 1800 MHz operators



Further issues

1) Site count calibration

E.48 As noted in paragraph 7.47 of the January 2003 CC report, the technical network dimensioning rules and assumptions for the April 2002 LRIC model were calibrated so that for 2000 the model shows approximately the same number of base station sites as the operators deployed (based on the limited amount of publicly available data). The more detailed, confidential cell site information for September 2001 obtained by the CC, and subsequently used in Ofcom's last market review, suggested that the April 2002 LRIC model may underestimate the number of cell sites (for example, see Table 7.5 of the January 2003 CC report). However, any concerns over the accuracy of the LRIC model in this respect are addressed through the comparison between the outputs of the model and the actual cost accounting data from the MNOs, in particular, the upward adjustment to capital costs (see paragraphs 6.65-6.67 of June 2004 Statement).

E.49 In theory, a detailed re-calibration exercise would attempt to take account of the allocation of cell sites by geotype as well as any potential differences in site count between combined 900/1800MHz operators and 1800MHz operators, by adjusting a number of network dimensioning rules and assumptions. However, in the context of the proposal for a one year extension to the existing charge controls, Ofcom believes that it would be inappropriate to attempt to perform a calibration at this level which would require detailed information and understanding of the different deployment strategies adopted by each of the 2G MNOs.

E.50 Ofcom has therefore made a preliminary examination of the effect of recalibrating the 2G LRIC model at a more aggregated level. Network dimensioning rules and assumptions have been adjusted to calibrate the model against a more recent, higher estimated site count for the average 2G MNO[20] of 8,750 sites. This results in an increase in the number of cell sites, and a resulting increase in the LRIC+ output of the model. However, as would be expected, the subsequent comparison with the 2G MNOs' cost accounting data from 2001 results in a much smaller upward adjustment to capital costs which more than cancels out the effect of modelling an increase in the number of cell sites. Indeed, the net result for the revised base traffic scenario is a modest reduction in the 2006/07 efficient charge level for 2G voice termination.

E.51 Since this preliminary examination suggests that, after comparison with the MNOs' cost accounting data, a re-calibration of the model is unlikely to result in any significant increase in the efficient charge level for termination, Ofcom proposes not to implement such an update for the purposes of this consultation, but rather to consider this issue further in the context of the next market review.

2) Other network modelling issues

E.52 In considering the effect of traffic migration from 2G to 3G and the roll out of 3G networks, it is also appropriate to take account of the opportunity that the four 2G MNOs have for sharing costs of certain elements across their existing 2G networks and their new 3G networks. In particular, many sites used for 2G transmitters are likely to be used for 3G transmitters as well, which provides opportunities for cost sharing between 2G and 3G networks and reductions in the costs of 2G networks. Ofcom has conducted an initial simple analysis to estimate the magnitude of the potential reductions in the LRIC+ of 2G voice termination as a result of site sharing. Given that site acquisition, preparation and lease costs contribute less than 9% to the LRIC+ of 2G voice termination

[20] Based on a statement made by the Mobile Operators Association in April 2003 that there were c.35,000 base stations in total in the UK before significant roll out of 3G networks – see http://www.mobilemastinfo.com/information/fact_sheets/mobile_phones.pdf

in 2006/07, Ofcom believes that the resulting reduction in the efficient charge level is likely to be relatively modest.

E.53 There are other network costs in addition to site sharing costs which may be shared between a 2G and 3G network – for example, backhaul and MSC site acquisition costs. Ofcom proposes to undertake a more comprehensive examination of these issues, together with 2G/3G site sharing, in the next market review.

3) Non-network common costs

E.54 As discussed in paragraph 6.69 of the June 2004 Statement, Ofcom has also included a common cost mark-up for the recovery of non-network administrative costs that should be recovered across all areas of the business, including both retail and network services. In June 2004, Ofcom set this mark-up at 0.41ppm (in real 2000/01 terms). This represents a further mark-up of approximately 10% in addition to the network LRIC+.

E.55 In the context of this proposal for a one year extension to the current charge controls, it would be inappropriate to obtain detailed information from MNOs regarding their non-network common costs. Ofcom believes that it is reasonable to maintain the non-network common cost mark-up at 0.41ppm.

4) Network externality mark-up

E.56 In the last market review Ofcom concluded that the appropriate externality surcharge was 0.50ppm which amounted to a mark-up over the LRIC+ of termination of approximately 10%. This was based on the range of estimates set out in the table below (and can be found in Annex D of the June 2004 Statement):

Figure E16: Externality surcharge estimates in the June 2004 Statement

Source	Optimal surcharge
Rohlfs principal-agent model	0.02ppm
Rohlfs targeting model	0.06ppm
Previous surcharge (MMC)	0.50ppm
CC report	0.45ppm
Rohlfs no targeting model	0.66 ppm
Rohlfs model – reduced internalisation	0.90ppm

E.57 In determining whether to update these estimates in order to inform an updated estimate of the externality surcharge Ofcom takes the view that no update is required and that the figure of 0.50ppm should be assumed as part of the estimation of the appropriate level for the average 2G termination charge.

E.58 In relation to the estimates that are derived from the Rohlf's model[21], Ofcom considers that the structure of the model and the scenarios which have been modelled remain as relevant as in the June 2004 Statement.

[21] A detailed explanation of Rohlf's model can be found at http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/main_report.pdf . In summary it is a model of the prices and costs of mobile network operators. It is an implementation of a general economic pricing framework which can be used to estimate an efficient structure of prices for mobile services.

E.59 As regards the inputs to the Rohlf's model, Ofcom takes the view it is reasonable to retain the same parameters as previously used:

- Calibration prices and quantities for mobile services - these serve to fix the demand functions for each of the mobile services in the model. Since these are calibration points they would not be expected to vary through time unless there has been a material shift (outward or inward) in the demand curves of each or any of the services; and

- Cost assumptions for the mobile services (the LRIC for subscription, mobile originated calls, fixed-to-mobile calls and Off-net mobile call, and the level of common costs). Ofcom's proposal is that costs are broadly stable compared to the costs estimated for the year 2005/06.

E.60 For these reasons Ofcom believes that the likely impact on the appropriate surcharge of updating the inputs to the Rohlf's model would be small. In addition it is worth noting that the Rohlf's model is used to produce a range of estimates which are considered alongside the CC's estimates. When set in this context and that the surcharge itself amounts to a relatively small proportion of the total efficient termination charge, Ofcom takes the view that the size of the externality surcharge used in the June 2004 Statement remains reasonable.

Annex F

Market Research

Background and research objectives

1.1 This annex provides an overview of the key findings of residential and SME consumer usage and attitudes towards their mobile telephones, taken from surveys, conducted between January and April 2005.

1.2 The residential consumer survey was conducted for Ofcom by MORI amongst 2,283 adults living in the UK[22]. The SME survey was conducted by Continental Research amongst 903 SMEs across the UK[23]

The report has been prepared by Ofcom, based on the results provided by MORI and Continental Research[24][25].

1.3 This report covers:

- Factors influencing choice of network provider
- Awareness of and attitudes towards the cost of calling mobile phones (either from a landline or another mobile phone).

1.4 A copy of the questions administered is contained in Section 5.

1.5 Four subgroups of the total residential sample are examined in particular detail:

– All mobile phone users
– Those with a fixed line phone only – i.e. no access to a mobile phone
– Those mobile phone users felt to be most exposed to the cost of off-net calls to mobiles
– Those mobile phone users with a off-net bundle/allowance of minutes
Precise definitions for each of these subgroups are contained below.

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[22] MORI interviewed a random selection of 2,283 adults aged 16+ face-to-face between 3 and 7 February 2005. The sample has been weighted to reflect the population of the UK.

[23] Continental Research conducted 903 interviews with a national representative sample of telecoms decision makers working for companies employing between 1 and 250 employees in the UK. All had a turnover of over £50,000. Quotas by size of company, SIC code and region were applied at the interviewing stage. Fieldwork was conducted in three waves; 26th Jan – 1st Feb, 16th Feb – 7th March and 14th March – 4th April.

[24] Because the surveys were conducted amongst a sample of adults, rather than the whole populations, the data may be subject to a small margin of error. The error margin for the total sample of 2,283 consumers is approximately 2-3% and approximately 2-4% for the sample of 903 SMEs. All data shown is weighted data. Unweighted base sizes are shown on charts and tables to show the number of people who were asked the question. Results referred to as ‘significantly’ different, have been tested at the 95% level of confidence and hence are outside the error margins and therefore can be considered real differences.

[25] The report should not be seen as recommended best buys and should not therefore be relied upon when making purchase decisions. Ofcom has conducted its own checks on the data in this report and whilst we consider it to be correct, Ofcom accepts no liability in respect of any of the results provided to it by ICM Research or Continental Research or any decisions taken by any person in reliance on the report.

1.6 "All mobile phone users" are defined as all those personally using a mobile phone.

1.7 "Those with a fixed line phone only" are defined as those **not** personally using a mobile phone but who do have access to a fixed line phone in their household

1.8 "Those mobile phone users felt to be most exposed to the cost of off-net calls to mobiles" are defined as:

- Those choosing their mobile network service provider
- And, paying for the cost of calls themselves
- And, not having a bundle/allowance of minutes covering off-net calls
- And, caring about the cost of calls to mobile phones.

1.9 Those mobile phone users with an off-net bundle/allowance of minutes" are defined as:

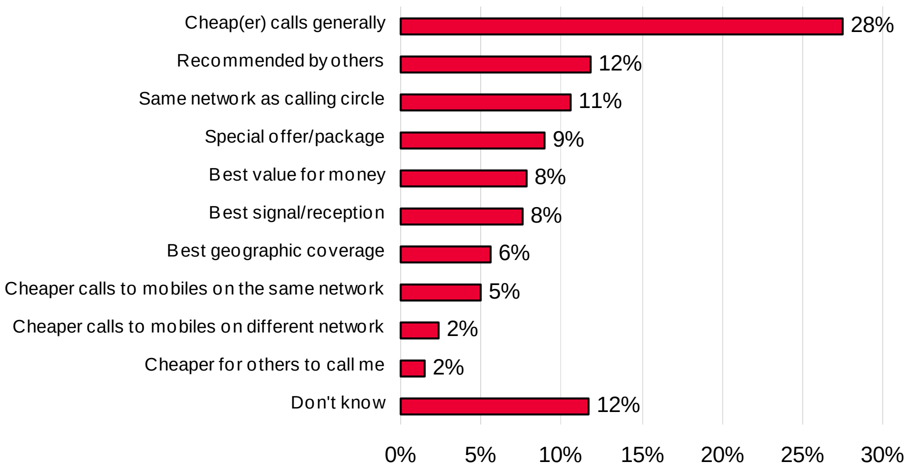
- Those paying for the cost of calls themselves
- Those having a bundle/allowance of minutes covering off-net calls.

Factors influencing choice of mobile network provider

Spontaneous considerations when choosing network

2.1 Spontaneous responses to the question, "why did you choose xyz network?" highlight that price and cost of calls is the clear factor driving stated choice of mobile network. Next most frequently mentioned reason was 'recommendation by others' followed by 'best signal/reception and best coverage'.

Figure 1, Spontaneous considerations when choosing network[26]



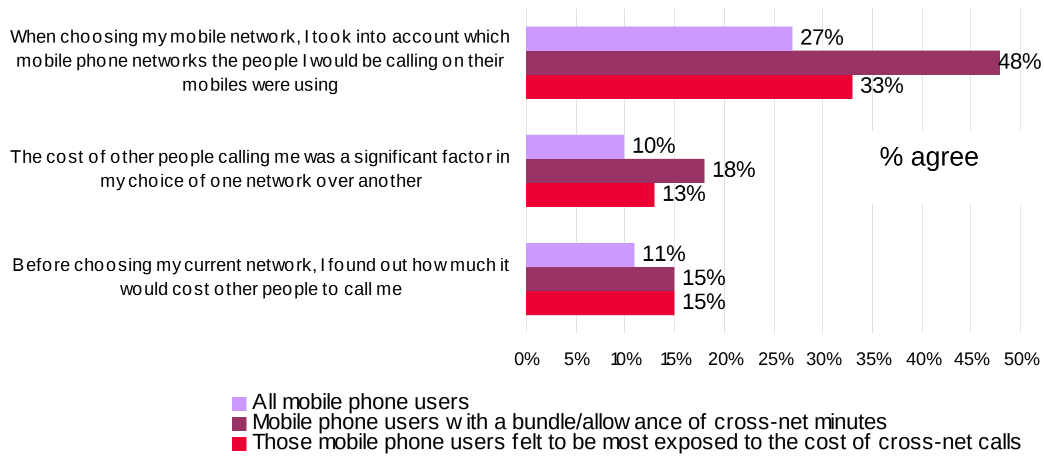
[26] Base: Adults aged 16+, mobile phone users and choosing network provider themselves (1,413)

Prompted considerations when choosing network

2.2 When deciding on a network, one third (33%) of mobile phone users reported that they had considered their outbound calling community, and how much it would cost them to call members of that group (see Figure 2). Only one in nine (11%) claimed to have found out how much it would cost other people to call them.

2.3 Those mobile phone users choosing a tariff with bundled minutes (including off-net calls) were found to be more mindful of their calling community when choosing a network – almost one half (48%) of this group of consumers claimed to have taken into account the mobile phone networks the people they would be calling on their mobiles were using.

Figure 2, Prompted considerations when choosing network[27]



Awareness of and attitudes towards the cost of calling mobile phones

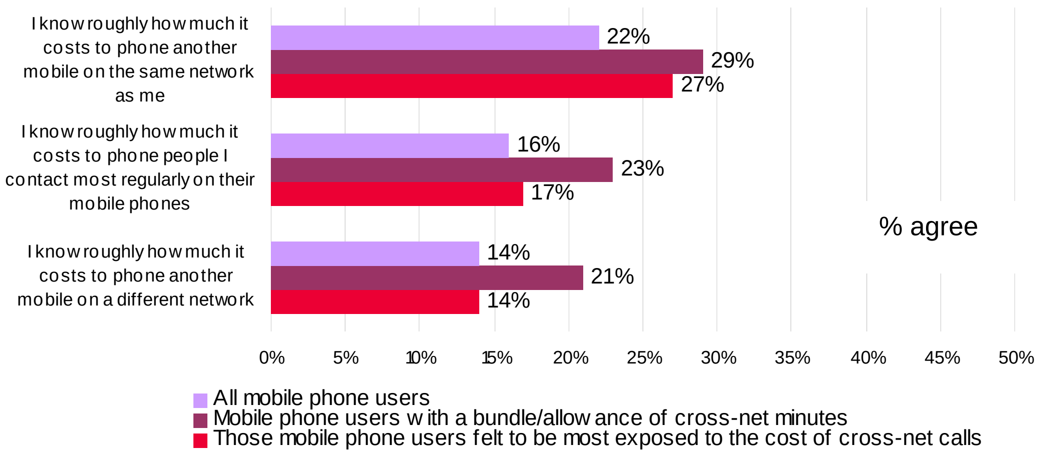
Awareness of the cost of calling mobile phones

3.1 Half (49%) of residential consumers with access to a fixed line phone at home said that, when making calls from their fixed line phone, they "usually knew" whether or not they were calling a mobile phone. This proportion dropped to around two-fifths (42%) amongst those residential consumers only owning a fixed line phone (i.e. not personally using a mobile phone).

3.2 Despite the fact that price is a key (stated) driver of network choice, mobile phone users' awareness of the cost of making calls to other mobile phones appears to be quite limited (see Figure 3). Fewer than one quarter (22%) of mobile phone users claimed to know the approximate cost of calling a mobile on the same network as them – and this proportion dropped to one in seven (14%) for calls to mobiles on a different network.

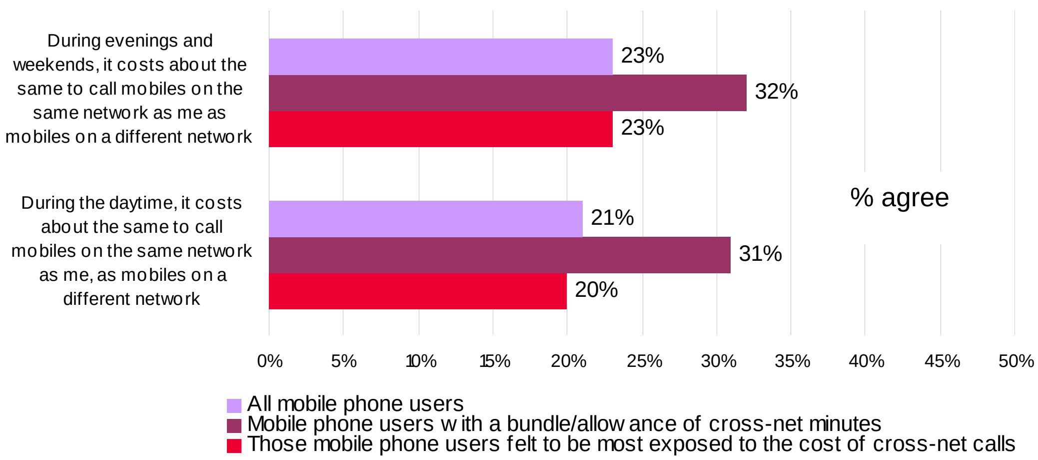
[27] Base: All mobile phone users (1,809), Mobile phone users with a bundle/allowance of off-net minutes (170), Mobile phone users felt to be most exposed to the cost of off-net calls (865) defined as: those choosing their mobile network service provider, and paying for the cost of calls themselves, and not having a bundle/allowance of minutes covering off-net calls, and caring about the cost of calls to mobile phones.

Figure 3, Awareness of the cost of calling mobile phones[28]



3.3 Mobile phones users also seem uncertain as to potential similarities and differences between on-net and off-net call costs at peak and off-peak times (see Figure 4). Almost one quarter of residential mobile phone users felt that it cost the same to call mobiles on the same network as them as mobiles on a different network – either at off-peak or peak times.

Figure 4, Awareness of on-net and off-net call costs (peak and off-peak)[29]



3.4 The majority of mobile phone users also generally appear to be unaware of which mobile network they are calling when they make call a mobile phone (see Figure 5). Just over one quarter (28%) of mobile users stated that they

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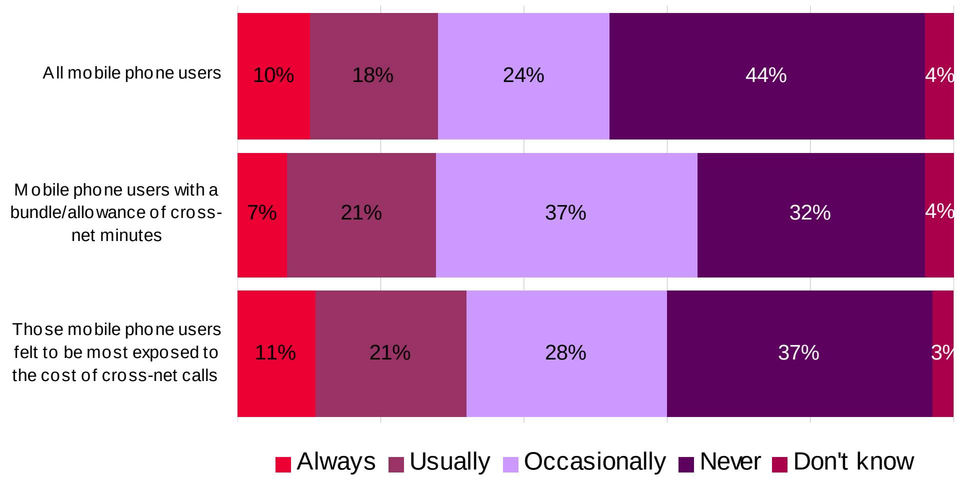
[28] Base: All mobile phone users (1,809), Mobile phone users with a bundle/allowance of off-net minutes (170), Mobile phone users felt to be most exposed to the cost of off-net calls (865) defined as: those choosing their mobile network service provider, and paying for the cost of calls themselves, and not having a bundle/allowance of minutes covering off-net calls, and caring about the cost of calls to mobile phones.

[29] Base: All mobile phone users (1,809). Mobile phone users with a bundle/allowance of off-net minutes (170), Mobile phone users felt to be most exposed to the cost of off-net calls (865)) defined as: those choosing their mobile network service provider, and paying for the cost of calls themselves, and not having a bundle/allowance of minutes covering off-net calls, and caring about the cost of calls to mobile phones.

"usually" or "always" knew which network they were calling. However, more than two-fifths (44%) claimed to never know.

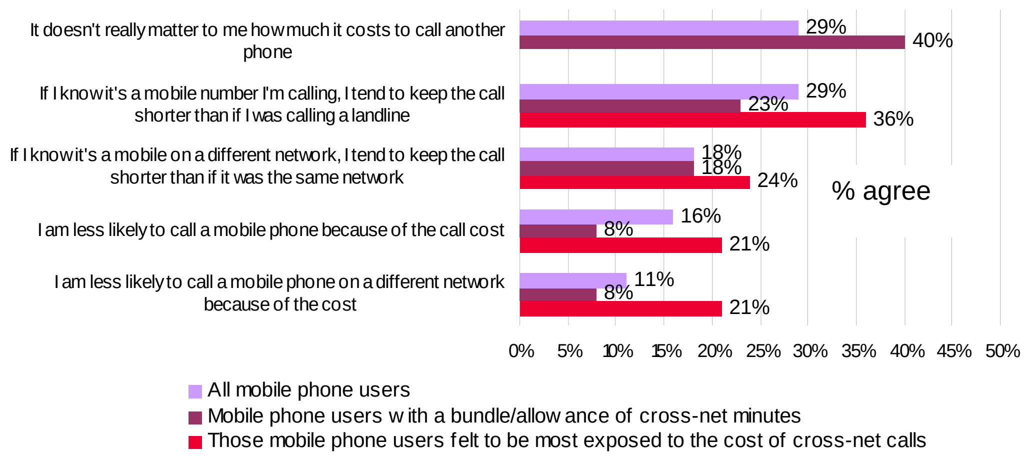
Figure 5, Frequency of knowing which mobile phone network is being called[30]



3.5 The cost of calls from mobile-to-mobile does not seem to be impacting the behaviour of the majority of mobile phone users (see Figure 6). Indeed, just under one third (29%) of mobile phone users agreed that call costs did not really matter to them, slightly higher amongst those with an allowance of off-net minutes (40%). A minority (29%) of mobile phone users said that they generally tended to keep calls to other mobiles shorter than calls to landlines, and others said they keep off-net calls shorter than those to the same network (18%). A similar proportion (16%) reported that they were less likely to call mobiles on different networks because of the cost.

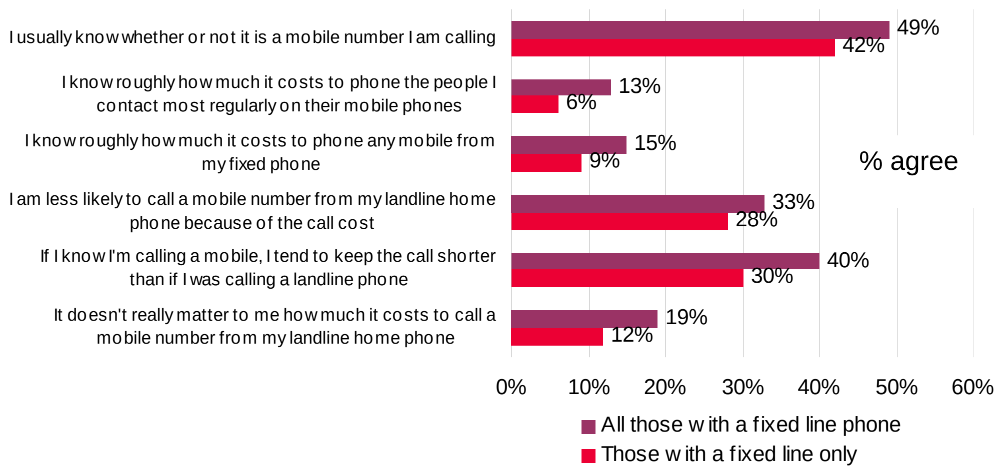
[30] Base: All mobile phone users who usually know whether they are calling a mobile phone (1,360). Mobile phone users with a bundle/allowance of off-net minutes and who usually know whether they are calling a mobile phone (105), Mobile phone users felt to be most exposed to the cost of off-net calls and who usually know whether they are calling a mobile phone (591)

Figure 6, Attitudes towards calling mobile phones from your own mobile phone[31]



3.6 In terms of calls from landlines, approximately one in seven residential consumers with a landline at home claimed to know how much a call to a mobile phone would cost (see Figure 7). Consumers, however, do appear slightly more price sensitive when calling mobiles from a landline than they are when calling from a mobile – one in five (19%) claiming not to care about the cost of calls to mobiles from their fixed line, compared to one in three (29%) when calling from a mobile.

Figure 7, Awareness of and attitudes towards calling mobile phones from your own landline[32]



SMEs – Taking steps to reduce the cost of calls

4.1 Ofcom's SME tracking survey has highlighted that approximately one half (53%) of SMEs own or rent mobile phones which are currently connected to a

[31] Base: All mobile phone users (1,809). Mobile phone users with a bundle/allowance of off-net minutes (170), Mobile phone users felt to be most exposed to the cost of off-net calls (865) defined as: those choosing their mobile network service provider, and paying for the cost of calls themselves, and not having a bundle/allowance of minutes covering off-net calls, and caring about the cost of calls to mobile phones.

[32] Base: All those with a fixed line phone (2,158), Those with a fixed line only – i.e. no mobile phone (461)

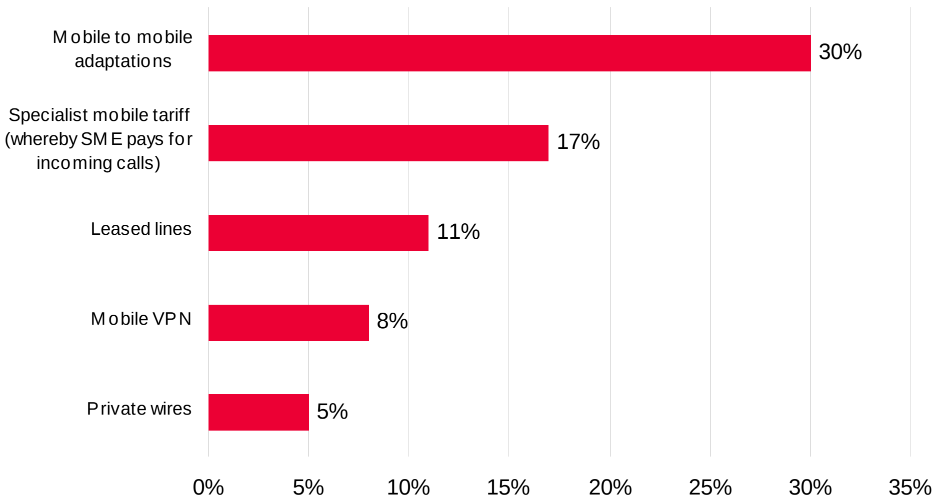
network. Additional questions were included in the Quarter One 2005 survey to assess the extent to which SMEs were taking steps to reduce the cost of calls to their mobile phones.

Taking steps to reduce the cost of calls to mobile phones

4.2 Just over one half (53%) of SMEs stated that they had taken steps to reduce the cost of calls to their mobile phones. This proportion was found to be significantly higher amongst larger SMEs, with two-thirds (69%) of businesses with between 51 and 250 employees taking action in this area.

4.3 In terms of the specific steps taken to reduce the cost of calls, mobile to mobile adaptations (30%) and specialist mobile tariffs (17%) were reported as the most popular approaches – see Figure 8.

Figure 8, Steps taken to reduce cost of (other people) calling their mobile phones, prompted[33]

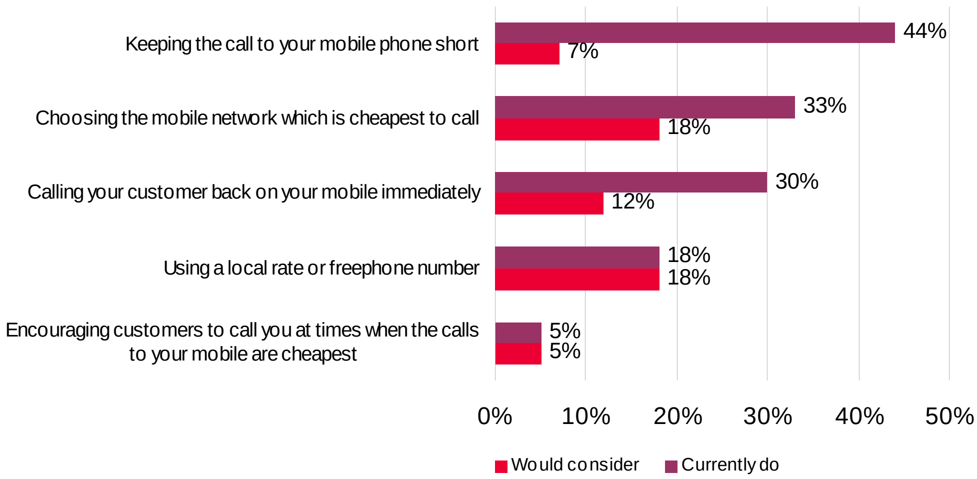


4.4 SMEs were also adopting other methods of reducing call costs (see Figure 9 overleaf). More than two-fifths (44%) stated that they tried to keep calls to their mobile phones short, one-third (33%) claimed to choose the mobile network which is cheapest to call and a similar number (30%) reported that they offered to call customers back immediately.

4.5 In addition, whilst one fifth (18%) of SMEs stated that they currently used freephone or local rate numbers, the same proportion again (18%) said that they would consider this approach in the future.

[33] Base: UK SMEs owning/renting mobile phones having taken steps to reduce the cost of calling their mobiles (255)

Figure 9, Methods considered/currently used to reduce call costs, prompted[34]



Residential and SME consumer questionnaires

Residential consumer questions

Q1. Which mobile phone network supplier do you personally use most often, whether for business or personal calls?

Q2. And how long have you been a customer of this network?

Q3. Why did you chose [main network provider]?

Q4. Please could you tell me which of the following statements apply to you choice of [main network provider]?

- *Before choosing my current mobile phone network, I found out how much it would cost other people to call me (either from a fixed line or mobile)*
- *The cost of other people calling me was a significant factor in my choice of one mobile phone network over another*
- *When choosing my mobile phone network, I took into account which mobile phone networks the people I would be calling on their mobiles were using*

Q5. Now thinking about your landline phone at home, which, if any, of these statements apply to the calls you make from your home landline phone to mobile phones?

- *I usually know whether or not it is a mobile number I am calling*
- *I know roughly how much it costs to phone any mobile from my fixed phone*
- *I know roughly how much it costs to phone the people I contact most regularly on their mobile phones*
- *It doesn't really matter to me how much it costs to call a mobile number from my landline home phone*
- *I am less likely to call a mobile number from my landline home phone because of the call cost*

[34] Base: UK SMEs owning/renting mobile phones (585)

- *If I know I'm calling a mobile, I tend to keep the call shorter than if I was calling a landline phone*

Q6. And now thinking about your mobile phone, which, if any, of these statements apply to the calls you make from your mobile phone to other mobiles?

- *I usually know whether or not it is a mobile number I am calling*
- *I know roughly how much it costs to phone another mobile on the same network as mine*
- *I know roughly how much it costs to phone another mobile on a different network*
- *I know roughly how much it costs to phone the people I contact most regularly on their mobile phones*
- *It doesn't really matter to me how much it costs to call another mobile phone*
- *I am less likely to call another mobile phone because of the call cost*
- *I am less likely to call a mobile phone on a different network because of the call cost*
- *If I know it's a mobile number I'm calling, I tend to keep the call shorter than if I was calling a landline phone*
- *If I know it's a mobile on a different network, I tend to keep the call shorter than if it was the same network*

Q7. Thinking about all the times you call mobile phones, how often do you know which mobile phone network you are calling, whether from a landline or a mobile phone?

Q8. Which of the following statements best describes who pays for the cost of calls you make on your mobile phone?

- *I pay for the cost of calls*
- *I pay for the cost of calls, but claim back calls made for business from my employer*
- *My employer/another person pays for the cost of calls*

Q9. Which of these statements best describes your contract type?

- *I have a pay as you go phone, and I don't have any bundles or allowances of minutes included*
- *I have a pay as you go phone with a bundle or allowance of minutes included*
- *I have a monthly contract mobile phone and I don't have any bundles/allowances of minutes included*
- *I have a monthly contract mobile phone with an allowance of minutes included and I rarely make calls outside this allowance*
- *I have a monthly contract mobile phone with an allowance of minutes included and I sometimes make calls outside this allowance*
- *I have a monthly contract mobile phone with an allowance of minutes included and I frequently make calls outside this allowance*

Q10. Which of the following types of call does this bundle/allowance include?

- *Peak-time (daytime) calls to fixed lines*
- *Peak-time (daytime) calls to mobile phones on the same network as me*
- *Peak-time (daytime) calls to mobile phones on a different network to me*

- *Off-peak (evening/weekend) calls to fixed lines*
- *Off-peak (evening/weekend) calls to mobile phones on same network as me*

- *Off-peak (evening/weekend) calls to mobile phones on different network to me*

Q11. And thinking about any calls made on your mobile which aren't covered within any monthly bundle/allowance, which, if any, of the following statements apply

- *During the daytime, it costs about the same to call mobiles on the same network as me as mobiles on a different network*
- *During the evenings/weekend, it costs about the same to call mobiles on the same network as me as mobiles on a different network*

SME questions

Q1. Has your business taken steps taken steps to reduce the cost of (other people) calling YOUR mobiles?

Q2. Which of the following steps have you taken?

- *Using private wires*
- *Using leased lines*
- *Using mobile to mobile adaptations*
- *Using a specialist mobile tariff whereby YOU pay for incoming calls*
- *Using a mobile VPN (Virtual Private Network)*

Q3. I'm going to read out a list of ways that you could reduce the cost to your customers of calling YOUR mobiles. Fore each one, please can you tell me if you currently do it, and if not, whether you would consider it.

- *Calling your customer back on your mobile immediately after they called you so that you pay for the call*
- *Keeping the call to your mobile phone short/perhaps arranging to discuss detail later when not on your mobile phone*
- *Choosing the mobile network which is cheapest to call*
- *Encouraging customers to call you at times when the calls to your mobile are cheapest*
- *Using a local rate or freephone number*

Q4. What (other) steps have you taken to reduce the cost of others calling your mobiles?