# Mobile Call Termination

## Proposals for consultation

T-Mobile (UK)'s response

22 November 2006

# CONTENT

# 1. EXECUTIVE SUMMARY

This submission represents T-Mobile (UK)'s formal response to Ofcom's consultation, *Mobile call termination*, of 13 September 2006.

T-Mobile remains concerned that regulation of mobile termination charges in the UK is unwarranted and, in particular, generates greater costs than benefits. Nonetheless, for the purpose of this response, T-Mobile has focussed on a number of specific concerns that arise from Ofcom's new proposals for the future regulation of mobile termination charges. However, for the avoidance of doubt, it should be noted that the failure to raise an issue in this submission should not be taken to mean that T-Mobile necessarily agrees with Ofcom on that issue.

T-Mobile notes that Ofcom has identified a persistent and significant cost difference between the 900MHz/1800MHz ("900") operators and the 1800MHz-only ("1800") operators in the UK. Despite this finding Ofcom proposes to set a uniform charge control level across these operators. T-Mobile believes that such an approach is:

- Discriminatory. Ofcom notes that its charge controls are "*based on conservatively placing weight on the upper parts of the reasonable range of costs for 2G/3G MNOs."* While this provides a conservative margin above the estimated level of 900 costs, it provides no such margin for the 1800 operators;
- Inefficient. It is economically inefficient to set charges that do not recognise the objectively justifiable and unavoidable difference in costs;
- Harmful to competition. Competition is likely to be distorted as a result of subscribers being more valuable to acquire for UK 900 operators than for 1800 operators.

As discussed in this submission, Ofcom's reasons for proposing uniform charges are flawed. In particular, uniform regulation of termination charges will not lead to uniform retail prices and, in any event, it is highly doubtful that consumers would prefer uniformly higher prices compared with lower prices to call customers on the networks of 900 operators.

Ofcom should therefore set differential charges that recognise the unavoidably higher costs faced by 1800 operators in the UK in line with the modelling results.

T-Mobile is also concerned that Ofcom's general cost modelling is based on overly optimistic traffic forecasts. These forecasts would require a sharp increase in voice calls per subscriber compared with historical trends. Moreover, new factors such as VoIP and fixed-mobile convergent products threaten to reduce mobile calling compared with historical trends. T-Mobile suggests that Ofcom should use an intermediate traffic scenario in between the current medium and low cases to calculate the efficient charge. Relying on the current medium case would create a high risk of leaving operators unable to recover their efficiently incurred costs.

T-Mobile does support Ofcom's decision to recognise that termination charges should make a proportionate contribution to the full cost of the 3G licences. If Ofcom proposes to change its approach to the 3G licences, T-Mobile would like the opportunity to respond to those arguments. In addition, T-Mobile believes that radio traffic provides the only appropriate method by which to allocate 3G licence costs to services.

T-Mobile has also set out other key concerns with Ofcom's proposed charge control level, particularly in relation to the proposal to retain the 2005 risk free rate (which fails to account for the more recent tightening in UK monetary conditions), the treatment of administration costs, the allocation of other 3G costs, the approach to economic depreciation and economic pricing.

Regarding the glidepath for H3G and the 2G/3G operators, T-Mobile holds the view that Ofcom should bring an end to the current market distortion by ensuring that H3G's margin on its termination costs is not greater than the margin for other 2G/3G operators.

In addition, T-Mobile is very concerned about Ofcom's proposed non-price obligations, particularly the proposal that operators make available their bilaterally negotiated interconnection agreements to anyone who "reasonably" requests them. Such an obligation would risk massive cherry-picking in which other parties seek to attain the benefits from earlier agreements without the corresponding obligations nor considering whether the circumstances that justified particular terms and conditions in the past remain appropriate going forward. Ofcom should therefore remove this proposal.

[✂]

1: Do you agree with Ofcom's market definitions?

2: Do you agree that each of the five MNOs has SMP in the market for wholesale mobile voice call termination provided by it to other Communications Providers in the UK?

T-Mobile has previously submitted at length reasoning and evidence questioning Ofcom's position that termination should be viewed as a monopoly in which each operator has SMP. The fact that termination services are supplied as part of a cluster of services in the overall effectively competitive mobile market implies that there is no material scope for mobile operators to gain at the expense of consumers. We do not intend to repeat these arguments at length here, but note that T-Mobile continues to believe that its arguments are correct.

Termination charges are subject to a range of constraints. Taking into account some of the constraints, recent academic literature has found that (i) unregulated termination charges will be set below monopoly levels and (ii) setting termination charges at or close to costs can lower welfare compared with the unregulated level. [1]

While Ofcom acknowledges that some constraints are present to a degree, Ofcom's analysis consists of dismissing each one in turn rather than considering their aggregate impact. Moreover, it is important to recognize that only a relatively small critical number of marginal callers need to switch to make termination charges above competitive levels unprofitable for mobile operators. At a minimum, Ofcom should accept that the levels of termination charges that it uses in its welfare analysis for the "no regulation" case are not plausible as they are significantly higher than the levels that existed prior to any regulation being imposed.

The assumption that absent Article 7 regulation, charges would rise to monopoly levels also ignores the presence of countervailing buyer power and Ofcom's dispute resolution powers.

[✂] While Ofcom argues that its dispute resolution powers may not lead to charges at the same level as those that would follow a finding of SMP, Ofcom does not purport to argue that in resolving a dispute it would set charges at monopoly levels (even though such an assumption is implicit in its welfare analysis). Moreover, T-Mobile notes the arguments of the Director General of Telecommunications in the 2003 High Court case in which charge controls of a similar form to those proposed were ultimately put forward under interconnection powers rather than under an SMP finding[2].

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1 Hausman and Wright, "Two Sided Markets with Substitution: Mobile Termination", June 2006.

2 http://www.hmcourts-service.gov.uk/judgmentsfiles/j1826/mobiles.htm

3: Do you agree that it is appropriate to impose the following SMP conditions on each of the five MNOs;

- A charge control on mobile to mobile MCT to apply until 31 March 2011.
- A charge control on fixed to mobile MCT to apply until 31 March 2011
- A prohibition of undue discrimination
- An obligation to meet reasonable requests for MCT on fair and reasonable terms
- An obligation to publish access contracts
- An obligation to publish charges and notify call volumes

### 3.1 CHARGE CONTROLS

As T-Mobile has previously argued it is far from clear whether regulation of mobile termination charges brings net benefits to consumers overall. We note that Ofcom now appears to accept that key arguments on which it had previously sought to justify regulation no longer apply.

- The conventional basis for economic regulation is a concern that firms would earn monopoly profits absent regulation. Considering termination as part of a cluster market would lead to the conclusion that MNOs are not able to earn excess profits provided that the overall supply of mobile services is competitive. This view is supported by Ofcom's examination of MNOs' returns which leads Ofcom to observe that "*it is Ofcom's view that the observed returns are not out of line with the Weighted Average Cost of Capital ("WACC") for the industry*." Indeed, the industry return on capital employed taking into account 2G and 3G investments is likely to be below the cost of capital.
- A second key argument previously made for regulation was the claim that unregulated termination charges would result in adverse distributional consequences. Ofcom now also "*recognises that there is no longer a clear argument that lower MCT charges particularly benefit disadvantaged groups*".
- Ofcom does raise the risk of anti-competitive behaviour as another reason for regulation. However, even Ofcom appears to give this reason little weight noting that the ability of new entrants to transit calls through other operators reduces the risk and in any event this could be remedied by an undue discrimination obligation without the need for charge controls.

In the end, Ofcom's case for charge controls essentially comes down to whether MNOs would set an inefficient structure of prices that would distort consumer behaviour. While Ofcom purports to show that its regulatory approach would lead to large consumer welfare gains, the assumptions supporting its welfare modelling are open to question. We have already noted that taking into account the existence of constraints operating to some degree implies that it is unreasonable to assume unregulated charges would be set at monopoly levels.

As economic efficiency is the claimed basis for Ofcom's charge controls then it is imperative that Ofcom follows principles of welfare-maximising pricing in setting charge controls. Without following such principles, Ofcom cannot be confident that its charge controls would lead to higher welfare than no regulation. Ofcom's current proposals do not meet this necessary condition. We return to these principles in response to Question 4.

3.2 [✂]

3.3 REQUIREMENT TO PUBLISH ACCESS CONTRACTS

Conditions MA5.2 and MA5.3 impose on all MNOs the obligation "within 28 days of the date that this Condition comes into force, to send to Ofcom and every person who reasonably requests a copy of its existing Access Contracts".

T-Mobile currently has the obligation to send all Access Contracts (including their amendments) to Ofcom, which it considers an appropriate and proportionate obligation. T-Mobile strongly opposes the proposed extension of the obligation to provide copies of all of its Access Contracts to every person who reasonably requests. As a mere matter of interpretation it is not clear what would amount to a 'reasonable request' without some form of guidance by Ofcom.

In T-Mobile's view such an obligation has no legal justification and could lead to a disclosure of confidential information with resulting harm to T-Mobile's business interests. T-Mobile views such an obligation as disproportionate.

In the context of imposing regulatory obligations on SMP operators, it is important to bear in mind the effective legal framework. The main principles relating to imposing regulatory obligations are set out in the Interconnection Directive 2002/19/EC. Its recitals provide in part:

*(15) The imposition of a specific obligation on an undertaking with significant market power does not require an additional market analysis but a justification that the obligation in question is appropriate and proportionate to the nature of the problem identified.*

*(16) Transparency in terms of conditions for access and interconnection, including prices, serves to speed up negotiations, avoid disputes and give confidence to market players that a service is not being provided on discriminatory terms.*

Article 8 of the Interconnection Directive clearly requires the imposition of regulatory obligations to be *based on the nature of the problem identified, proportionate and justified in the light of policy objectives and regulatory principles of the New Regulatory Framework.*

Similarly, Article 21 of the Commission Guidelines stipulates: *Only if NRAs designate undertakings as having SMP, must they impose on them one or more regulatory obligations, in accordance with the relevant Directives and taking into account the principle of proportionality*.

In addition, Member States are obliged under EC law to respect the business secrets of those they regulate. Article 15(1) of Directive 2002/19/EC provides: *Member States shall ensure that the specific obligations imposed on undertakings under this Directive are published and that the specific product/service and geographical markets are identified. They shall ensure that up-to-date information, provided that the information is* ***not confidential and, in particular, does not comprise business secrets****, is made available in a manner that guarantees all interested parties easy access to information.*

The fact that T-Mobile is designated as having SMP in the market for call termination on its network does not provide sufficient justification for imposing the obligation to send to every person who reasonably requests a copy of all existing access contracts. The obligation in question is said by Ofcom to aim to secure principles of transparency and non discrimination, so that T-Mobile applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services, and provides services and information to others under the same conditions and of the same quality as it provides for its own services, or those of it subsidiaries or partners, in accordance with Article 10 of the Framework Directive 2002/21/.

The other aims of the obligation in question are undoubtedly to (i) help to speed up negotiations and (ii) avoid disputes. Both of these aims are in T-Mobile's view sufficiently ensured by sending all its Access Contracts and their amendments to Ofcom.

T-Mobile believes that regulation should not create the opportunity for every person interested in access to T-Mobile's network to be able to simply compare all access contracts T-Mobile has ever entered into and 'cherry pick' the best conditions. This would complicate the negotiation process and lead to further delays.

Access contracts are confidential, are entered into at different times and are often the result of lengthy commercial negotiations between two parties. There are inevitable differences between different access contracts based on different technical solutions (network architecture) of different operators and other matters which would be regarded as business secrets. Some access or interconnection agreements were also concluded under different regulatory regimes. The final agreement is the result of the two parties seeking to include the important terms of each others' access agreements.

In addition, the right of *every person* to ask for all T-Mobile access contracts will lead to numerous vexatious requests and would represent a heavy administrative burden for T-Mobile. None of this is justified or proportionate. The question of reasonableness of the requests will also give rise to different interpretations and further complications. This is likely to lead to disputes which Ofcom will have to adjudicate on, for no real benefit.

In conclusion, T-Mobile does not believe that Ofcom has provided sufficiently convincing evidence to justify imposition of proposed obligation MA5.2. The higher level of transparency intended to be reached by Ofcom will be effectively ensured by:

- Condition MA6 – Requirement to publish charges;
- A possible requirement that T-Mobile sends its Standard Access Agreement (SAA) to every person who reasonably requests mobile voice termination.

### 3.4 CONDITION MA3 / MA4

T-Mobile agrees with Ofcom that the Weights Adjustment Factor applied in the previous price control is inappropriate and that it is should not be included in the proposed price control.

Question 4: Do you agree that the appropriate level of the target average charge to apply to mobile to mobile MCT and fixed to mobile MCT in 2010/11 in respect of H3G is 6ppm (2006/7 prices), and in respect of the 2G/3G MNOs is 5.3ppm (2006/7 prices)?

T-Mobile disagrees with both the general level of termination charges as well as the relative level of charges for the different types of operator. In this section, we set out our specific concerns in relation to:

1. the relative level of charges for 900 and 1800 operators;
2. the assumed traffic forecasts which underlie its general level of charges;
3. the assumed cost of capital;
4. the approach to non-network costs;
5. the approach to the allocation of 3G licence costs;
6. the economic depreciation methodology; and
7. the approach to economic pricing.

## 4.1 THE RELATIVE LEVEL OF CHARGES FOR THE 900 AND 1800 OPERATORS

Ofcom estimates that the 1800 operators in the UK incur costs 0.3ppm above the 900 operators' costs in 2010/11 due to differences in spectrum assignments and that this cost differential will endure due to the need to maintain 2G coverage. Moreover, a significant estimated cost disadvantage between these types of operators arises under all of Ofcom's traffic scenarios. Despite the finding of a significant persistent cost difference Ofcom proposes to regulate both 900 and 1800 operators at the same charge level.

T-Mobile notes that it has previously submitted evidence from independent studies demonstrating the implications of significant differences in the fundamental technical properties of 900 MHz and 1800 MHz spectrum. This evidence clearly shows the disadvantage that 1800 operators face in the UK in not having access to 900MHz spectrum (which has better propagation properties in terms of increased range and better indoor penetration).

T-Mobile strongly believes that Ofcom's arguments for not recognising the estimated cost differential in charge controls are flawed. Here we deal with each of them.

### 4.1.1 A uniform higher charge level across all operators would not be in consumers' interests

Ofcom first claims that "*consumers interests could be served better by a uniform charge control…simplified wholesale pricing may also translate (even in the presence of limited direct pass-through) to simplified retail prices for calls to different mobile networks*." Ofcom is suggesting that consumers would prefer to pay a higher charge to call customers of the 900 operators so as to make overall pricing simpler. Ofcom offers no evidence for this claim. Indeed, in the same consultation Ofcom notes that 6 out of 7 fixed callers do not know even roughly how much it costs to call a mobile phone. If this is true then the vast majority of fixed callers would be expected to be indifferent to the relative level of charges to call different mobile operators – they would however be left with a higher overall bill as a result of Ofcom's proposal.

Moreover, even if average termination charges were regulated at the same level, the evidence does not support the view that this would even lead to end users facing the same retail prices. As Table 1 shows, FNOs' retail prices for calls to Vodafone and O2 are generally not the same despite these MNOs being regulated at the same average level. Similarly, FNOs' prices for calls to Orange and T-Mobile also differ. Further, Table 1 shows that where certain FNOs (including BT, Vonage and Toucan) do want to offer uniform prices, they do so even with the current differential between the 900 and 1800 operators (and for Vonage even for H3G).

Table 1: Call prices to mobiles (Day, evening, weekend, ppm)

| | Vodafone | | | O2 | | | ORANGE | | | T-Mobile | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | E | W | D | E | W | D | E | W | D | E | W |
| BT Together Option 1 | 13.0 | 8.0 | 5.0 | 13.0 | 8.0 | 5.0 | 13.0 | 8.0 | 5.0 | 13.0 | 8.0 | 5 |
| NTL talk | 14.0 | 5.7 | 3.3 | 11.3 | 10.6 | 3.2 | 12.2 | 10.3 | 5.4 | 13.4 | 7.6 | 6.3 |
| Telewest | 19.0 | 11.5 | 6.0 | 19.0 | 11.5 | 6.0 | 19.0 | 11.5 | 6.0 | 19.0 | 11.5 | 6 |
| Tesco Talk | 14.7 | 7.6 | 4.8 | 11.8 | 11.2 | 3.4 | 12.7 | 10.3 | 5.6 | 13.8 | 7.4 | 6.62 |
| Vonage | 15.0 | 10.0 | 5.0 | 15.0 | 10.0 | 5.0 | 15.0 | 10.0 | 5.0 | 15.0 | 10.0 | 5 |
| Toucan Talk | 14.0 | 10.0 | 6.0 | 14.0 | 10.0 | 6.0 | 14.0 | 10.0 | 6.0 | 14.0 | 10.0 | 6 |

Source: http://www.magsys.co.uk/telecom/residx.htm, based on data as 30 October 2006.

The lack of a rigid relationship between termination charge levels and retail prices for calling mobiles reflects two key factors. First, the regulated termination rates are only the average rates across all periods and the operators decide what rates they will set for peak, off-peak and weekend calls based on factors such as the utilisation of their individual networks at different times of day. In addition, many FNOs set their prices so as to earn different levels of retention from calls to different MNOs.

In short, setting termination charges for all 2G/3G operators in the UK at the estimated level of costs of the 1800 operators is unlikely to result in significant consumer benefits in terms of simpler pricing but would be likely to leave consumers with higher bills overall.

#### 4.1.2 A uniform charge level is not needed for efficient spectrum trading

Ofcom next argues that "*a single price for mobile voice call termination may ensure MNOs and other potential traders of spectrum have the appropriate and efficient incentives to trade spectrum based on undistorted relative valuations of different types, frequencies and quantities of spectrum*."

T-Mobile disagrees with this argument. Ofcom is proposing that if a UK operator has 900 MHz spectrum, they will be allowed to supply termination at a charge level somewhat above their estimated network costs while they would not be allowed to do so if they have only 1800 spectrum. The effect of such a policy would be to make 900 MHz spectrum in the UK more valuable and this would be capitalised into the price of 900 MHz spectrum to the benefit of the current holders of 900 MHz spectrum. It is not clear why spectrum trading under such circumstances should be considered to be more efficient than under termination regulation that recognises the cost differential arising from differences in spectrum. In fact there the reverse is more likely, that a uniform charge would distort trading. In addition, T-Mobile notes that it is currently unclear when spectrum trading will be introduced for mobile spectrum.

4.1.3 A uniform charge level is not significantly more practical in the context of new technologies

A third argument that Ofcom puts forward is that a uniform charge level would imply that "*Ofcom and others are not encumbered with an ever-increasing and ever-challenging burden of detailed cost analysis in the face of new, untried and uncertain technologies and underlying costs*." This argument is also difficult to understand. For the proposed charge controls, Ofcom is proposing to set H3G's charges somewhat above the charge level of the other operators. Accordingly, Ofcom is already pursuing differential termination charges for the next regulatory period and it is inconsistent to argue that its approach avoids the need to assess cost differences between operators. Further, the fact that Ofcom may face further burdensome cost analysis in the future is not a reason to ignore the results of cost analysis that Ofcom has already carried out. Given that Ofcom is recognising H3G's higher costs then it should also recognise the higher costs of the 1800 operators. As Ofcom has already modelled the extent of the cost difference, it would be practical for Ofcom to implement differential charge controls.

T-Mobile also notes that a number of emerging fixed wireless technologies have costs that are more akin to fixed technology than to mobile technology. Accordingly, it is highly doubtful that charge controls based on the level of costs for mobile operators using 1800 frequency would be appropriate for them – for fixed wireless technologies such an approach would generate large margins on terminating calls with consequent risks of distorting competition and technology choices. Rather Ofcom should consider the appropriate regulatory response to these technologies as part of a market analysis relevant to these services.

4.1.4 A uniform charge would not eliminate incentives for operators to target subscribers based on termination rates

A fourth argument of Ofcom is that a uniform charge would reduce incentives for operators to target subscribers based on termination rates. Ofcom notes that: "*For example, the current higher termination rates of H3G may induce the 2G/3G operators to target H3G subscribers on the basis that the call termination charge they would receive for calls to ported H3G customers will reflect H3G's higher 'donor' rate*." This is a bizarre example to provide in the context of proposing to remove the differential between the 900 and 1800 operators while retaining significantly higher charges for H3G.

Ofcom offers no evidence to support the view that there is a material problem of MNOs targeting subscribers based on termination charges. Moreover, by allowing the 900 operators to earn a premium on termination relative to 1800 operators, Ofcom itself would be distorting subscriber acquisition. In particular, Ofcom proposals would imply that any given new subscriber is more valuable to a 900 operator than an 1800 operator – simply as a result of the differential regulation of termination. Ofcom's proposals therefore risk distorting competition.

4.1.5 Uniform charges would induce inefficiencies in the UK mobile market and would be discriminatory

Efficiency is promoted by consumers facing prices that reflect actual and unavoidable cost differences. As set out above, T-Mobile does not believe that any of Ofcom's arguments represent a compelling reason to depart from this principle.

T-Mobile considers that it would be discriminatory for Ofcom not to recognise in the charge control levels the significant objective differences between the costs of the UK 900 and 1800 operators that it has identified. In this context, T-Mobile notes that Section 87(1) of the Act requires that the regulatory obligation imposed be appropriate, whilst section 47 of the Act requires that any regulatory obligation shall not *discriminate unduly against particular person* and *in relation to what it is intended to achieve, transparent.*

The discriminatory nature of Ofcom's approach is clear from Ofcom's statement that "*the level of the control should be set on the basis of conservative cost modelling assumptions to provide strong incentives for continued investment and innovation…this range is based on conservatively placing weight on the upper parts of the reasonable range of costs for 2G/3G MNOs*". Ofcom's approach provides a conservative margin above estimated costs for the 900 operators. However, Ofcom provides no such margin for the 1800 operators.

The proposed price regulation unduly discriminates against the UK 1800 operators and therefore is incompatible with the main basic principle of non-discrimination of national and European law.

It is therefore imperative for Ofcom to set different charges for 900 and 1800 operators in the UK that recognise the objectively justifiable cost difference. T-Mobile expects to see at least the current modelled cost differential of 0.3ppm to be reflected in the final charge.

As Ofcom will be aware, T-Mobile believes that the cost differential between 900 and 1800 operators in the UK is greater that 0.3ppm and has provided during the course of this review material to support this view. T-Mobile is not setting out these arguments again here, however it remains T-Mobile's view that the cost differential is greater than the value of 0.3ppm.

## 4.2 OFCOM'S TRAFFIC FORECASTS

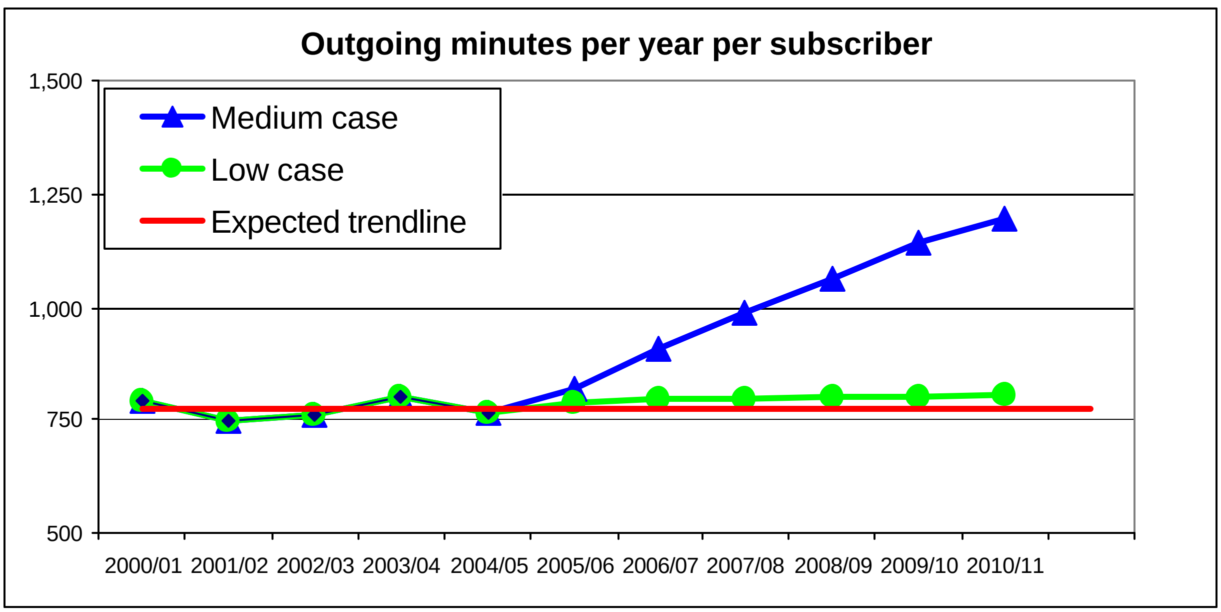
T-Mobile is concerned that Ofcom is proposing charge controls based on optimistic traffic forecasts that carry a high risk that operators will be left unable to recover their costs. In particular, Ofcom has adopted a "medium" case traffic forecast that would require a rapid growth in voice calls per subscriber compared with the trend of the last few years. Ofcom has offered no reasoning to support such a change and has only indicated that they are based on particular forecasts by other parties, without any support being put forward as to why those forecasts should be adopted. More reasonable forecasts would imply the need to set termination charges above the levels proposed.

4.2.1 Historical trends

First, we consider the historical trend in voice traffic per subscriber.[3] Historical trends can be used as the basis for forecasts with changes being made only to the extent to which higher or lower forecasts are more likely taking into account all factors operating in the period ahead.

Figure 1 shows the outgoing traffic per subscriber forecasts for both the medium and low traffic forecasts. It also includes an expected trend line for the growth in outgoing traffic based on the historical traffic trend between 2000 and 2005.[4] From the data it is clear that both the low and medium traffic forecasts predict a larger increase in outgoing traffic than we would expect from the trend over recent years.

Figure 1 -Ofcom's outgoing traffic per subscriber forecasts



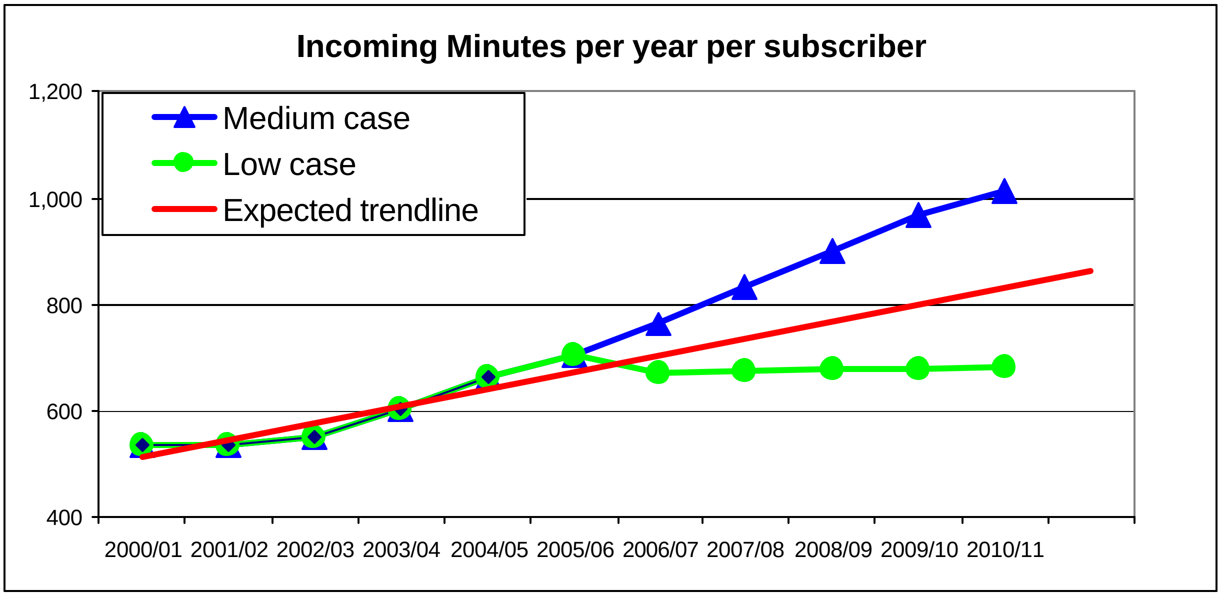

Source: Ofcom *Service Demand data*

3 The Ofcom model presents handset numbers which we can use as a proxy for the subscriber numbers.

4 For the year 2004/2005 there is a slight difference between the traffic forecasted under the medium assumption and that forecasted under the low traffic assumption. This is due to Ofcom using historical data for the majority of the year and only using forecasts for the later few months for which it did not have data. In order to be conservative, we have taken the medium traffic forecast for 2004/05 as the historical traffic for that year.

The higher than expected traffic per subscriber forecast is also the case for incoming voice calls. Figure 2 shows the incoming traffic forecasts for both the medium and low traffic forecasts. It also includes an expected trend line for the growth in incoming traffic based on the historical traffic trend between 2000 and 2005. From the data it is clear that the medium forecast gives a larger growth in incoming voice calls than we would expect based on the trend over recent years.

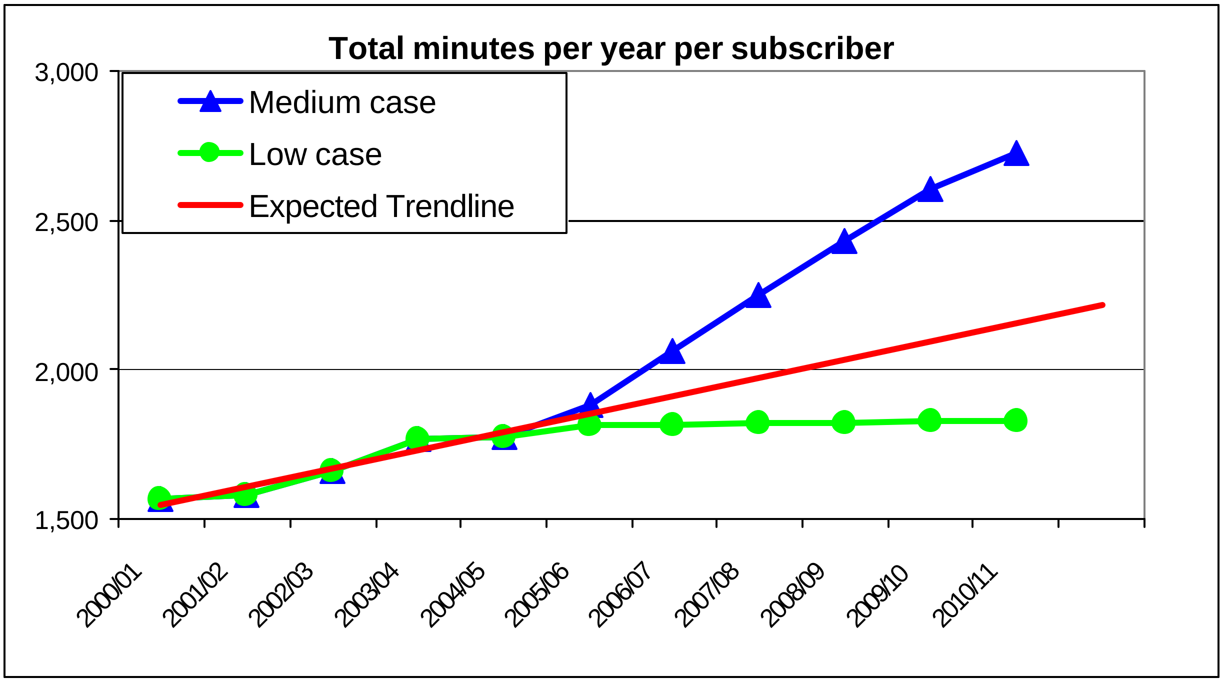
Figure 2 -Ofcom's incoming traffic per subscriber forecasts




Source: Ofcom *Service Demand data*

Finally, if we look at the forecasts for all voice calls (i.e. the sum of outgoing, incoming and on-net calls), we see that again the traffic forecast in Ofcom's medium case is considerably higher than we would expect based on the recent growth in calls per subscriber. The historical data showed an increase of 3.2% per year between 2000 and 2005. This is much lower than the growth rates in calls per subscriber of over 10% which are predicted in the medium forecast of Ofcom's model. Indeed, Figure 3 shows that the low traffic forecast is a closer representation of what we would expect the growth rate to be in voice calls per subscriber based on historical trends.

Figure 3 - Ofcom's total traffic per subscriber forecasts




Source: Ofcom *Service Demand data-*

This analysis shows that Ofcom's medium forecast is significantly out of line with historic growth. It indicates that a central case in between the low and medium case would be a good central forecast, unless there were good reasons for expecting the near future to be very different from the recent past. Ofcom has not identified any factors that it expects to result in the near future being very different from the recent past.

T-Mobile considers that key new factors are the rapid take-up of VoIP services and the introduction of fixed-mobile convergent services. These both carry the prospect of reversing the substitution from fixed to mobile calling with the consequence of reducing mobile voice traffic. These factors suggest that even historical trends may be too optimistic.

<u>Conclusions on traffic forecasts</u>

On the basis of both the historical trends and an analysis of likely new market factors, T-Mobile believes that the traffic forecasts in the medium demand case of the Ofcom 2006 model are too high. This higher forecast has a significant impact on the correct mobile termination rate as determined by the model. The modelled efficient charge is 42% higher in the low case in 2010/11 than in the medium case. The use of optimistic traffic forecasts means that it is unlikely that operators would be able to recover their efficiently incurred costs if these price controls were imposed based on the current medium case. A sensible approach would be Ofcom to consider a case whereby future traffic per subscriber is more consistent with the expected historical trend line, and set the termination charges accordingly. There would then be a significantly greater likelihood that operators would recover their efficiently incurred costs over the period of the price control.

## 4.3 COST OF CAPITAL

T-Mobile has previously submitted at length its concerns on Ofcom's approach to the cost of capital and the treatment of risk more generally. In short, T-Mobile believes that Ofcom's approach and choice of parameters in relation to matters such as the equity risk premium is likely to understate operators' actual cost of capital.

T-Mobile has, however, a new concern in relation to one parameter value, the risk free rate. Ofcom is proposing to retain the risk free rate of 4.6% which was used in Ofcom's 2005 statement on mobile termination charge controls. While Ofcom may want to maintain consistency in its approach to the cost of capital, the actual value of the risk free rate should be updated so that it provides the best forward-looking estimate of the risk free rate. In this regard, UK monetary conditions have been tightening since 2005 (including the 9 November base rate rise) and gilt rates are now around 9% for a range of maturities. A further tightening in monetary conditions is expected early next year[5].

Accordingly, Ofcom's estimated cost of capital is likely to be significantly below operators' cost of capital over the regulatory period. This puts at risk the operators' ability to recover their efficiently incurred costs over the period of the price control.

## 4.4 NON-NETWORK COSTS

T-Mobile has previously submitted its concerns in relation to Ofcom's approach to customer acquisition and retention costs. In this submission, T-Mobile wishes to raise two new concerns in relation to the estimated level of administration costs and the method by which administration costs are allocated to services.

### 4.4.1 Estimated level of the administration costs

Ofcom estimates that £112m in 2006/7 real terms should be allocated for network activities as a share of administration costs for the average operator. Ofcom proposes that the absolute level of administration costs remains constant with changes in traffic and over time, and that the estimate should remain constant in real term on a forward looking basis.

While T-Mobile is prepared to accept that administration costs are relatively constant with the likely traffic changes over the near term, T-Mobile considers that such costs can be expected to rise over time in real terms and hence that it is incorrect to assume a constant figure (i.e. £112m) in the LRIC model for all years.

Administration costs are largely represented by Property Costs and Human Resources, both of which increase over time well above inflation. UK property costs can be expected to continue to rise

[5] For instance, see Financial Times, "Borrowers urged to prepare for another rise", 10 November 2006.

in real terms – indeed, the LRIC model assumes that costs for network site acquisition, preparation and lease will increase by 5% over the regulatory period - so it is not clear why Ofcom does not also recognise that head-office property costs are also likely to rise.

Regarding Human Resources costs, T-Mobile's accounts show that these costs increase at rate far higher than inflation. T-Mobile's experience is consistent with the broader economy in which labour costs have been rising and can be expected to continue to rise both in real and nominal terms.[6]

In the light of this evidence, Ofcom should allow operators to recover their efficiently incurred non-network administration costs and update the LRIC model accordingly, using an increasing value of administration costs over the regulated period.

### 4.4.2 Determination of the share of administration costs allocated to network activities

Using the MNOs' accounting information, Ofcom has estimated the share of administration costs to be allocated to network services and specifically to MCT. Ofcom has provided each operator with a breakdown of their accounts, which groups costs into network costs and non-network costs, and which divides non-network costs into CARS, Administration costs and Other Costs.

T-Mobile believes that spectrum costs should be included as part of network costs. In the allocation of administration costs, this is the case with 2G spectrum fees, but is not the case with the 3G licence costs. This is despite the fact that there will be an element of administration costs that relate to spectrum acquisition and spectrum holding. In Ofcom's classification, 'Network Amortisation', which represents 3G licence costs, is part of Other Costs. T-Mobile disagrees with this proposal. The 3G licence is needed to supply network services, as Ofcom correctly recognises by including the value of the 3G licence fee in the Network Cost model. These costs are network costs.

Ofcom should therefore include the 3G licence costs in the Network Costs grouping. This will in turn result in:

- an increase in the value of Total Annual Network Costs (F in table A15.2 of the consultation);
- an increase in the share of network costs over the total costs (I=F/H in the same table);
- an increase in the share of administration costs allocated to network activities (IxJ in the table), currently estimated at £107m.

The new value represents the correct share of administration costs allocated to network activities in nominal terms for year 2004.

## 4.5 APPROACH TO 3G SPECTRUM COSTS

T-Mobile supports Ofcom's decision to recognise that termination charges should make a proportionate contribution to the full cost of the 3G licences. Such a position is critical to ensure

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[6] Historical unit labour costs are set out in Bank of England, *Inflation Report,* August 2006, pp34-5. Forecast increases in unit labour costs greater than inflation is included in Deutsche Bank, *UK Strategy Outlook - Higher rates lie ahead*, 16 August 2006.

efficient investment incentives. In particular, in industries potentially subject to regulation, firms will only undertake irreversible investments where they expect that regulators will not intervene to prevent recovery of costs that are ex post sunk.

T-Mobile notes that the consultation document does raise a number of reasons as to why only a partial recovery of licence fees may be justified. Given that Ofcom is proposing to allow termination charges to make a proportionate recovery to 3G licence costs, T-Mobile does not propose to set out its concerns with these arguments in this submission. However, if Ofcom proposes to change its approach to the 3G licence costs, T-Mobile would like the opportunity to respond to those arguments.

One concern that T-Mobile does have in relation to Ofcom's proposed approach in relation to 3G spectrum costs is the allocation approach. Ofcom is proposing to extend trading to 3G spectrum and consequently, operators will have the ability to vary their holdings of 3G spectrum in response to their need for the radio resource. In this regard, 3G spectrum will become closer to other network resources in which particular services will impose particular demands on the radio resource as well as other network elements. Logically, the cost of spectrum should then be allocated on the basis of relative use of the radio resource. Given that Ofcom uses routing factors for other network elements, it would be inconsistent not to apply an allocation based on use of lifetime radio traffic for allocating spectrum costs.

T-Mobile therefore believes that all scenarios should be based on radio traffic.

## 4.6 APPROACH TO ECONOMIC DEPRECIATION

T-Mobile notes that Ofcom has proposed to retain the economic depreciation approach applied in the earlier charge controls. T-Mobile is concerned that this approach does not have any clear theoretical advantage compared with the alternative approach of linking economic depreciation to input costs. However, it is likely to lead to a lower termination charge than the alternative approach. We have previously noted that the Input Costs methodology is more reasonable in theory than the alternative methodologies except for the final year results – it is consistent with general principles and is much simpler than the current methodology or perfect contestability. Further, the final year results may not be such an issue as even for 2G the regulatory period will not include the final year. Moreover, our analysis shows that the current methodology also produces results in the final year than are not inconsistent with a competitive benchmark. Accordingly, we believe there are significant theoretical advantages to the Input Cost methodology and no obvious disadvantages compared with the other methodologies.

## 4.7 ECONOMIC PRICING

As noted in response to question 3, Ofcom's rationale for regulation comes down to efficiency. It is imperative that Ofcom designs its regulation to promote efficiency. In this regard, T-Mobile has concerns in relation to:

- Ofcom dismissing evidence on FNOs pass-through;
- Ofcom dismissing T-Mobile's proposed partial Ramsey approach; and

- Ofcom's proposed approach to the network externality.

4.7.1 FNOs pass-through

The evidence of limited pass-through by FNOs has been ignored by Ofcom in its welfare analysis. Ofcom argues that FNOs may be applying Ramsey pricing principles in only passing through some of the reduction in mobile termination charges into lower fixed-to-mobile prices. In fact, the Ramsey pricing formula shows that this cannot generally be true. Indeed, Ofcom's view that the limited pass-through is consistent with Ramsey pricing would only hold under a restrictive range of assumptions in which the demand for fixed-to-mobile calling rapidly becomes so inelastic at lower price levels as to offset the general implication of the Ramsey pricing formula that reductions in marginal costs would lead to more than 100% pass through. Ofcom's claim that the market evidence of limited pass-through is consistent with Ramsey pricing except under a strict assumption of a constant elasticity demand curve is incorrect. Although Ofcom is correct that a constant elasticity demand curve would imply more than 100% pass-through of termination charge reductions, this result would hold for most demand curves

In this regard, we note that Professor Rohlfs suggests that demand functions can be expected to be closer to constant elasticity than to being linear:

> *"Linear demand functions are widely used in applied demand analysis because of their analytical tractability. Nevertheless, they have a significant theoretical drawback. Standard economic theory implies that the marginal rate of substitution in demand between any service and alternative consumption declines as an individual consumes more of that service. As a result, the demand curve for any individual consumer is concave-downward, rather than linear. In general, one would expect that the aggregate demand curve would have this same shape."* [7]

4.7.2 Ramsey pricing

T-Mobile has previously noted Ofcom's concerns that it may not have sufficient information to fully determine the set of welfare-maximising mobile prices. Taking account of these concerns, T-Mobile proposed that Ofcom should allocate fixed and common costs initially on the basis of its preferred approach of equi-proportionate mark-ups and then only vary allocations between services where there did exist sufficient information to do so. T-Mobile considers that such an approach is both practical and welfare-improving.

T-Mobile is concerned that Ofcom has rejected this approach with apparently little consideration:

- Ofcom notes that competition in the mobile market may lead to excess profits, although it has not provided evidence to support this assertion and, in any event, Ofcom notes that in the presence of imperfect competition, the welfare optimal charge may be either higher or lower.

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[7] http://www.ofcom.org.uk/static/archive/oftel/publications/mobile/ctm_2002/main_report.pdf

- Ofcom's comments on price discrimination suggest that the retail side of the market has separate observable elasticities on the basis of which the MNOs price. This implies that the correct approach would be to do Ramsey pricing but allow for multiple retail side products with different elasticities. Since the observed elasticity on retail (as a whole) will be a weighted average of the individual elasticities, this does not mean that the elasticity on the termination side is estimated as being too high or that it implies fewer common costs allocated to that side. Instead it implies that if we were setting prices for all products, then optimality would imply different retail prices to different groups. Moreover, we note that our argument about why retail prices will approximate Ramsey prices works with price discrimination as well as without price discrimination.
- Ofcom argues that EPMU will not necessarily be further away from true Ramsey pricing compared with applying Ramsey pricing principles on the basis of limited information. However, it is much more likely that "partial Ramsey pricing" is closer to true Ramsey pricing than is EPMU. We note that Ofcom is frequently required to make judgements about values that are uncertain. The appropriate approach is to seek to minimise expected regulatory error rather than to choose any solution that could possibly be correct.
- While we note that different studies produce different elasticities, they all produce the same ordering: termination is less elastic than retail.
- Ofcom next argues that partial Ramsey pricing would also depend on estimating costs that are subject to significant uncertainties. T-Mobile notes that this does not provide any reason to favour Ofcom's approach over partial Ramsey pricing. To the extent there are errors in the cost model then these would only be compounded by ignoring the information that does exist. Ofcom's rejection of partial Ramsey pricing would be equivalent to saying that the LRIC modelling may be potentially inaccurate and therefore it is reasonable to just use total cost/total minutes.

In summary, T-Mobile believes that Ofcom should adopt the partial Ramsey approach as the reasons set out above do not justify not using it.

### 4.7.3 Network Externality

T-Mobile remains concerned that Ofcom's approach to the network externality is likely to significantly understate the socially optimal externality mark-up.

Ofcom argues that "*It is correct to consider all termination minutes rather than fixed-to-mobile minutes only because if the network externality surcharge is passed on to off-net mobile callers by the originating MNOs, it is a source of net revenues for the industry as a whole*." However, this statement considers only the impact on one side and ignores the ultimate purpose of a subsidy, i.e. to lower the cost of mobile ownership. Funding the subsidy from the price of calls paid for by mobile customers is likely to be largely self-defeating. To suggest that it is reasonable to fund the subsidy in part from off-net calls, Ofcom should provide evidence that the net effect of doing so would be to reduce the cost of mobile ownership to marginal customers. Ofcom has not done so or attempted to do so.

T-Mobile also has concerns that Ofcom has underestimated the number of marginal customers in the UK. For the purposes of calculating the optimal externality mark-up, Ofcom has assumed that the potential number of mobile subscribers in the UK is 41.3 million. However, this is not consistent with the number used in the LRIC model. The result is that either Ofcom has assumed that there would be too many subscribers for the purposes of its cost modelling (with the implication that unit costs have been underestimated) or Ofcom has assumed that there would be too few subscribers for the purposes of the externality calculation (with the result that the network externality would be under-estimated). Either way, it implies Ofcom has underestimated the efficient level of charges.

Question 5: Which of the following glide path options should be used to define H3G's target average charge in each of the first three years of the charge control period;

- Option 1 - A smooth glide path with charges reducing at a constant percentage rate in each of the four years from today's average charges to the target determined for 2010/11.
- Option 2 - A one-off partial cut to 8.5ppm (2006/6 prices) for the first year followed by a smooth glide path to ensure that the maximum average charge aligns with the target determined for the final year of the charge control.
- Option 3 - A cost based glide path with charges reducing immediately to align with the 3G-only operator cost benchmark for 2007/8, and then set equal to the forecast cost path thereafter, such that in 2010/11 the maximum average charge aligns with the target determined for that year

Question 6: Do you agree that the 2G/3G MNOs should be required to reduce their charges in line with a smooth glide path of constant percentage rate in each year of the charge control such that average charges in the fourth year (2010/11) align with the target determined for that year?

T-Mobile believes that Ofcom should apply an approach that is consistent across operators in a manner that does not distort competition. In particular, it is critical for efficient competition that no one operator should be able to set termination charges that are significantly above that operator's costs of supplying termination. This situation currently exists and it is enabling H3G to acquire customers at the expense of the other operators through regulatory advantage rather than better meeting customer demand. The current regulatory regime enables H3G to undercut other operators as it earns margins on termination that are not able to be earned by the other operators. This is evident in H3G's "WePay" tariff that provides a 5p a minute credit for received calls.

The current market distortion can be brought to an end by ensuring that H3G's margin on supplying termination charges (i.e. the difference between its allowed charges and its costs) is not greater than the difference allowed for the other operators in Ofcom's current proposal. This would require a larger initial reduction in H3G's charges to reduce the large asymmetry that has developed as a result of H3G's charges not being reduced by the same extent as the other operators' charges were reduced over the period from 2003. Following a larger initial cut, H3G's call termination rate could then be reduced more gradually in line with the glidepaths applied to the other operators.

T-Mobile (UK) Limited,
22 November 2006